

Hierarchical Representations of the Five-Factor Model of Personality in Predicting Job Performance: Integrating Three Organizing Frameworks With Two Theoretical Perspectives

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Integrating 2 theoretical perspectives on predictor–criterion relationships, the present study developed and tested a hierarchical framework in which each five-factor model (FFM) personality trait comprises 2 DeYoung, Quilty, and Peterson (2007) facets, which in turn comprise 6 Costa and McCrae (1992) NEO facets. Both theoretical perspectives—the bandwidth-fidelity dilemma and construct correspondence—suggest that lower order traits would better predict facets of job performance (task performance and contextual performance). They differ, however, as to the relative merits of broad and narrow traits in predicting a broad criterion (overall job performance). We first meta-analyzed the relationship of the 30 NEO facets to overall job performance and its facets. Overall, 1,176 correlations from 410 independent samples (combined $N = 406,029$) were coded and meta-analyzed. We then formed the 10 DeYoung et al. facets from the NEO facets, and 5 broad traits from those facets. Overall, results provided support for the 6–2–1 framework in general and the importance of the NEO facets in particular.

Keywords: personality, job performance, five-factor model, Big Five, bandwidth-fidelity

Few theoretical frameworks can compete with the impact of the five-factor model (FFM) on psychological science—a Google Scholar search turns up more than 18,000 citations to the FFM or Big Five. This impact does not mean, however, that we know all there is to know about the framework. One unresolved issue concerns the hierarchical structure of the FFM traits. While Costa and McCrae’s (1992) NEO framework—where each of the FFM traits has six facets—remains the most popular, criticisms have been leveled against this model (Roberts, Walton, & Viechtbauer, 2006). More recently, DeYoung, Quilty, and Peterson (2007) sought to address this issue by integrating prior trait frameworks into a 10-facet structure (two for each broad FFM trait). Other frameworks also exist, albeit with less empirical support than the

Costa and McCrae hierarchical structure and with weaker theoretical grounding than the DeYoung et al. framework.

Whereas the foregoing debate regarding the nature of the lower order traits is important, this literature leaves unaddressed a central theoretical and practical question: How important are these lower order traits? Even if we confine our analyses to perhaps the most salient application of the FFM in organizational psychology—the Big Five predictors of job performance—the answer to this question is not clear. While some argue that the broad Big Five traits are ideally suited to predict broad criteria such as job performance (Barrick & Mount, 2005; Ones & Viswesvaran, 1996; Stewart, 2008), others contend that the Big Five are too broad (Paunonen, Rothstein, & Jackson, 1999; Schneider, Hough, & Dunnette, 1996; Tett, Steele, & Beauregard, 2003) or that other, more finely grained traits may be relevant (Tett & Christiansen, 2007). Hough and Oswald (2005), for example, argued that the FFM “is often too broad for understanding and predicting work-related criteria” (p. 382).

Given the importance of this question—and the presence of more than 10 meta-analyses investigating the relationship between the broad FFM traits and job performance—it is somewhat surprising that the debate persists. To be sure, with respect to conscientiousness, there have been some important efforts to address this question, both with primary studies (Stewart, 1999) and meta-analytically (Dudley, Orvis, Lebiecki, & Cortina, 2006). We are aware of no previous research, however, that provides a compre-

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hensive test with an accepted framework of the entire recognized set of lower order FFM facets. This is important because some of the weaker overall relationships of the other Big Five traits with performance may be masking significant relationships at the facet level, especially when varying correlations of performance with the trait's facets exist (Hough & Furnham, 2003; Paunonen & Ashton, 2001; Stewart, 1999).

Accordingly, the purpose of the present study is to provide an analysis of the degree to which broad and faceted representations of the Big Five traits contribute to the prediction of job performance. In developing hypotheses about these relationships, we sought to integrate two theoretical statements of predictor–criterion relationships: the bandwidth-fidelity dilemma and construct correspondence. Following the general advice of Roberts et al. (2006, p. 29) that “future meta-analyses should organize data according to a replicable lower order structure of personality traits,” we utilize a recently developed and increasingly used lower order trait taxonomy (DeYoung et al., 2007) and relate the Big Five and this lower order taxonomy to job performance. Given that Costa and McCrae's (1992) NEO framework has played such a prominent role in personality research to date, we also relate this lower order taxonomy to job performance. In addition to considering the broad criterion of overall job performance, we take into account two lower order facets of performance: task performance and contextual performance. In the next section, we review the lower order trait taxonomy proposed by DeYoung et al. (2007), discuss issues of correspondence between traits and criteria, and then propose a 6–2–1 hierarchical framework to guide hypothesized relations of broad and narrow traits to the performance criteria.

Theory and Hypotheses

Hierarchical Representations of the Five-Factor Model

There is little dispute that the Big Five represent broad traits or factors composed of more specific facets or indicators. As Ones, Viswesvaran, and Dilchert (2005, p. 391) commented,

Data from multiple personality inventories and thousands of test takers have provided consistent evidence for the hierarchical organization of personality. At the lowest level are individual responses to test items. Items that cluster together are indicators of specific attributes that may be referred to as personality subdimensions or facets. Facets that share psychological meaning, and most likely similar etiology, combine to define personality factors.

What is disputed is the composition of those facets or lower order traits. As Costa and McCrae (1998, p. 117) noted, “There is little agreement on an optimal set of [lower order] traits.” Costa and McCrae (1992) posited six lower order traits for each of the five factors—the definitions of which we provide in Table 1. This conceptualization has proven influential—and controversial. Roberts et al. (2006) argued that the Costa and McCrae (1992) typology was measurement driven, so that the facets were produced from “typical personality inventory construction methods” (Roberts et al., 2006, p. 29). Though Costa and McCrae (1998) defended the reasonableness of their lower order taxonomy, they acknowledged that “identifying the optimal set of facets . . . has proven to be a difficult task” (p. 118) and that “the choice of specific facets appears to be somewhat arbitrary” (p. 118).

Recently, DeYoung et al. (2007) attempted to clarify this literature by reconciling two dominant methods of inquiry in trait psychology: the psychometric approach—where personality scales, dimensions, or factors are uncovered by data reduction at the item (Costa & McCrae, 1992) or adjectival (Goldberg, 1990, 1993) level—and the genetic approach—where the presence of traits is uncovered through an analysis of monozygotic twins (Krueger, 2000) or neuropsychological analysis (Kumari, Ffytche, Williams, & Gray, 2004). In three studies that involved factor analyzing 75 facet scales with more than 2,500 individual items and then integrating these results with a genetic analysis based on Jang, Livesley, Angleitner, Reimann, and Vernon (2002), De Young et al. developed a 10-facet lower order trait taxonomy (two facets for each Big Five trait).

In describing their typology, DeYoung and Gray (2009) commented, “Each of the Big Five appears to be divisible into two distinct phenotypic aspects with partially distinct genetic bases” (p. 338). The two lower order traits of conscientiousness are *industriousness*—as characterized by achievement-orientation, self-discipline, and purposefulness—and *orderliness*—as characterized by deliberation, tidiness, and cautiousness. The lower order traits of agreeableness are *compassion*—corresponding to empathy, sympathy, and warmth—and *politeness*—corresponding to pleasantness, cooperation, and straightforwardness. The lower order traits of neuroticism are *volatility*—corresponding to low tranquility, high impulsivity, and high hostility—and *withdrawal*—corresponding to anxiety, depressive outlook, and self-consciousness. The lower order traits of openness are *intellect*—corresponding to quickness, creativity, and ingenuity—and *aesthetic openness*—corresponding to artistic values, imagination, and culture (for clarity, we label DeYoung et al.'s, 2007, openness factor *aesthetic openness* to differentiate it from the broad openness trait). The lower order traits of extraversion are *enthusiasm*—corresponding to gregariousness, positive emotionality, and sociability—and *assertiveness*—corresponding to activity level, social dominance, and leadership-striving.

Since its publication in 2007, the DeYoung et al. (2007) article has been cited more than 200 times—in both personality (e.g., Hirsh & Peterson, 2009) and organizational (e.g., Grant, Gino, & Hofmann, 2011; Kim & Glomb, 2010) psychology. Commenting on the DeYoung et al. framework, Sibley and Duckitt (2008) noted, “Impressively, this view seems consistent with recent genetic studies and suggests that these different aspects of each Big Five dimension may have distinct biological substrates” (p. 267). Indeed, DeYoung, Shamosh, Green, Braver, and Gray (2009) found neurological support for the DeYoung et al. (2007) openness facets. Recently, Soto, John, Gosling, and Potter (2011) used the DeYoung framework to analyze age differences in personality.

Beyond the aforementioned areas, an important contribution of DeYoung et al. (2007) was that they demonstrated that, in the same way that the Big Five traits are comprised of the 10 facets, the 10 facets themselves may be comprised of even more specific facets. Given that it is the most widely used lower order trait structure, the most obvious linkage is the NEO typology of lower order facets. DeYoung et al. found that the 30 NEO facets did indeed load on their 10 facets in ways that were mostly predictable (i.e., the NEO subfacet self-discipline on the DeYoung et al., 2007, industriousness facet of conscientiousness, the NEO subfacet depression on the DeYoung et al. withdrawal facet of neuroticism, the NEO

Table 1
Definition of NEO Facets

NEO facet	Description
Conscientiousness	
Competence	Sense that one is adept, prudent, and sensible
Order	Neat, tidy, and well-organized; methodical
Dutifulness	Governed by conscience; ethical; fulfill moral obligations
Achievement striving	High aspirations and work hard to achieve goals; driven to succeed
Self-discipline	Ability to begin and carry out tasks, self-motivating; persistent
Deliberation	Ability to think carefully before acting; cautious and deliberate
Agreeableness	
Trust	Belief that others are honest and well intentioned; not skeptical
Straightforwardness	Sincere; unwilling to manipulate through flattery or deception
Altruism	Active concern for others' welfare; helpful, generous, and considerate
Compliance	Cooperative; seek to inhibit aggression; forgiving; mild-mannered
Modesty	Humble and self-effacing
Tender-mindedness	Sympathy for human side of social policies; concerned for others
Neuroticism	
Anxiety	Apprehensive, fearful, prone to worry, tense, jittery
Angry hostility	Quick to anger; easily frustrated and irritated by others; bitter
Depression	Depressive affect, guilt, sadness, hopelessness; prone to dejection
Self-consciousness	Shame and embarrassment, sensitive to ridicule
Impulsiveness	Inability to control cravings or urges; susceptible to temptation
Vulnerability	Susceptibility to experience stress; easily panicked
Openness	
Fantasy	Active imagination; tendency toward daydreaming; lost in thought
Aesthetics	Appreciation for art and beauty, moved by poetry and music
Feelings	Receptive to inner feelings and emotions; empathetic
Actions	Willingness to try different activities; preference for variety to the routine
Ideas	Intellectual curiosity; willingness to consider new ideas
Values	Readiness to reexamine values; liberal; antitradition and antiauthority
Extraversion	
Warmth	Affectionate and friendly; informal and unreserved around others
Gregariousness	Sociable; preference for company of others; "the more the merrier"
Assertiveness	Dominant, forceful, and socially able; take charge and assume leadership
Activity	Prefer fast-paced life; high energy level; vigorous
Excitement-seeking	Crave excitement and stimulation; sensation-seeking
Positive emotions	Experience joy; laugh easily; cheerful and optimistic; high-spirited

subfacet gregariousness on the DeYoung et al. enthusiasm facet of extraversion). Thus, the DeYoung et al. framework may be thought to represent mid-range traits (J. Hogan & Roberts, 1996; John, Hampson, & Goldberg, 1991) in a hierarchical representation from the NEO subfacets at the most specific to the broadband Big Five traits at the most general. This hierarchical representation is depicted in Figure 1.¹

Theoretical Perspectives on Predictor–Criterion Relationships

In considering the degree to which lower order (narrower) versus higher order (broader) traits best predict criteria such as job performance, two theoretical perspectives on predictor–criterion relationships are relevant: the bandwidth–fidelity dilemma and construct correspondence. These are reviewed below.

Bandwidth–fidelity dilemma. According to Cronbach and Gleser (1965), the bandwidth–fidelity dilemma is expressed as

follows: "In any decision situation there is some ideal compromise between variety of information (bandwidth) and thoroughness of testing to obtain more certain information (fidelity)" (p. 100). They

¹ Consistent with most personality research, the model in Figure 1 depicts the broad Big Five traits and the facets as reflective constructs because, in this way of thinking, it is the higher order latent variable that causes covariation among the facets. On the other hand, reflective approaches to personality structure do not satisfy the substitutability principle wherein if one indicator is removed, the nature of the construct is unchanged (Diamantopoulos, Riefler, & Roth, 2008). Clearly, removing one of the facets does change the nature of the construct. In reality, we believe few constructs are purely formative or reflective, particularly when lower order facets of a construct are substantively different. As Bollen and Bauldry (2011) noted, "The dichotomous view is too simple" (p. 265). Following their logic, though we believe either position is reasonable, partly for the theoretical reasons noted above and partly due to limitations with the data as described later, our treatment is most consistent with a composite indicator approach.

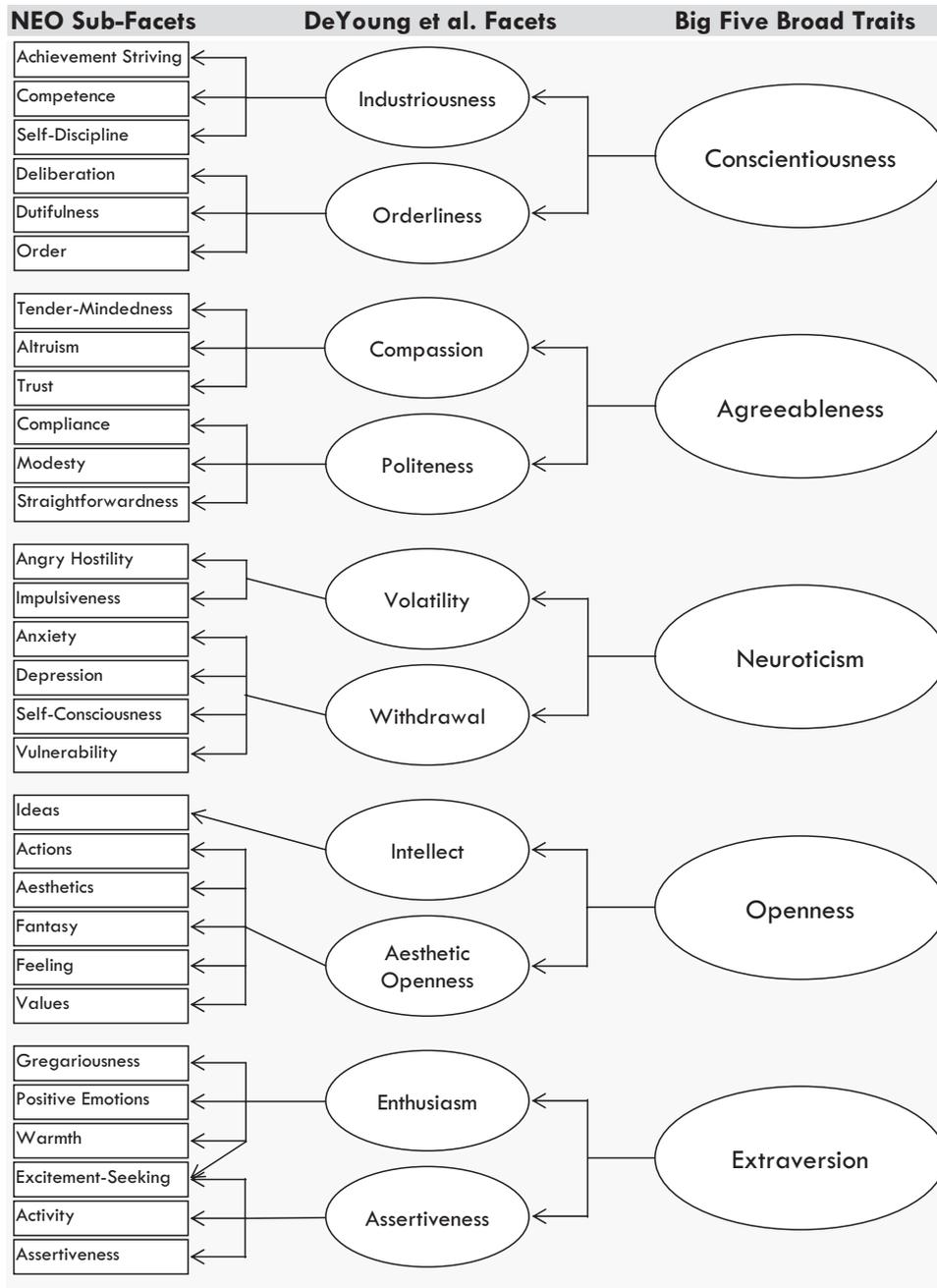


Figure 1. Hierarchical representation of personality, from NEO subfacets (Costa & McCrae, 1992, 1998) to DeYoung, Quilty, and Peterson (2007) facets to the Big Five traits.

further argued, "Tests may be constructed to yield separate scores on a number of diverse, internally homogenous scales, or to provide a single measure loaded with the general factor underlying items" (Cronbach & Gleser, 1965, p. 99). Thus, the bandwidth-fidelity dilemma appears to address the tradeoff between a reliable but unidimensional measure versus a multidimensional but potentially unreliable measure. In considering the literature that has cited the bandwidth-fidelity dilemma, however, it is clear that researchers have interpreted the dilemma in different ways, each of

which affects expectations regarding the reliability and criterion-related validity of broad and narrow traits. Three of the most prominent interpretations of these perspectives are reviewed below.

First, if there is a fixed constraint on the amount of information that can be collected from an individual (e.g., a certain amount of testing time available for each job applicant), then the researcher or practitioner faces a choice: Assuming a fixed constraint on survey or testing time, do I use the time to

measure a single construct as reliably as possible? Or do I attempt to assess multiple—albeit potentially less reliable—constructs? Put another way, as noted by Chapman (2007), if one has 20 questions to assess a trait domain, would it be better to use a 20-item scale to assess a single construct or to assess five facets of that construct, each with four-item scales? The bandwidth–fidelity dilemma addresses this choice: The greater (broader bandwidth) coverage we seek, the less reliably (lower fidelity) we can measure that domain coverage. As Murphy (1993) summarized, “In psychological testing, there is an inevitable trade-off between attaining a high degree of precision in measurement of any one attribute or characteristic and obtaining information about a large number of characteristics” (p. 139).²

A second way researchers have interpreted the bandwidth–fidelity dilemma is to consider both concepts (bandwidth and fidelity) independently. This perspective was best articulated by Ones and Viswesvaran (1996), who noted, “There is nothing inherent in broad traits that precludes high fidelity assessment . . . we would like to point out that bandwidth and fidelity are independent dimensions” (p. 610). The advantage of this interpretation is that it addresses what is arguably the most common situation in personality research—when a single scale assesses a broad domain (such as a single broad measure for each of the Big Five traits). In this view, both high bandwidth and high fidelity can be achieved if a broad construct is measured well. Though this is undoubtedly true, Cronbach and Gleser (1965) were concerned with the tradeoff *ceteris paribus*—the broader the construct, the more items required to measure it reliably (as compared to a narrower construct). Cortina’s (1993, Table 2, p. 114) analysis showed that, holding the number of items constant, a broad measure will always be less reliable than a narrower one.

A third (and not mutually exclusive) way many researchers have construed the bandwidth–fidelity dilemma is to analyze the criterion-related validity of broad versus narrow traits or trait measures. Within this perspective, researchers differ in the implications they derive from the bandwidth–fidelity dilemma. To some, broad trait measures have shown more robust criterion-related validity than narrow measures (Barrick & Mount, 2005; Ones et al., 2005; Stewart, 2008). Ones and Viswesvaran (1996) concluded that broad measures have higher and more generalizable predictive validities because “there is too much invalid variance in any homogeneous measure of specific, narrow personality dimensions” (p. 622). Others had reached conclusions contradicting this viewpoint in favor of narrow traits (Paunonen et al., 1999), including “narrow traits have substantial explanatory value” (Schneider et al., 1996, p. 651), “narrow traits are better predictors of job performance than are the factors that subsume them” (Ashton, 1998, p. 301), and “using broad, complex measures, although convenient, runs the risk of masking meaningful and exploitable relations at more specific levels” (Tett et al., 2003, pp. 354–355). Though the bandwidth–fidelity dilemma was first articulated more than a half-century ago, it does not appear to have been successful in resolving debates about the proper generality–specificity of personality constructs.

Construct correspondence. Another theoretical perspective on predictor–criterion relations—construct correspondence—also addresses merits of broad and narrow measures. Fishbein and Ajzen (Ajzen & Fishbein, 1977; Fishbein & Ajzen, 1974) articu-

lated a theory of behavioral prediction wherein, to achieve their predictive potential, attitudes need to be conceptualized and measured at the same level of generality (or specificity) as the behaviors they seek to predict. This perspective cautions against using general attitudes or traits to predict single-act behaviors and, by the same logic, using a specific attitude or trait to predict a general class of behaviors. As Ajzen and Fishbein (1977) flatly stated, “Attitude–behavior relations under lack of correspondence are low and not significant” (p. 894).³

Fishbein and Ajzen’s (1974) correspondence perspective has been applied most deeply to attitude–behavior relations (Hulin, 1991), where specific behavior intentions are the best predictors of specific behaviors and broad attitudes best predict broad behavioral outcomes (Harrison et al., 2006). However, the correspondence perspective has been applied to other domains, including trait–behavior relations, a generalization Ajzen and Fishbein (1977) explicitly made in their discussion of construct correspondence. As Hough and Furnham (2003) noted, “The best criterion-related validities are attained when researchers use a construct-oriented approach to match predictors to criteria” (p. 136). Though construct correspondence has not resolved the debate surrounding broad and narrow traits, we are aware of no attitude or personality researcher who has challenged the inherent logic of this perspective.

Hypotheses

In considering the criterion-related validity of broad traits, a critical distinction must be made in how a broad trait is conceptualized and assessed. One means of conceptualizing the Big Five traits is solely at the broad trait level. In such a case, this broad trait is measured directly. In practice and thus by implicit assumption, this is far and away the most common way of treating the Big Five traits. The items of such measures may or may not be separable into facets, though if the measure is to be treated as a latent construct, all items should be alternative measures of the general construct (Bollen & Bauldry, 2011). Thus, the measurement strategy assumes those facets either do not exist or are of inconsequential utility.

The other way broad traits are conceptualized is as multidimensional constructs. A multidimensional construct is one where several related dimensions or facets can be considered to comprise or indicate a broader construct (Law, Wong, & Mobley, 1998). Figure 1 depicts such a multidimensional approach where each Big

² We should note several rebuttals to this argument. First, while there is a direct relationship between the number of items comprising a measure and the reliability of that measure, this does not mean that short measures cannot be reliable. Thus, it is not always the case that longer measures are better measures, as research on the psychometric properties of brief measures of the Big Five traits has demonstrated (Donnellan, Oswald, Baird, & Lucas, 2006; Oswald, Friede, Schmitt, Kim, & Ramsay, 2005). Second, internal consistency is not the only means of assessing reliability, and some very brief measures may perform quite well when other means of assessing reliability are used (Rammstedt & John, 2007). Finally, this hypothetical argument assumes that the researcher must limit his or her survey space to a fixed number of items. This, of course, is often a real constraint but rarely an inherent or immutable one. Indeed, if one wishes to assess facets, one could relax this constraint by increasing survey space.

³ What we label *construct correspondence* has also been called the *compatibility principle* (Harrison, Newman, & Roth, 2006).

Five trait is manifested in two facets, which themselves are reflected in the NEO facets.

A great advantage of general measures of broad constructs is that they are typically far shorter than measures of the broad construct that also assess underlying facets. For example, within the NEO, the NEO Five-Factor Inventory (NEO-FFI) assesses the broad traits only, where each trait is measured with 12 items. Conversely, the faceted approach, as assessed with the NEO Personality Inventory—Revised (NEO-PI-R), requires 48 items per trait (eight for each facet). In a criterion-related validity sense, then, there would be no reason to use a faceted approach over a broad-trait-only approach if both approaches produced the same level of prediction.

Is that really the case? Indeed, there are two reasons to believe that, in predicting job performance, faceted approaches to the Big Five traits will produce higher criterion-related validity than broad-trait-only approaches. First, psychometrically, if facets of a multidimensional construct are positively correlated and differentially predict a criterion, then a composite of those facets will always produce higher criterion-related validity than the average of the facets. As we hypothesize subsequently (see Hypothesis 2 below), we believe the facets do have different relationships with performance.

Second, broad-trait-only measures are more likely to be construct deficient in that they are likely to sample a narrower content domain than multidimensional measures. For example, even though Goldberg's International Personality Item Pool measures do an admirable job of assessing the Big Five traits and show strong convergent validity with the NEO-FFI measures, the measures do a better job of sampling some facets than others. For example, the 10-item agreeableness measure does a far better job of covering some NEO domains (altruism, tender-mindedness) than others (modesty, straightforwardness, trust). Thus, while broad-trait-only and faceted trait measures may assess a general construct equally well, broad-trait-only measures likely cover less content domain than faceted measures. For some applications—for example, the relationship between cognitive ability and job performance—this may make little difference because specific-facet variance appears relatively unimportant. There is less evidence that this is the case with personality traits.

The advantage of the 6–2–1 framework as depicted in Figure 1 is that it considers both broad and narrow representations of each Big Five trait domain. It is thus more likely that each Big Five trait is relevant to performance because it covers a broader content domain, and it allows for criterion-related validity to be found at multiple levels of analysis.

Hypothesis 1: The Big Five traits can productively be organized into a 6–2–1 organizational framework, in which each Big Five trait is comprised of two lower level facets (as developed by DeYoung et al., 2007), which, in turn, are comprised of six subfacets (as developed by Costa & McCrae, 1992). For each of the Big Five traits in the 6–2–1 framework, at least one of the nine traits or facets will display nonzero correlations with overall job (Hypothesis 1a), task (Hypothesis 1b), and contextual (Hypothesis 1c) performance.

As noted earlier, an important premise supporting the relevance of faceted approaches to the Big Five traits is that the facets

comprising or indicating the trait differentially predict performance. Unfortunately, the bandwidth–fidelity and construct correspondence perspectives are mute on this issue. However, specific research on the links between particular dimensions or facets of each Big Five trait and job performance is instructive. For conscientiousness, while among the Big Five traits it is clearly the best predictor of job performance, evidence does suggest that lower order conscientiousness facets might operate quite differently (Stewart, 1999). Most research suggests that the industriousness facet—comprised of achievement and dependability—is most relevant to both task and contextual performance, whereas the orderliness facet bears little relationship to these criteria (Dudley et al., 2006). Though no previous research has applied the DeYoung et al. (2007) taxonomy to industrial–organizational psychology, it seems clear that, from Dudley et al.'s (2006) results, industriousness encompasses achievement and dependability, whereas orderliness encompasses order and cautiousness. Thus, one would expect that industriousness is more relevant to task and contextual performance than is orderliness.

Second, for agreeableness and its dimensions, Ilies, Fulmer, Spitzmuller, and Johnson (2009) noted that “the literature on OCB [organizational citizenship behavior] could be further informed by examinations of more nuanced relationships among specific citizenship behaviors and bandwidth-matched facets of agreeableness” (p. 954). The agreeableness facet of politeness—which includes nurturance, cooperation, and pleasantness (DeYoung et al., 2007)—seems particularly appropriate for contextual performance or citizenship behavior. If actions such as “altruism, helping, courtesy, cooperative behavior, and interpersonal facilitation” form the core of organizational citizenship (Ilies et al., 2009, p. 945), then individuals with a predisposition toward politeness should be more likely to engage in such behaviors.

Third, though the neuroticism–performance relationship is the second strongest among the Big Five traits (Barrick, Mount, & Judge, 2001), the two DeYoung et al. (2007) facets seem most appropriate for different aspects of performance. The withdrawal dimension seems particularly relevant to task performance. It is hard to imagine that individuals who are depressed, discouraged, and easily overwhelmed—all parts of the withdrawal dimension (DeYoung et al., 2007)—will be more motivated to complete job tasks successfully. Individuals who score high on withdrawal are likely to be predisposed to experience negative affect, and a recent meta-analytic path analysis (Kaplan, Bradley, Luchman, & Haynes, 2009) revealed that negative affect predicted task performance, even when controlling for neuroticism (which did not). Furthermore, beyond an affective mechanism, the depressive aspect of the withdrawal dimension may produce performance decrements through cognitive distortions (Dunning & Story, 1991), motivational deficits (Kammer, 1984), and other cognitive processes (Dowd, 2004). The other neuroticism facet—volatility—seems particularly relevant to contextual performance. The primary features of volatility include high hostility and irritability and low tranquility and imperturbability (DeYoung et al., 2007). Because both hostility (Lee & Allen, 2002) and irritability (Felfe & Schyns, 2004) have been linked to lower levels of citizenship behavior, we expect that volatility will negatively predict contextual performance.

Fourth, though the openness–performance relationship is less studied, one facet of openness—intellect—seems relevant to task

performance. Intellect predicts creative achievement (Feist, 1998) and scientific talent (Simonton, 2008). Originality is critical to successfully completing tasks, and originality is often rooted in measures of personality in the form of intellect as much as it is in measures of intelligence (Barron, 1957). Though artistic values—the other openness dimension—might be relevant to the performance of some sorts of tasks, it is much easier to imagine tasks in which intuition, originality, and cleverness (all markers of intellect in DeYoung et al., 2007) are important.

Finally, like neuroticism, the two facets of extraversion appear to be linked to different performance criteria: assertiveness to task performance and enthusiasm to contextual performance. The assertiveness of critical team members has been linked to objective measures of team performance (Pearsall & Ellis, 2006; Smith-Jentsch, Salas, & Baker, 1996). Moreover, one of the behaviors that best loads onto DeYoung et al.'s (2007) assertiveness factor is proactivity, and ample research suggests that individuals' tendencies to engage in proactive behaviors (Crant, 1995), as well as proactive behaviors themselves (Belschak & Den Hartog, 2010; Grant & Ashford, 2008), are linked to task performance or objective measures of performance. Finally, assertive individuals are more likely to have higher task-specific self-efficacy (Weitlauf, Smith, & Cervone, 2000) and to frame stress-inducing activities as challenges rather than threats (Tomaka et al., 1999), both of which may also aid their task performance.

In DeYoung et al.'s (2007) taxonomy, enthusiasm consists of positive emotions (warmth, positive emotions) and affability (sociability, gregariousness, friendliness). Research clearly supports a link of positive affect with contextual performance (Christian, Garza, & Slaughter, 2011), organizational citizenship behavior (Kaplan et al., 2009), and prosocial behavior (George, 1991). Positive moods may facilitate contextual performance for several reasons, including that those in positive moods help others (a) so as to preserve their positive mood (Isen, Shalker, Clark, & Karp, 1978), (b) because they have a more positive "perception of the social community" (Carlson, Charlin, & Miller, 1988, p. 213), and (c) because they have increased empathy toward others (Scott, Colquitt, Paddock, & Judge, 2010). Similarly, the affability aspect of enthusiasm may facilitate contextual performance by forging stronger network ties (Asendorpf & Wilpers, 1998), spending more time with others (Diener, Larsen, & Emmons, 1984), having more and closer peer relationships (Asendorpf & Wilpers, 1998), and being more able to receive and provide social support (S. Cohen, Doyle, Turner, Alper, & Skoner, 2003)—all of which should facilitate contextual performance.

Hypothesis 2: The DeYoung et al. (2007) facets will differentially predict overall job (Hypothesis 2a), task (Hypothesis 2b), and contextual (Hypothesis 2c) performance, such that the effect of one facet will not be the same as another facet.

In his conceptualization of multidimensional constructs, J. R. Edwards (2001) made a distinction between a construct in which a single construct is formed with or indicated by its dimensions or facets and analysis of the facets as a set. With this latter approach, the dimensions or facets are related to a criterion individually. As noted by Edwards, "Such models accommodate differences in relationships involving the dimensions of the construct, which critics consider important for theory development and refinement"

(J. R. Edwards, 2001, pp. 148–149). The logic of such an approach was articulated by Nunnally (1978), who advised,

Instead of building factorial complexity into a particular test, it is far better to meet the factorial complexity by combining tests in a battery by multiple regression, in which case tests would be selected to measure different factors that are thought to be important. (p. 268)

This logic has been endorsed by proponents of specific traits over general traits (Schneider et al., 1996). Indeed, because they are optimally weighted, such an approach maximizes the multiple correlation with job performance. Thus, statistically, predicting performance with individual facets is certain to increase criterion-related validity. The question is whether the increase in prediction is worth the expense (statistically in degrees of freedom or methodologically in terms of survey space). Conceptually, the increases in prediction moving from a broad to narrow construct and from a single construct to individually considered facets are a function of the degree to which the facets differentially predict performance. The stronger the differences in the facets' prediction of performance, the greater the gains that can be expected from analyzing them separately. As noted by Paunonen, Haddock, Forsterling, and Keinonen (2003, p. 428),

The pursuit of measuring broad factors of personality, and the consequent discarding of reliable variance specific to the factors' constituent traits, is generally ill advised. That trait-specific variance might be precisely the variance that is predictive of some criterion of interest. As such, that variance should be exploited by researchers and not relegated to error of measurement.

Given the arguments supporting Hypothesis 2 with respect to the DeYoung et al. (2007) traits, we believe this to be the case here.

Hypothesis 3: Faceted personality frameworks will be better predictors of overall job, task, and contextual performance than will broad trait frameworks. Specifically, models in which facets individually predict performance will explain more variance in overall job (Hypothesis 3a), task (Hypothesis 3b), and contextual (Hypothesis 3c) performance than models that rely on a broad trait.

In considering the importance of broad and narrow personality constructs to job performance, we are not arguing that broad measures have no contribution to make. We expect both broad traits and narrow facets, when measured independently, to contribute unique variance toward explaining job performance. Empirically, considerable research supports the importance of broad traits (Barrick & Mount, 1991, 2005; Mount & Barrick, 1995; Ones & Viswesvaran, 1996; Schmidt & Hunter, 1992) in predicting job performance. However, research also supports the importance of narrow facets (Ashton, 1998; Ashton, Jackson, Paunonen, Helmes, & Rothstein, 1995; Moon, 2001; Paunonen, 1998; Paunonen & Ashton, 2001) or both broad and narrow traits (Dudley et al., 2006; Stewart, 1999). Theoretically, drawing from the bandwidth–fidelity dilemma and other perspectives, there is reason to expect both broad traits and narrower ones to be valid predictors of performance.

Owing to the construct correspondence perspective, we expect both to be relevant to broad and narrow criteria (here, overall job performance and task and contextual performance). However,

based on construct correspondence, we expect broad traits to better predict broad criteria (here, overall job performance) and narrow facets to better predict job performance facets (here, task and contextual performance).

Hypothesis 4: Broad measures of the Big Five traits will explain relatively more variance in overall job performance than in task (Hypothesis 4a) or contextual (Hypothesis 4b) performance.

Method

In order to examine the relative criterion-related validities of broad and narrow personality traits, we first meta-analytically derived estimates of correlations between narrow personality traits and job performance, as well as among the narrow personality traits. In the following sections, we describe the processes through which these meta-analytic relationships were obtained.

Literature Search

Several methods were employed to search for relevant studies. First, we searched the reference sections of published meta-analyses of the Big Five personality traits and job performance. We supplemented this with a web-based search of the PsycINFO database, using the terms *performance*, *personality*, and 163 personality traits in both noun and adjective form (e.g., *anxiety* and *anxious*, *anger* and *angry*, *dominance* and *dominant*, etc.). Next, we queried the PsycINFO database using the names of several popular personality inventories (e.g., *Adjective Checklist*, *California Personality Inventory*, *Hogan Personality Inventory*, *NEO-PI-R*, *NEO-FFI*, etc.). The personality traits included in the search query were based on Ashton, Lee, and Goldberg's (2004) analysis of 1,710 English personality-descriptive adjectives and supplemented with traits from the International Personality Item Pool. A complete list of the personality terms and inventories included in our search can be obtained by contacting the first author. Finally, as articles were coded, their reference sections were scanned for additional relevant articles. In all, we identified 4,586 potentially relevant articles.

Rules for Inclusion in the Meta-Analysis

Several inclusion criteria were employed. First, only empirical articles were examined. Second, only independent data sets were examined; articles that reexamined previously published data were not counted as new, independent data sets. Third, articles in which special populations were assessed (e.g., psychiatric or institutionalized samples) or in which participants could not legally work were excluded. Finally, we excluded articles that failed to report either a correlation or the necessary information to calculate a correlation (e.g., articles that reported means but not standard deviations). In the end, 264 journal articles met these criteria.

Classifying the NEO Personality Facets

The narrow personality traits were initially categorized using the NEO-PI-R (Costa & McCrae, 1992). This taxonomy provides six narrow personality facets for each of the Big Five personality traits, resulting in 30 narrow personality facets. Consistent with

other meta-analyses in which narrow traits were combined to fit into a particular framework (e.g., Barrick & Mount, 1991; Dudley et al., 2006), knowledgeable raters performed the task of categorizing the personality traits. Four raters were provided with a list of personality scales (along with scale definitions), as well as a list of ad hoc personality traits (along with definitions from the relevant article), and asked to assign each personality trait to an appropriate NEO personality subfacet. Two raters assigned each personality trait. Initial agreement about personality trait classification occurred in 78% of cases. Any discrepancies were put to a third and, if necessary, fourth rater and were ultimately resolved by consensus in discussion. Not all personality traits were included under the current classification system. For instance, concerning Gough's California Personality Inventory (CPI; Gough & Bradley, 1996), dominance was coded as assertiveness in the NEO taxonomy, sociability was coded as gregariousness, and masculinity/femininity was not coded. The classification of inventories into the NEO facets is provided in Appendix A.

Meta-Analytic Procedures

In computing all meta-analytic estimates, we followed the guidelines presented by Hunter and Schmidt (2004). Specifically, when a study included multiple measures of a single variable (i.e., two traits that could be classified under the same narrow personality trait) and the intercorrelations were available, the correlations were aggregated into a composite correlation using the formula presented by Hunter and Schmidt (2004, pp. 433–435). If the intercorrelations were not presented in the study, then the average correlation between the multiple measures was coded. In order to estimate the population correlation values and variances, we corrected correlations for attenuation due to unreliability.⁴ Because reliability estimates were reported in only some of the cases, an artifact distribution method was employed. Following this method, reliabilities for each independent and dependent variable across all coded studies were used to create a compound attenuation factor (see Hunter & Schmidt, 2004, pp. 150–154). Artifact distribution information for each variable is summarized in Appendix B. The corrected population coefficients $\hat{\rho}$ were then calculated by dividing the mean sample-weighted correlation by the compound attenuation factor. Data coded from each primary study, including sample size, variables, reliabilities, and correlations, are provided in Appendix C. In addition, following the recommended practice of Dieckmann, Malle, and Bodner (2009), we report 95% confidence intervals in order to describe the variability in the estimated mean corrected correlations. Due to space limitations, confidence intervals around the uncorrected mean correlation (\bar{r}) are not presented in the tables. Whether a confidence interval excluded or included zero was highly consistent across \bar{r} and $\hat{\rho}$. Tables con-

⁴ We chose to correct all estimates for unreliability in the predictor and criterion based on internal consistency reliability. Of course, different choices could reasonably be made, including correcting only the criterion (operational validity in a selection context; see Roth, Switzer, Van Iddekinge, & Oh, 2011), correcting for range restriction (Schmidt, Oh, & Le, 2006), or correcting the criterion based on interrater reliability (Murphy & DeShon, 2000; Schmidt, Viswesvaran, & Ones, 2000). Chiaburu, Oh, Berry, Li, and Gardner (2011, p. 1144) and Roth et al. (2011, pp. 902–904) provided excellent discussions of these issues.

taining confidence intervals around \bar{r} are available from the authors on request.

Results

From Six to Two: Derivation of Two DeYoung et al. (2007) Facets From Six NEO Facets

Because DeYoung et al. (2007) derived their taxonomic structure from the NEO facets, we sought to replicate DeYoung et al.'s factor loadings that produced their 10 factors from the 30 NEO facets. Accordingly, we conducted five confirmatory factor analyses—one for each of the Big Five traits—wherein the six NEO facets were specified to load on their relevant DeYoung et al. factors. To obtain the input for these factor analyses, we meta-analyzed the relationships among the NEO facets for each of the five traits. Because this entailed 75 separate meta-analyses (15 meta-analyses for the five sets of six facets, or 15×5), we do not report NEO facet intercorrelations here; they are available from the authors on request.

In specifying these models, we followed the DeYoung et al. (2007) pattern of findings—specifically, we freed the loading of the NEO facet on the DeYoung et al. facet that showed the strongest factor loading. A few clarifications here are necessary. First, because DeYoung et al. found that the NEO facet of excitement-seeking loaded equally on the two extraversion facets (assertiveness, enthusiasm), we allowed this NEO facet to load on both extraversion facets. Second, DeYoung et al. found that only one NEO openness facet—ideas—loaded on their intellect facet. Thus, in this model, we specified a perfect loading (a one-to-one correspondence) between the NEO facet and the DeYoung et al. intellect facet.

The confirmatory factor model fit the data acceptably: normed fit index (NFI), $\overline{\text{NFI}} = .950$; nonnormed fit index (NNFI), $\overline{\text{NFI}} = .914$; comparative fit index (CFI), $\overline{\text{CFI}} = .954$; relative fit index (RFI), $\overline{\text{RFI}} = .906$. The factor loadings are displayed in Table 2. As the table shows, the NEO facets significantly load on their respective facets. All factor loadings are significant, and the overall strength of the loadings ($\bar{\lambda}_x = .65$) confirms the relationship of the NEO facets to the DeYoung et al. (2007) facets. Accordingly, we formed the DeYoung et al. facets from the NEO facets and, in computing correlations of the DeYoung et al. facets to the three performance dimensions, used Hunter and Schmidt's (2004) formula for computing a composite correlation.⁵

The loadings in Table 2 determined which NEO facets comprised which DeYoung et al. (2007) facet (e.g., for the conscientiousness facets, achievement-striving, competence, and self-discipline comprised industriousness; deliberation, dutifulness, and order comprised orderliness). By necessity, composite correlations are unit weighted, meaning that each facet contributes equally to the composite. However, using factor analytic weights from Table 2 to compute average correlations, the average correlations were quite similar, differing by only $-.001$, $.0005$, and $.003$ for overall job, task, and contextual performance, respectively, for the uncorrected correlation coefficients.

Table 2
Factor Loadings of NEO Facets on DeYoung, Quilty, and Peterson (2007) Higher Order Facets

Big Five trait and NEO subfacet	Facet 1	Facet 2
Conscientiousness	Industriousness	Orderliness
a. Achievement striving	.66	
b. Competence	.42	
c. Deliberation		.55
d. Dutifulness		.63
e. Order		.64
f. Self-discipline	.69	
Agreeableness	Compassion	Politeness
a. Altruism	.70	
b. Compliance		.33
c. Modesty		.60
d. Straightforwardness		.85
e. Tender-mindedness	.72	
f. Trust	.74	
Neuroticism	Volatility	Withdrawal
a. Angry hostility	.78	
b. Anxiety		.90
c. Depression		.92
d. Impulsiveness	.58	
e. Self-consciousness		.85
f. Vulnerability		.71
Openness	Intellect	Aesthetic openness
a. Actions		.53
b. Aesthetics		.65
c. Fantasy		.64
d. Feeling		.71
e. Ideas	1.00	
f. Values		.54
Extraversion	Assertiveness	Enthusiasm
a. Activity	.74	
b. Assertiveness	.65	
c. Excitement-seeking	.44	.51
d. Gregariousness		.68
e. Positive emotions		.54
f. Warmth		.21

Note. Standardized factor weights are from five confirmatory factor analyses (one for each broad trait) based on meta-analytic estimates of correlations among each set of six NEO facets.

From Two to One: Derivation of One Broad Trait From Two DeYoung et al. (2007) Facets

Having derived, for each Big Five trait, the two DeYoung et al. (2007) facets from the six NEO facets, we then derived each broad trait from the two DeYoung et al. facets. As with deriving the DeYoung et al. facets from the NEO facets, we calculated composite correlations based on the intercorrelations between the two DeYoung et al. facets (which, as we note below, were themselves formed from the six NEO facets). Confidence and credibility intervals for the composites were constructed by estimating the

⁵ It should be noted that while our meta-analytic factor analysis results generally conformed quite closely to DeYoung et al.'s (2007), as with their study, some of the loadings of the NEO facets on the 10 factors were not strong (e.g., the loading of warmth on enthusiasm was only .21), and in some cases, cross loadings were observed. Using another method—where factor loadings had to be at least .50 and the difference in cross-factor loadings had to be greater than .10—to assign the NEO subfacets to the DeYoung et al. facets produced nearly identical results (the average change in correlation was .0086).

standard error and standard deviation of corrected individual correlations before computing the composite. As we note in the discussion, we were not able to test such a hierarchical representation of the Big Five traits—as shown in Figure 1 and then subsequently related to the performance criteria—due to inherent limitations of meta-analytic data.

Meta-Analytic Estimates of 6–2–1 Framework With Overall Job Performance

Table 3 presents the results of the meta-analyses linking the 6–2–1 (the 30 NEO facets–10 DeYoung et al., 2007, facets–five broad FFM traits, respectively) framework to overall job performance. Not surprisingly, conscientiousness and its facets show the highest correlations with performance, led by achievement striving ($\hat{\rho} = .23$), dutifulness ($\hat{\rho} = .21$), and self-discipline ($\hat{\rho} = .19$). The mean correlations for all six conscientiousness facets were distinguishable from zero (as evidenced by the 95% confidence intervals excluding zero). One of the two DeYoung et al. (2007) facets—industriousness ($\hat{\rho} = .24$)—correlated with performance slightly stronger than any of the six NEO facets. The other facet—orderliness ($\hat{\rho} = .21$)—correlated as highly with overall performance as all but one of the NEO facets. Of course, as must be the case with composite correlations, the broad conscientiousness trait had a higher correlation with performance ($\hat{\rho} = .26$) than the average of either of the facet frameworks. However, it also had a stronger correlation with performance than the highest facet from either framework.

Turning to agreeableness, a somewhat different pattern emerges. As would be expected, in general, the correlations are weaker than for conscientiousness. However, the pattern of correlations is similar in some ways and different in others. Specifically, the NEO facets differ to a greater degree in their correlation with performance, ranging from modesty ($\hat{\rho} = .03$) to tender-mindedness ($\hat{\rho} = .18$). The credibility intervals of two of the six NEO facets excluded zero, though the confidence intervals of four of the six excluded zero. The DeYoung et al. (2007) agreeableness facets—compassion ($\hat{\rho} = .15$) and politeness ($\hat{\rho} = .13$)—did not diverge much in their correlation with overall performance. Both were lower than the highest NEO facets but also equal to (compliance, $\hat{\rho} = .13$) or greater than any other NEO facet. The broad agreeableness trait had a higher correlation with overall performance ($\hat{\rho} = .17$) than either DeYoung et al. facet, though a lower correlation than the highest NEO facet. The confidence intervals of two agreeableness facets and the broad trait all excluded zero, as did the credibility intervals, save compassion.

The results for neuroticism were weaker than for agreeableness. Still, there was variability in the average correlations with overall performance, ranging from self-consciousness ($\hat{\rho} = .02$) to impulsiveness ($\hat{\rho} = -.13$). Similarly, though relatively weak, the two DeYoung et al. (2007) facets—volatility ($\hat{\rho} = -.12$) and withdrawal ($\hat{\rho} = -.05$)—differed in their average correlation with overall performance. The broad neuroticism trait, while necessarily having a higher correlation with overall performance ($\hat{\rho} = -.10$) than the average of the facets, had a lower correlation than one of the NEO facets and one of the DeYoung et al. facets. The credibility of all aspects of neuroticism included zero. The confidence intervals of half of the NEO (three out of six) facets and

DeYoung et al. (one out of two) facets excluded zero, as was the case with the confidence interval for the broad neuroticism trait.

Of all the Big Five traits, the NEO facets were most variably related to performance for openness. As shown in Table 3, the correlations of openness with overall performance ranged from $\hat{\rho} = -.14$ for fantasy to $\hat{\rho} = .15$ for values. Four of the six credibility intervals for the openness facets included zero, whereas three of the six confidence intervals excluded zero. The DeYoung et al. (2007) openness facets—intellect ($\hat{\rho} = .10$) and aesthetic openness ($\hat{\rho} = .03$)—also showed somewhat less variability in their relationship to performance. The aggregated openness trait correlated $\hat{\rho} = .11$ with overall performance. The average correlations of intellect and the broad openness trait were distinguishable from zero in that the confidence intervals excluded zero (though the credibility intervals included zero for all three).

The results for extraversion also showed appreciable variation among the NEO facets. Corrected mean correlations ranged from $\hat{\rho} = -.05$ for excitement-seeking to $\hat{\rho} = .20$ for positive emotions. For four of the six facets, the credibility intervals excluded zero. The same was true for the confidence intervals, though not always for the same traits. The correlations of the two DeYoung et al. (2007) facets were quite similar— $\hat{\rho} = .16$ for assertiveness and $\hat{\rho} = .15$ for enthusiasm—suggesting that the variability among the NEO facets is obscured at this level. The correlation of the broad trait ($\hat{\rho} = .20$) with overall performance was the same as the correlation of the NEO positive emotions facet. For the two DeYoung et al. facets and the broad extraversion composite, both the credibility and confidence intervals excluded zero.

Meta-Analytic Estimates of 6–2–1 Framework With Task Performance

Table 4 provides the meta-analyses linking the 6–2–1 framework to task performance. As with overall performance, all six NEO conscientiousness facets had nonzero mean correlations with task performance; the highest correlation was for achievement striving ($\hat{\rho} = .20$), and the lowest was for order ($\hat{\rho} = .13$). The two DeYoung et al. (2007) facets—industriousness ($\hat{\rho} = .23$) and orderliness ($\hat{\rho} = .19$)—had somewhat different correlations with task performance. The composite conscientiousness correlation ($\hat{\rho} = .25$) was higher than any facet. For the DeYoung et al. facets and the overall conscientiousness composite, all the credibility and confidence intervals excluded zero.

The six agreeableness facets correlated relatively differently with task performance, ranging from tender-mindedness ($\hat{\rho} = -.02$) to trust ($\hat{\rho} = .12$). Four of the six confidence intervals included zero, as was the case with the credibility intervals. The DeYoung et al. (2007) facets—compassion ($\hat{\rho} = .05$) and politeness ($\hat{\rho} = .11$)—also varied in their correlation with task performance, though neither facet was higher than the highest NEO facet. The same was true of the broad agreeableness trait ($\hat{\rho} = .10$). The credibility intervals excluded zero for politeness; the confidence intervals for both DeYoung et al. facets and the broad trait excluded zero.

For neuroticism, the correlation of the NEO facets with task performance also varied, ranging from $\hat{\rho} = -.16$ for depression to $\hat{\rho} = .08$ for vulnerability. These underlying differential associations are more opaque at the level of the two DeYoung et al. (2007) facets (volatility, $\hat{\rho} = -.09$; withdrawal, $\hat{\rho} = -.06$). The same

Table 3
 Relationship of Five-Factor Model 6–2–1 Framework to Overall Job Performance

Variable	<i>k</i>	<i>N</i>	\bar{r}	$\hat{\rho}$	$SD_{\hat{\rho}}$	CV_L	CV_U	CI_L	CI_U
Conscientiousness									
Six NEO subfacets (6)									
1. Achievement striving	44	28,166	.18	.23	.05	.16	.30	.21	.25
2. Competence	32	14,203	.11	.14	.07	.04	.24	.11	.17
3. Deliberation	11	1,959	.11	.15	.07	.07	.24	.08	.23
4. Dutifulness	36	36,260	.16	.21	.06	.13	.30	.19	.24
5. Order	11	1,225	.09	.11	.00	.11	.11	.04	.18
6. Self-discipline	22	3,811	.15	.19	.21	-.09	.46	.09	.28
Two DeYoung facets (2)									
1. Industriousness	61	39,160	.19	.24	.10	.12	.36	.21	.27
2. Orderliness	43	36,650	.16	.21	.12	.06	.36	.19	.23
Single aggregated trait (1)	74	41,939	.21	.26	.08	.16	.36	.24	.28
Agreeableness									
Six NEO subfacets (6)									
1. Altruism	14	2,285	.06	.08	.10	-.05	.20	.01	.15
2. Compliance	24	11,788	.10	.13	.06	.06	.21	.10	.17
3. Modesty	7	903	.02	.03	.00	.03	.03	.00	.06
4. Straightforwardness	6	1,182	.04	.06	.19	-.18	.29	-.11	.22
5. Tender-mindedness	21	3,967	.14	.18	.19	-.06	.43	.09	.27
6. Trust	11	1,854	.07	.08	.13	-.09	.25	-.01	.18
Two DeYoung facets (2)									
1. Compassion	33	5,398	.12	.15	.18	-.08	.38	.08	.22
2. Politeness	26	12,243	.10	.13	.08	.03	.23	.10	.17
Single aggregated trait (1)	40	14,321	.13	.17	.09	.05	.29	.14	.20
Neuroticism									
Six NEO subfacets (6)									
1. Angry hostility	16	2,619	-.05	-.07	.12	-.21	.08	-.14	.01
2. Anxiety	26	4,292	-.08	-.09	.12	-.24	.06	-.15	-.04
3. Depression	18	2,770	-.08	-.10	.13	-.26	.06	-.18	-.03
4. Impulsiveness	11	1,703	-.10	-.13	.10	-.26	.01	-.21	-.04
5. Self-consciousness	7	1,531	.02	.02	.07	-.07	.11	-.06	.10
6. Vulnerability	22	12,154	.01	.01	.16	-.19	.22	-.06	.09
Two DeYoung facets (2)									
1. Volatility	18	2,780	-.09	-.12	.10	-.25	.01	-.18	-.06
2. Withdrawal	45	15,838	-.04	-.05	.18	-.28	.18	-.11	.01
Single aggregated trait (1)	55	17,274	-.08	-.10	.18	-.33	.13	-.15	-.05
Openness									
Six NEO subfacets (6)									
1. Actions	25	4,835	-.01	-.01	.14	-.19	.17	-.08	.06
2. Aesthetics	7	1,546	-.01	-.01	.03	-.05	.03	-.08	.06
3. Fantasy	7	1,196	-.11	-.14	.14	-.32	.04	-.27	-.01
4. Feeling	4	585	.07	.09	.00	.09	.09	-.02	.19
5. Ideas	33	6,367	.08	.10	.11	-.04	.24	.05	.15
6. Values	17	10,664	.11	.15	.07	.06	.24	.11	.19
Two DeYoung facets (2)									
1. Intellect	33	6,367	.08	.10	.11	-.04	.24	.05	.15
2. Aesthetic openness	32	13,745	.02	.03	.11	-.11	.17	-.01	.07
Single aggregated trait (1)	47	16,068	.06	.08	.11	-.06	.21	.04	.11
Extraversion									
Six NEO subfacets (6)									
1. Activity	6	8,831	.12	.16	.00	.16	.16	.14	.19
2. Assertiveness	45	15,294	.09	.11	.07	.03	.20	.09	.14
3. Excitement-seeking	6	1,451	-.04	-.05	.01	-.07	-.04	-.12	.01
4. Gregariousness	41	7,108	.09	.11	.11	-.03	.25	.06	.15
5. Positive emotions	22	4,530	.16	.20	.06	.13	.28	.16	.25
6. Warmth	12	2,402	.03	.03	.06	-.05	.12	-.03	.10
Two DeYoung facets (2)									
1. Assertiveness	48	15,984	.13	.16	.08	.06	.27	.13	.19
2. Enthusiasm	48	9,471	.13	.15	.11	.01	.29	.11	.19
Single aggregated trait (1)	63	19,868	.16	.20	.08	.10	.30	.18	.23

Note. CV_L and CV_U denote lower and upper limits of an 80% credibility interval. CI_L and CI_U denote lower and upper limits of a 95% confidence interval. DeYoung refers to DeYoung, Quilty, and Peterson (2007). *k* = number of correlations; *N* = cumulative sample size; \bar{r} = estimated mean correlation; $\hat{\rho}$ = estimated corrected correlation; $SD_{\hat{\rho}}$ = standard deviation of $\hat{\rho}$.

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Table 4
Relationship of Five-Factor Model 6–2–1 Framework to Task Performance

Variable	<i>k</i>	<i>N</i>	\bar{r}	$\hat{\rho}$	$SD_{\hat{\rho}}$	CV_L	CV_U	CI_L	CI_U
Conscientiousness									
Six NEO subfacets (6)									
1. Achievement striving	57	33,000	.15	.20	.08	.09	.30	.17	.23
2. Competence	47	16,938	.14	.18	.15	-.02	.37	.13	.22
3. Deliberation	9	2,038	.10	.14	.00	.14	.14	.09	.18
4. Dutifulness	29	36,878	.12	.17	.05	.10	.23	.14	.19
5. Order	20	3,106	.10	.13	.16	-.08	.34	.04	.21
6. Self-discipline	19	3,693	.13	.17	.15	-.02	.36	.09	.25
Two DeYoung facets (2)									
1. Industriousness	94	45,994	.19	.23	.12	.08	.38	.21	.26
2. Orderliness	39	38,011	.14	.19	.07	.10	.28	.17	.21
Single aggregated trait (1)	102	47,729	.19	.25	.11	.11	.39	.23	.27
Agreeableness									
Six NEO subfacets (6)									
1. Altruism	12	2,496	.01	.02	.02	-.01	.04	-.04	.07
2. Compliance	16	11,736	.09	.11	.09	.00	.23	.06	.17
3. Modesty	5	925	.02	.03	.00	.03	.03	-.01	.07
4. Straightforwardness	5	974	.05	.06	.16	-.14	.27	-.10	.22
5. Tender-mindedness	13	5,568	-.02	-.02	.09	-.14	.09	-.08	.04
6. Trust	14	2,983	.10	.12	.12	-.04	.28	.04	.20
Two DeYoung facets (2)									
1. Compassion	28	7,255	.04	.05	.13	-.12	.22	.00	.10
2. Politeness	18	11,879	.09	.11	.09	.00	.22	.07	.15
Single aggregated trait (1)	39	16,985	.08	.10	.12	-.06	.26	.06	.14
Neuroticism									
Six NEO subfacets (6)									
1. Angry hostility	18	2,918	-.06	-.08	.07	-.16	.01	-.13	-.02
2. Anxiety	59	6,838	-.06	-.07	.32	-.48	.34	-.16	.02
3. Depression	13	1,993	-.12	-.16	.16	-.36	.05	-.26	-.05
4. Impulsiveness	10	1,734	-.05	-.06	.05	-.12	.00	-.13	.01
5. Self-consciousness	4	1,649	-.03	-.04	.02	-.06	-.01	-.10	.03
6. Vulnerability	18	12,589	.06	.08	.16	-.12	.29	.00	.16
Two DeYoung facets (2)									
1. Volatility	23	3,361	-.07	-.09	.04	-.15	-.03	-.13	-.05
2. Withdrawal	74	18,623	-.05	-.06	.26	-.40	.28	-.12	.00
Single aggregated trait (1)	84	19,237	-.07	-.08	.26	-.41	.25	-.14	-.02
Openness									
Six NEO subfacets (6)									
1. Actions	22	3,730	.07	.09	.31	-.31	.49	-.05	.23
2. Aesthetics	9	2,596	.03	.04	.03	.01	.08	-.01	.10
3. Fantasy	9	1,363	.01	.01	.10	-.11	.14	-.08	.11
4. Feeling	4	493	.03	.05	.09	-.07	.16	-.10	.19
5. Ideas	30	8,489	.07	.09	.09	-.03	.21	.05	.13
6. Values	9	9,507	.12	.16	.09	.04	.28	.09	.23
Two DeYoung facets (2)									
1. Intellect	30	8,489	.07	.09	.09	-.03	.21	.05	.13
2. Aesthetic openness	27	12,042	.08	.11	.10	-.01	.23	.07	.15
Single aggregated trait (1)	41	16,738	.09	.12	.09	.01	.23	.09	.15
Extraversion									
Six NEO subfacets (6)									
1. Activity	5	8,533	.10	.14	.03	.10	.18	.09	.18
2. Assertiveness	39	16,056	.07	.09	.08	-.02	.20	.05	.12
3. Excitement-seeking	5	1,577	.09	.12	.16	-.09	.33	-.04	.28
4. Gregariousness	27	5,349	.03	.04	.10	-.09	.17	-.01	.09
5. Positive emotions	19	3,423	.07	.09	.07	.00	.19	.04	.15
6. Warmth	14	3,048	.00	.00	.12	-.14	.15	-.07	.08
Two DeYoung facets (2)									
1. Assertiveness	41	16,615	.10	.15	.09	.04	.26	.12	.18
2. Enthusiasm	39	7,307	.05	.05	.11	-.09	.19	.01	.09
Single aggregated trait (1)	57	20,104	.10	.12	.09	.01	.23	.09	.15

Note. CV_L and CV_U denote lower and upper limits of an 80% credibility interval. CI_L and CI_U denote lower and upper limits of a 95% confidence interval. DeYoung refers to DeYoung, Quilty, and Peterson (2007). *k* = number of correlations; *N* = cumulative sample size; \bar{r} = estimated mean correlation; $\hat{\rho}$ = estimated corrected correlation; $SD_{\hat{\rho}}$ = standard deviation of $\hat{\rho}$.

held true for the broad neuroticism composite ($\hat{\rho} = -.08$). Except for self-consciousness and volatility, all credibility intervals included zero. The confidence intervals excluded zero for three out of six NEO facets, for one out of two of the DeYoung et al. facets, and for the broad aggregated trait.

The correlations of the openness NEO facets with task performance were low, except for values ($\hat{\rho} = .16$), whose credibility and confidence intervals excluded zero. The two DeYoung et al. (2007) facets—intellect ($\hat{\rho} = .09$) and aesthetic openness ($\hat{\rho} = .11$)—varied little in their correlation with task performance, suggesting that the two facets obscure differential correlations of the NEO facets with task performance. The same was true with the broad aggregated openness trait ($\hat{\rho} = .12$). The credibility intervals included zero, and the confidence intervals excluded zero, for both DeYoung et al. facets. For the broad openness trait, both credibility and confidence intervals excluded zero.

The correlations of the extraversion NEO facets with task performance also varied somewhat, from $\hat{\rho} = .00$ for warmth to $\hat{\rho} = .14$ for activity. The two DeYoung et al. (2007) traits also varied in their correlation with task performance, with the correlation for assertiveness ($\hat{\rho} = .15$) being higher than any other facet or the aggregated extraversion trait ($\hat{\rho} = .12$). For assertiveness and the broad extraversion trait, both credibility and confidence intervals excluded zero.

Meta-Analytic Estimates of 6–2–1 Framework With Contextual Performance

Table 5 shows the results of the meta-analysis linking the 6–2–1 framework to contextual performance. The NEO conscientiousness facets have mean nonzero associations with contextual performance, though the correlations vary—ranging from $\hat{\rho} = .15$ for deliberation to $\hat{\rho} = .29$ for achievement striving. The two DeYoung et al. (2007) facets, in contrast, have little variability in their correlations with contextual performance: $\hat{\rho} = .28$ for industriousness and $\hat{\rho} = .27$ for orderliness. The correlation of the aggregated conscientiousness trait with contextual performance was higher ($\hat{\rho} = .32$) than any facet. All credibility and confidence intervals for the two DeYoung et al. facets and the broad trait excluded zero.

The NEO agreeableness facets also varied—ranging from $\hat{\rho} = .01$ for straightforwardness to $\hat{\rho} = .19$ for compliance—in their correlation with contextual performance. Only the credibility interval of compliance excluded zero. The confidence intervals of compliance and one other facet (tender-mindedness) excluded zero. The two DeYoung et al. (2007) facets had similar correlations— $\hat{\rho} = .14$ for compassion and $\hat{\rho} = .16$ for politeness—with contextual performance. The aggregated agreeableness trait correlated $\hat{\rho} = .18$ with contextual performance, which was higher than any facet except compliance. For both DeYoung et al. traits and the broad aggregated trait, the credibility intervals included zero, and the confidence intervals excluded zero.

As seen in Table 5, the NEO facets of neuroticism varied in their correlation with contextual performance, ranging from $\hat{\rho} = -.01$ for self-consciousness and vulnerability to $\hat{\rho} = -.24$ for angry hostility. The credibility interval for every NEO facet except anxiety excluded zero; the confidence intervals excluded zero for angry hostility, depression, and impulsiveness. The two DeYoung et al. (2007) facets—volatility ($\hat{\rho} = -.21$) and withdrawal ($\hat{\rho} = -.07$)—also varied considerably in their relationship to contextual

performance. The correlation of the broad neuroticism trait ($\hat{\rho} = -.16$) was somewhere in between the two facets. The credibility interval for volatility excluded zero, but not those for the withdrawal facet or the broad neuroticism trait. The confidence interval excluded zero in all three cases.

The correlations of the NEO openness facets varied from $\hat{\rho} = -.07$ for actions and fantasy to $\hat{\rho} = .09$ for values. The credibility intervals excluded zero for two facets (fantasy and feeling), and the confidence intervals excluded zero for one facet (ideas). The two DeYoung et al. (2007) openness facets—intellect ($\hat{\rho} = .06$) and aesthetic openness ($\hat{\rho} = -.01$)—had relatively weak correlations with contextual performance. The same was true for the aggregated openness trait ($\hat{\rho} = .03$). Not surprisingly, the credibility and confidence intervals included zero for the DeYoung et al. facets and the broad openness trait, with one exception: The confidence interval excluded zero for intellect.

The correlations of the NEO extraversion facets with contextual performance varied widely, from $\hat{\rho} = -.07$ for excitement-seeking to $\hat{\rho} = .28$ for positive emotions. Only the credibility intervals of assertiveness and positive emotions excluded zero. The confidence intervals also excluded zero for these facets, as well as two other extraversion facets. The correlations of the two DeYoung et al. (2007) facets with contextual performance also varied— $\hat{\rho} = .15$ for assertiveness and $\hat{\rho} = .20$ for enthusiasm—though to a lesser degree than the NEO facets. For both facets, the credibility intervals included zero and the confidence intervals excluded zero. The correlation of the aggregated extraversion trait with contextual performance ($\hat{\rho} = .22$) was greater than either DeYoung et al. facet but less than the NEO facet of positive emotions. For the broad aggregated trait, both credibility and confidence intervals excluded zero.

In general, the results support Hypothesis 1 in that traits at all levels tended to have some, and often different, relationships with overall job, task, and contextual performance. For overall performance, in two thirds of the cases (20 out of 30), the confidence intervals for the NEO facets excluded zero, meaning that the average correlation was distinguishable from zero. For task and contextual performance, slightly more than half (16 out of 30 for task performance, 17 out of 30 for contextual performance) of the confidence intervals excluded zero for the NEO facets. The DeYoung et al. (2007) facets had nonzero relationships with overall job (seven out of 10), task (nine out of 10), and contextual (eight out of 10) performance in 80% of the cases. The confidence intervals for the broad aggregated trait excluded zero in nearly 90% of the cases (four out of five for overall job, five out of five for task, and four out of five for contextual performance). Thus, each element of the 6–2–1 framework evinced nonzero relationships with overall job, task, and contextual performance.

Because Hypothesis 1 was articulated in a necessarily broad fashion and thus support was interpreted in a similarly broad manner, it is important to make more incisive comparisons. Specifically, we now turn to testing the degree to which the DeYoung et al. (2007) facets differentially predict performance.

Differential Prediction of Performance for DeYoung et al. (2007) Facets

Hypothesis 2 posited that the DeYoung et al. (2007) facets differentially predict overall job, task, and contextual performance,

Table 5
Relationship of Five-Factor Model 6–2–1 Framework to Contextual Performance

Variable	<i>k</i>	<i>N</i>	\bar{r}	$\hat{\rho}$	$SD_{\hat{\rho}}$	CV_L	CV_U	CI_L	CI_U
Conscientiousness									
Six NEO subfacets (6)									
1. Achievement striving	19	19,969	.22	.29	.05	.22	.36	.26	.32
2. Competence	15	4,131	.12	.16	.17	-.07	.38	.06	.26
3. Deliberation	3	818	.11	.15	.00	.15	.15	.12	.18
4. Dutifulness	22	21,614	.21	.28	.10	.15	.41	.23	.33
5. Order	7	942	.14	.18	.02	.16	.20	.09	.26
6. Self-discipline	9	1,788	.16	.20	.03	.17	.24	.14	.27
Two DeYoung facets (2)									
1. Industriousness	26	21,565	.21	.28	.10	.16	.40	.24	.32
2. Orderliness	26	21,942	.20	.27	.10	.15	.39	.23	.31
Single aggregated trait (1)	39	24,034	.25	.32	.11	.18	.46	.28	.36
Agreeableness									
Six NEO subfacets (6)									
1. Altruism	7	1,419	.07	.09	.10	-.04	.21	-.01	.19
2. Compliance	12	2,486	.14	.19	.14	.01	.37	.09	.28
3. Modesty	5	613	.03	.05	.09	-.07	.16	-.09	.18
4. Straightforwardness	3	614	.01	.01	.14	-.17	.18	-.18	.19
5. Tender-mindedness	11	2,707	.07	.09	.11	-.05	.24	.01	.18
6. Trust	4	903	.11	.13	.15	-.06	.33	-.04	.30
Two DeYoung facets (2)									
1. Compassion	16	3,393	.11	.14	.15	-.05	.33	.06	.22
2. Politeness	13	2,522	.12	.16	.17	-.06	.38	.06	.26
Single aggregated trait (1)	20	3,892	.14	.18	.19	-.06	.42	.09	.27
Neuroticism									
Six NEO subfacets (6)									
1. Angry hostility	12	1,729	-.18	-.24	.07	-.33	-.14	-.31	-.16
2. Anxiety	12	2,043	-.03	-.04	.13	-.21	.12	-.13	.05
3. Depression	6	1,248	-.14	-.18	.05	-.25	-.12	-.27	-.10
4. Impulsiveness	5	863	-.08	-.10	.00	-.10	-.10	-.19	-.02
5. Self-consciousness	3	1,119	-.01	-.01	.00	-.01	-.01	-.08	.07
6. Vulnerability	16	11,378	-.01	-.01	.17	-.23	.21	-.09	.08
Two DeYoung facets (2)									
1. Volatility	13	1,831	-.16	-.21	.09	-.33	-.09	-.28	-.14
2. Withdrawal	27	13,369	-.06	-.07	.17	-.29	.15	-.14	-.00
Single aggregated trait (1)	32	13,785	-.13	-.16	.18	-.39	.07	-.22	-.10
Openness									
Six NEO subfacets (6)									
1. Actions	10	2,113	-.05	-.07	.15	-.27	.13	-.18	.05
2. Aesthetics	3	780	.00	.00	.04	-.04	.05	-.10	.10
3. Fantasy	1	276	-.05	-.07	.00	-.07	-.07	-.07	-.07
4. Feeling	2	341	.02	.03	.00	.03	.03	-.10	.17
5. Ideas	19	4,030	.05	.06	.08	-.04	.16	.01	.11
6. Values	6	1,518	.07	.09	.18	-.14	.32	-.07	.25
Two DeYoung facets (2)									
1. Intellect	19	4,030	.05	.06	.08	-.04	.16	.01	.11
2. Aesthetic openness	12	2,282	-.01	-.01	.14	-.19	.17	-.10	.08
Single aggregated trait (1)	23	4,225	.03	.03	.09	-.09	.15	-.02	.08
Extraversion									
Six NEO subfacets (6)									
1. Activity	3	878	.06	.08	.07	-.01	.16	-.04	.19
2. Assertiveness	23	3,864	.12	.15	.09	.03	.26	.09	.20
3. Excitement-seeking	4	843	-.05	-.07	.12	-.22	.08	-.21	.08
4. Gregariousness	21	3,713	.08	.11	.18	-.12	.34	.02	.19
5. Positive emotions	7	2,024	.22	.28	.13	.10	.45	.16	.39
6. Warmth	11	2,213	.06	.07	.07	-.02	.17	.00	.14
Two DeYoung facets (2)									
1. Assertiveness	26	4,567	.11	.15	.13	-.02	.32	.09	.21
2. Enthusiasm	26	5,156	.16	.20	.17	-.02	.42	.13	.27
Single aggregated trait (1)	35	6,962	.18	.22	.154	.02	.42	.17	.27

Note. CV_L and CV_U denote lower and upper limits of an 80% credibility interval. CI_L and CI_U denote lower and upper limits of a 95% confidence interval. DeYoung refers to DeYoung, Quilty, and Peterson (2007). *k* = number of correlations; *N* = cumulative sample size; \bar{r} = estimated mean correlation; $\hat{\rho}$ = estimated corrected correlation; $SD_{\hat{\rho}}$ = standard deviation of $\hat{\rho}$.

such that the effect of one facet will not be the same as another facet. To test this hypothesis, we estimated a series of ordinary least squares regression using Hunter's (1992) REGRESS program. In these 15 regressions (one for each Big Five trait-performance criterion combination), we regressed each performance criterion on the two DeYoung et al. (2007) facets. We then used A. Cohen's (1983) formula to test the difference in the coefficients for significance. For sample size, we used the harmonic mean sample size (Viswesvaran & Ones, 1996), averaged across the two traits, for each criterion.

The results of these regressions appear in Table 6. As the table indicates, in most cases the facets differentially predicted performance. Specifically, the coefficients of the two DeYoung et al. (2007) facets in predicting overall job performance were significantly different, with the exception being extraversion. This supports Hypothesis 2a. For task performance, supporting Hypothesis 2b, for all five Big Five traits, the facets differentially predicted task performance. For contextual performance, the facets of three of the Big Five traits differentially predicted contextual performance: neuroticism, openness, and extraversion. The difference test for agreeableness was close to significant ($t = 1.944, p = .052$). Thus, Hypothesis 2c was partially supported.

Variance Explained by 6–2–1 Approaches

Hypothesis 3 posited that faceted personality frameworks will better predict performance than will broad trait frameworks. To test this hypothesis and thus compare the 6–2–1 approaches more

directly, we estimated a series of regressions wherein we regressed each performance criterion on each element of the 6–2–1 framework: (a) regressing the performance criteria on the six NEO facets, (b) regressing these criteria on the two DeYoung et al. (2007) facets, and (c) regressing the criteria on the broad aggregated trait. Examination of the predictive power (R) and corresponding variance explained (R^2) provides one means of testing the relative predictive power of faceted and broad approaches.

Before proceeding further, it is important to note several issues regarding these analyses. First, because the latter two regressions are simple (single-variable) regressions formed from composites, the R values for the broad traits correspond to the correlation coefficients reported in Tables 3–5. Similarly, the R and R^2 values for the DeYoung et al. (2007) facets correspond to those reported in Table 6. Second, because these approaches are nested within another in the 6–2–1 framework, it was not possible to estimate these regressions simultaneously. We consider this issue more fully in the Discussion. Third, it is true, because one was directly derived from the other, that the differences in R/R^2 values for faceted approaches and the broad multidimensional trait approach will merely revolve around weighting. Composite validities will always be higher than the average correlation between the elements if those elements are positively correlated. This does not mean, however, that the multiple correlation of the facets in predicting a criterion will always be less than the composite correlation. Moreover, because regression weights on the facets are optimal weights, to the extent that the facets differ in their

Table 6
Regression of DeYoung, Quilty, and Peterson (2007) Facets on Overall Job, Task, and Contextual Performance

	Overall job performance		Task performance		Contextual performance	
	β/R	Facet T -test	β/R	Facet T -test	β/R	Facet T -test
Conscientiousness facets						
Industriousness	.182**		.183**		.200**	
Orderliness	.127**	5.500**	.110**	7.300**	.176**	1.846
R	.265**		.253**		.321**	
R^2	.070**		.064**		.103**	
Agreeableness facets						
Compassion	.115**		.003		.087**	
Politeness	.080**	2.059*	.109**	-5.300**	.122**	-1.944
R (adjusted)	.166**		.110**		.178**	
R^2 (adjusted)	.028**		.012**		.032**	
Neuroticism facets						
Volatility	-.118**		-.079**		-.210**	
Withdrawal	-.009	-6.813**	-.033	-2.556**	.000	-13.125**
R (adjusted)	.121**		.095**		.210**	
R^2 (adjusted)	.015**		.009**		.044**	
Openness facets						
Intellect	.101**		.063**		.068**	
Aesthetic openness	-.005	7.571**	.092**	2.00*	-.026	5.875**
R (adjusted)	.100**		.126**		.065**	
R^2 (adjusted)	.010**		.016**		.004**	
Extraversion facets						
Assertiveness	.138**		.146**		.113**	
Enthusiasm	.126**	1.091	.020	10.500**	.176**	-4.200**
R (adjusted)	.205**		.151**		.229**	
R^2 (adjusted)	.042**		.023**		.052**	

Note. β/R = standardized regression coefficient, R , or R^2 value. T -test = test of difference in betas within each regression. N s for each regression were drawn from Tables 3–5.
* $p < .05$. ** $p < .01$.

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prediction, R/R^2 values would be expected to be higher than unit-weighted or factor-weighted approaches. Finally, to both adjust for the number of predictors and increase the generalizability of the results, we reported adjusted R and R^2 values. As noted by Wherry (1931), when an equation is “applied to subsequent sets of data, there is apt to be a rather large shrinkage in the resulting correlation coefficient obtained, as compared with the original observed multiple correlation coefficient” (p. 440).

The adjusted R and R^2 values for the 6–2–1 framework are provided in Table 7. As the table shows, in general, the regressions with the individual NEO facets best predicted each criterion. Indeed, in 13 out of 15 trait–criterion combinations, the NEO facets explained the most variance. In the other two specifications, the DeYoung et al. (2007) facets explained the most variance; the DeYoung et al. facets explained the second-most variance in 13 out of 15 specifications. Thus, supporting Hypothesis 3, the faceted approaches predicted performance better than the broad trait approaches. In some cases, the differences were relatively small. However, in other cases (e.g., openness and overall job performance, neuroticism and task performance, extraversion and contextual performance), the differences were substantial. On average, the NEO facet regressions explained more than twice the variance explained in the DeYoung et al. and broad aggregated trait regressions.

Relative Importance of Construct Correspondence

Although Hypothesis 3 hypothesized that faceted measures would better explain performance than broad measures, based on construct correspondence, in Hypothesis 4, we predicted that broad measures would do a comparatively better job of predicting the broad overall job performance construct than the narrower performance aspects of task and contextual performance. There are a

couple of ways of testing this hypothesis. First, one can examine the variances explained in Table 7 and determine whether the two broad trait frameworks explain more variance in overall job than in task or contextual performance. The results in Table 7 show that this is true to a limited extent: On average, the broad aggregated trait explains somewhat more variance in overall job performance than task performance (3.0% vs. 2.2%), but less variance in contextual performance (3.0% vs. 4.1%).

Second, one can examine the relative variances explained by the faceted and broad trait approaches and determine whether the superiority of the faceted approaches is less for overall job performance than for task or contextual performance. These results are even less supportive of construct correspondence. For broad aggregated trait measures, the R^2 values for the NEO facet regressions were 175% higher (than the R^2 value for the broad aggregated measures) for overall job performance, compared to 127% and 181% for task and contextual performance, respectively. Analyses of the DeYoung et al. (2007) facets provide more support for Hypothesis 4. Specifically, compared to the broad aggregated measures, the DeYoung et al. facets explained more variance (12% and 14% for task and contextual performance, respectively), than in overall job performance (10% higher). Collectively, the results provided mixed support for Hypothesis 4.

Discussion

From a broad perspective, there are few areas that have proved more productive in the last 20 years of industrial–organizational psychology research than has the personality–job performance literature. Judge, Klinger, Simon, and Yang (2008) noted, “From the vantage point of today, that personality has shown itself relevant to individual attitudes and behavior as well as team and organizational functioning seems an incontrovertible statement”

Table 7
Multiple Correlations (R) and Variance Explained (R^2) by 6–2–1 Theoretical Framework

	6 NEO facets		2 DeYoung, Quilty, and Peterson (2007) facets		Single aggregated trait	
	R	R^2	R	R^2	R	R^2
Overall job performance						
Conscientiousness	.261**	.068**	.265**	.070**	.259**	.067**
Agreeableness	.194**	.037**	.166**	.028**	.165**	.027**
Neuroticism	.228**	.052**	.121**	.015**	.098**	.010**
Openness	.300**	.090**	.100**	.010**	.080**	.006**
Extraversion	.406**	.165**	.205**	.042**	.199**	.040**
Task performance						
Conscientiousness	.242**	.058**	.253**	.064**	.249**	.062**
Agreeableness	.244**	.059**	.110**	.012**	.099**	.010**
Neuroticism	.253**	.064**	.095**	.009**	.083**	.007**
Openness	.177**	.031**	.126**	.016**	.120**	.014**
Extraversion	.183**	.033**	.143**	.020**	.124**	.015**
Contextual performance						
Conscientiousness	.326**	.106**	.321**	.103**	.317**	.101**
Agreeableness	.330**	.109**	.178**	.032**	.175**	.031**
Neuroticism	.304**	.093**	.210**	.044**	.162**	.026**
Openness	.183**	.033**	.065**	.004**	.030**	.001**
Extraversion	.491**	.241**	.232**	.054**	.218**	.048**

Note. For each trait, the two DeYoung, Quilty, and Peterson (2007) facets were derived from the six NEO facets, and the single aggregated trait was derived from the two DeYoung et al. facets. Table entries are adjusted R/R^2 values. N s for each regression were drawn from Tables 3–5.

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

(p. 1983). As is so often the case, however, on closer inspection one sees issues and controversies that complicate this broad view. As observed previously, two of the more central controversies concern the magnitude and importance of personality validities (Morgeson et al., 2007; Ones, Dilchert, Viswesvaran, & Judge, 2007) and the degree to which lower order traits contribute to the prediction of organizationally relevant attitudes and behaviors (Judge et al., 2008; Stewart, 2008).

The present study was intended to address both of these issues. Based on previous meta-analytic findings combined with our current meta-analyses of 1,176 correlations from 410 independent samples (combined $N = 406,029$), we developed and evaluated a 6–2–1 hierarchical framework, where each broad Big Five factor was comprised of two lower order facets, derived from DeYoung et al. (2007), and these two facets themselves were comprised of six facets, from the NEO (Costa & McCrae, 1992) framework. As these results concern the relevance of personality traits to industrial–organizational psychology, to paraphrase Hawthorne (1851/2005), it is important to see what we have and what we lack.

What we have is the most comprehensive evidence to date that lower order traits, organized by DeYoung et al.'s (2007) and Costa and McCrae's (1992) frameworks, matter to the prediction of work performance. Clearly, the lower order traits contributed to the prediction of work performance, though that conclusion must be tempered by the relatively modest effect sizes and the variability in unique effects across traits and criteria. In the vast majority of cases, moving from the broader to the narrower traits produced significant gains in prediction. In nearly all cases, whether one considers the broad composite trait composed of the two DeYoung et al. facets or the DeYoung et al. or NEO facets in concert, criterion-related validities are enhanced compared to values derived from direct (nonhierarchically formed traits) in the literature (e.g., Hurtz & Donovan, 2000).

Whilst appreciating what we have, what we lack is anything close to full explanation of these criteria, even when using the broad and lower order traits in concert. For the DeYoung et al. (2007) framework, even if we assume that the collective effects of the five traits and 10 facets are additive, the variances explained in overall job performance, task performance, and contextual performance are $R^2 = 18.1%$, $R^2 = 15.9%$, and $R^2 = 30.5%$, respectively. For the NEO framework, the cumulative variances explained in overall job, task, and contextual performance are $R^2 = 21.5%$, $R^2 = 15.3%$, and $R^2 = 35.3%$, respectively. Overall, then, while no single study can fully resolve a debate as lively as the personality–performance debate, we do believe our results provide some important answers.

Specifically, our findings suggest that the debate over the merits of broad traits has obscured an important distinction in how the traits are conceptualized, measured, and analyzed. Namely, one way—the most common way—to assess broad traits is with a direct approach, where the broad trait is assessed with a single omnibus scale. While this is certainly a reasonable approach to assessing broad traits, an alternative is to use a hierarchical approach, where lower order facets are used to form a broad construct (through forming a composite or with latent variable modeling), or related individually but as a collective set to the criterion. Our findings with respect to the 6–2–1 framework we developed and tested suggest that such a hierarchical approach is superior if criterion-related validity is the standard. Broad traits assessed with

omnibus measures obscure too many facet-level differences to provide optimal estimates of the criterion-related validity of personality.

Theoretical Implications

Our results inform two theoretical perspectives that are often used in personality and applied psychology research, though not entirely in the way we expected. Specifically, the construct correspondence perspective (Ajzen & Fishbein, 1977; Hough & Furnham, 2003), as well as some interpretations of the bandwidth–fidelity dilemma (Ones & Viswesvaran, 1996), suggests that, when predicting a broad criterion such as overall job performance, broad personality constructs should outperform narrower constructs (Mount & Barrick, 1995). At a certain level, our results did not support this hypothesis in that the facets related individually to performance produced the highest criterion-related validity irrespective of the breadth of the criterion. On the other hand, the contribution of the broad traits to performance was relatively higher for overall job performance than for task or contextual performance.

What are we to make of these results, then, from a theoretical point of view? One might argue that the results support wideband constructs in the way suggested by Cronbach and Gleser (1965). In an important sense, though omnibus approaches to the Big Five traits and hierarchical, faceted approaches are both wideband measures in that each covers a broad trait domain, the latter have the potential to achieve greater breadth because they allow consideration of specific-factor variance. As noted by Chapman (2007), without conceptualizing and assessing broad traits through a faceted analysis, “it is impossible to know which aspects of the broad trait are more or less related to the outcome of interest” (p. 222).

Indeed, this may be what Cronbach (1960) had in mind when he advocated broadband measures. Cronbach argued that when a criterion is complex, the predictors must be complex as well. As noted by Chapman (2007) and Ashton (1998), broad trait composites can mask differences in validities of the facets. For example, if one facet correlates $-.30$ with performance and the other facet correlates $.30$ with performance and if we assess the broad trait by summing or averaging the two, the overall criterion-related validity will be zero. Put another way, other researchers argue that broad trait validities pose interpretational ambiguities. As noted by Dudley et al. (2006, p. 41),

Even if a broad trait measure results in a large validity coefficient . . . is the relationship due to the criterion's association with just one of the narrow traits comprised in the broad trait measure, all of the narrow traits, or some of the narrow traits but not others?

Our results support this perspective with most of the Big Five traits and support wideband, faceted assessments of the Big Five traits.

Practical and Research Implications of 6–2–1 Framework

From a practical standpoint, the findings with respect to the 6–2–1 framework suggest that the pervasive use of brief, omnibus measures in research and practice may fail to maximize the criterion-related validity of personality by relying on scales that classify people into overly broad personality categories. This is

most evident in situations where the narrow facets have differential relationships with the outcomes. For instance, in our 6–2–1 framework, the facets of extraversion did not have uniform relationships with the facets of job performance; relying only on the broad measure would mask and substantially understate the criterion-related validity of extraversion in predicting these performance facets. Thus, both researchers and organizations making hiring decisions are well advised to use a faceted approach given the gains in prediction achieved by utilizing a faceted approach.

One might be tempted to attribute the generally superior criterion-related validity of the facets to optimal weighting. It is true that the very purpose of ordinary least squares regression is to produce optimal weights (i.e., an equation where the independent variables are weighted so as to minimize squared deviations between the equation's predicted values and the actual values). However, it is important to distinguish between two questions here. One question is whether hierarchical or faceted frameworks are the best way to conceptualize and assess personality. The second question is how those facets should be weighted. As noted earlier, we believe the answer to the first question is an unqualified yes. Faceted approaches to personality will achieve higher criterion-related validity because they cover a broader domain and they do not cancel out differential relationships of facets with a criterion.

This does not mean, however, that decision makers should use optimal (i.e., regression) weights to assess broad traits. Bobko, Roth, and Buster (2007) provided an excellent overview of this literature. While they noted that controversies remain over use of weights in decision making, substantial evidence favors the use of unit weights. From a practical perspective, there are several ways this could be accomplished. First, a (unit-weighted) composite of a broad trait could be created from the lower order facets. Second, a brief omnibus measure could be supplemented with facets that are conceptually relevant to a criterion or occupational group. Finally, a decision maker could rely on individual scores on the facets.

We do not expect our study to quell critics who question the practical utility of personality variables in personnel selection decisions. Among some, we have noticed a tendency in interpreting analyses involving personality variables to pick the set of results that appears the weakest and to highlight those. For example, one could examine the individual variance explained by each facet and conclude that the prediction in job performance achieved by personality traits is poor. If we are to measure personality with a single facet of a single Big Five trait, that is true enough. However, we are aware of no researcher, nor any practitioner, adopting such an approach. If one is trying to predict job performance, one generally would want to consider multiple traits and, based on our results, facets of those traits. In such a compensatory, multifaceted approach, high scores on one trait or one facet can offset low scores on another trait or facet. We are not aware of any scholar or practitioner who has argued that personality variables are the only means by which selection decisions should be made in organizations. We do believe, however, that our results suggest that a faceted approach to personality produces gains in criterion-related validity over that which is realized by utilizing only the broad traits.

Finally, from a practical standpoint, measuring personality facets reliably means allocating more survey space to accommodate

such measures. Within the NEO framework, for example, the broad traits are measured with the NEO-FFI—comprised of 60 items—whereas the 30 facets are measured with the NEO-PI-R—comprised of 240 items. A fourfold increase in survey space *should* produce gains in criterion-related validity. However, even within our design, one would not need to measure each facet. Our study shows that some are more conceptually and empirically important to the performance criteria than are others. Moreover, DeYoung et al. (2007) developed a survey—the Big Five Aspect Scales, comprised of 100 items—to assess their 10 facets. Of course, researchers and practitioners may be so constrained in survey space that they cannot afford such an option. That is a decision each individual must make, but our study suggests that the criterion-related validity costs of brief, nonfacet measures may be substantial.

Limitations and Future Research

The most obvious limitation of our study is that various data limitations prevented us from analyzing the data in the most elegant way possible. Specifically, we were not able to test an optimally specified multidimensional model, which would involve a model that considered all five Big Five traits indicated by the 10 DeYoung et al. (2007) facets, which in turn were indicated by the 30 NEO facets, which in turn were indicated by the individual NEO items (or item parcels). Paths from the broad construct and the facets to performance could then be estimated. Of course, such a model would be quite complex and would require meta-analyzing the correlations of all the broad traits with the narrow traits and the correlations among all the narrow traits—amounting to an additional 120 individual meta-analyses. Though such an effort would amount to a Herculean undertaking, because such models might produce results at variance with those presented here, future research should contemplate and test such a model.

Second, though we believe personality variables are best represented by reflective measurement models, some of our own modeling is not consistent with this assumption. Specifically, while nearly all meta-analyses compute such correlations, one might argue that computation of composite correlation itself is based on formative measurement assumptions. More generally, like many constructs, the personality traits may not perfectly conform to the assumptions underlying reflective indicator models. Specifically, if reflective measures assume substitutability, in that if one indicator is removed, the essential nature of the construct is unchanged, clearly, a facet-based measurement model does not meet this assumption. Eliminating industriousness from conscientiousness, for example, would change the meaning of the broad conscientiousness trait, in our model and in most hierarchical models of the Big Five traits, because what is left is conscientiousness without achievement. Bollen and Ting (2000, p. 4) noted, “Establishing the causal priority between a latent variable and its indicators can be difficult,” and certainly, our study does not and cannot resolve these issues.

Third, this study did not consider all performance-relevant criteria that might be investigated. The most obvious exclusion is counterproductive or deviant behaviors—generally considered the third element of overall job performance (along with task and contextual performance; Murphy, 1989; Viswesvaran & Ones, 2000). Other possible performance criteria include withdrawal

behaviors (Harrison et al., 2006), service performance (Chi, Grandey, Diamond, & Krimmel, 2011), safety (Christian, Bradley, Wallace, & Burke, 2009), creative performance (Ng & Feldman, 2008), and change-oriented or adaptive behaviors (Bettencourt, 2004; Pulakos, Arad, Donovan, & Plamondon, 2000).

A final limitation, and also an area for future research, is to explore the particular conditions in which criterion-related validity is decreased through the aggregation of narrow facets into broader traits. Due to the scope of our study, we did not examine moderator conditions. Does, for example, the incremental validity of the lower order traits depend on job type? Dudley et al. (2006) did examine broad versus narrow traits in the conscientiousness–performance relationship according to four occupational groups (sales, customer service, managerial, skilled and semiskilled). Their results did not differ dramatically by occupational group, and as they duly noted, their cell sizes were very small. Nevertheless, as more data accumulates, this would be an issue worth examining in more detail for the four other Big Five traits and as applied to the three performance criteria examined here. Similarly, the terms *broad-level* and *narrow-level* are relative, and other taxonomies distinguishing personality at different levels of breadth exist. Future research may consider the relative merits of narrower (Costa & McCrae, 1992) or even broader (Digman, 1997) personality taxonomies.

Conclusion

In reviewing the literature on the relationships of direct measures of the broad Big Five traits to job performance, Hurtz and Donovan (2000) commented,

Although these theoretically meaningful relations are rather low in magnitude at the broad dimension level of the Big Five, the magnitude of these correlations might be enhanced if the most relevant specific facets of these broad dimensions could be specified. (pp. 876–877)

Through applying two related taxonomic structures of lower order traits to three job performance criteria and developing a 6–2–1 framework that includes broad and narrow traits, this study suggests that specific facets do indeed have something to add to the prediction of job performance. Overall, our results suggest that it is time to reconsider the dominant way in which personality is assessed. Hierarchical approaches such as the 6–2–1 framework developed here appear to have much to offer.

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References marked with an asterisk indicate studies included in the meta-analysis.

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(Appendices follow)

Appendix A
Classification of Personality Inventories Into the NEO Facets

Conscientiousness	Agreeableness	Neuroticism	Openness	Extraversion
Achievement striving Achievement (ABLE, ACL, CPI, EPPS, MNQ, PRF) Mastery (HPI)	Altruism Nurturance (ACL, EPPS, PRF) Sensitivity (HPI)	Angry hostility Aggression (ACL, EPI, EPPS, PRF) Complain (HPI)	Actions Breadth of interest (JPI) Change (ACL, EPPS, PRF)	Activity Activity (EPI, GPI, GZST) Energy level (PRF, JPI)
Mastery needs (WFO)	Compliance	Even tempered (HPI, -)	Experience seeking (HPI)	Vigor (GPI)
Speed/impatience (JAS) Work needs (WFO)	Amicability (CPI) Cooperativeness (ABLE, JPI)	Hostility (HPI) Impatience/irritability (JAS)	Flexibility (CPI) Open to change (16PF)	Assertiveness Ambition (EPI, HPI)
Work orientation (ABLE, CPI)	Deference (ACL, EPPS)	Anxiety	Aesthetics	Ascendance (GZST)
Competence	Easy to live with (HPI)	Apprehension (16PF)	Artistic (RAISEC)	Assertiveness (EPI, GPI)
Ideal self (ACL)	Friendliness (GZST)	Anxiety (EPI, HPI, JPI, STAI)	Culture (HPI)	Capacity for status (CPI)
Identity (HPI)	Social conformity (CPI)	Calmness (HPI, -)	Sentience (PRF)	Competitive (HPI, WFO)
Inferiority (EPI, -)	Social recognition (PRF)	Hypochondriasis (EPI, MMPI)	Fantasy	Dominance (16PF, ABLE, ACL, CPI, EPPS, PRF)
Self-acceptance (CPI)	Modesty	Psychasthenia (MMPI)	Abstractedness (16PF)	Enterprising (RAISEC)
Self-confidence (ACL, BPI, GPI, HPI)	Abasement (ACL, EPPS, PRF)	Tension (16PF)	Practical (EPI, -)	Need for dominance (MNQ)
Self-esteem (ABLE)	Straightforwardness	Depression	Feelings	Social boldness (16PF)
Deliberation	Manipulativeness (EPI, -)	Unhappiness (EPI)	Expressiveness (EPI)	Social dominance (BPI)
Cautiousness (GPI)	Tender-mindedness	Depression (MMPI)	Ideas	Excitement-seeking
Cognitive structure (PRF)	Caring (HPI)	Impulsiveness	Complexity (JPI)	Harm avoidance (PRF, -)
Restraint (GZST)	Empathy (CPI, HPI, JPI)	Impulsiveness (EPI, HPI, PRF)	Conceptual fluency (CPI)	Risk taking (EPI, JPI)
Spontaneous (HPI, -)	Sensitivity (16PF, CPI)	Self-consciousness	Creative personality (ACL)	Sensation seeking (EPI)
Dutifulness	Thinking (MBTI)	Guilt (EPI, HPI)	Creative temperament (CPI)	Thrill seeking (HPI)
Dependability (ABLE)	Tough mindedness (EPI, -)	Social anxiety (HPI)	Curiosity (HPI)	Gregariousness
Moralistic (HPI)	Trust	Social confidence (JPI)	Good ideas (HPI)	Affiliation (ACL, EPPS, PRF)
Nondelinquency (ABLE)	Trust (HPI)	Vulnerability	Innovation (JPI)	Autonomy (ACL, EPPS, HPI, PRF)
Prudence (HPI)	Paranoia (MMPI, -)	Adjustment (ABLE, HPI, -)	Inquisitive (HPI)	Dependence (EPI, -)
Responsibility (CPI, EPI, JPI)	Personal relations (GPI, GZST)	Hysteria (MMPI)	Intellectual games (HPI)	Enjoys parties (HPI)
Rule consciousness (16PF)	Vigilance (16PF)	Personal adjustment (ACL, -)	Intuition (MBTI)	Exhibition (ACL, EPPS, HPI, PRF)
Virtuous (HPI)		Stress tolerance (GPI, -)	Investigative (RAISEC)	Heterosexuality (ACL, EPPS)

(Appendices continue)

Appendix A (continued)

Conscientiousness	Agreeableness	Neuroticism	Openness	Extraversion
Order			Learning approach (HPI)	Likes crowds (HPI)
Order (ACL, EPPS, PRF)			Original thinking (GPI)	Likes people (HPI)
Obsessiveness (EPI)			Reasoning (16PF)	Need for affiliation (MNQ)
Organization (JPI)			Thoughtfulness (GZST)	Need for autonomy (MNQ)
Perfectionism (16PF)			Understanding (PRF)	Privateness (16PF, -)
Self-discipline			Values	Self-reliance (16PF, -)
Endurance (ACL, EPPS, PRF)			Dogmatic (EPI, -)	Self-sufficiency (BPI, -)
Responsibility (GPI)			Tolerance (CPI, JPI)	Sociability (CPI, EPI, GPI, GZST, HPI, JPI)
Self-control (ACL, CPI)			Traditional values (ABLE, JPI)	Social (RAISEC)
				Social introversion (MMPI, -)
				Social presence (CPI)
				Solitariness (BPI, -)
				Positive emotions
				Liveliness (16PF)
				Play (PRF)
				Positive affectivity (PANAS)
				Well-being (CPI)
				Warmth
				Interpersonal sensitivity (HPI)
				Warmth (16PF)

Note. Hyphens following abbreviations indicate the trait was reverse-coded before aggregating to the higher level. ABLE = Assessment of Background and Life Experiences; ACL = Adjective Checklist; BPI = Bernreuter Personality Inventory; CPI = California Psychological Inventory; EPI = Eysenck Personality Inventory; EPPS = Edwards Personal Preference Schedule; GPI = Gordan Personality Inventory; GZST = Guilford-Zimmerman Temperament Survey; HPI = Hogan Personality Inventory; JAS = Jenkins Activity Survey; JPI = Jackson Personality Inventory; MBTI = Myers-Briggs Type Indicator; MMPI = Minnesota Multiphasic Personality Inventory; MNQ = Manifest Needs Questionnaire; PANAS = Positive and Negative Affect Schedule; PRF = Personality Research Form; RAISEC = Holland Occupational Themes; STAI = State-Trait Anxiety Inventory; WFO = Work and Family Orientation Questionnaire; 16PF = 16 Personality Factor Questionnaire.

(Appendices continue)

Appendix B
Summary of Artifact Information Used in the Meta-Analysis

Variable	\bar{r}_{xx}	<i>SD</i>	<i>k</i>	<i>N</i>
Conscientiousness				
Achievement striving	.73	.09	34	7,643
Competence	.77	.11	41	17,858
Deliberation	.67	.15	6	1,890
Dutifulness	.70	.11	10	10,841
Order	.78	.11	9	2,394
Self-discipline	.78	.06	9	2,124
Agreeableness				
Altruism	.77	.09	9	2,701
Compliance	.73	.09	8	9,785
Modesty	.75	.09	4	1,446
Straightforwardness	.74	.08	5	1,730
Tender-mindedness	.69	.18	4	1,810
Trust	.82	.10	6	1,955
Neuroticism				
Angry hostility	.74	.09	19	8,833
Anxiety	.82	.09	37	20,062
Depression	.79	.06	11	3,945
Impulsiveness	.75	.06	6	1,755
Self-consciousness	.75	.09	3	1,711
Vulnerability	.79	.05	9	3,001
Openness				
Actions	.70	.11	10	2,964
Aesthetics	.78	.10	7	2,545
Fantasy	.74	.10	6	2,045
Feeling	.72	.07	4	1,355
Ideas	.79	.08	17	4,376
Values	.69	.13	8	10,329
Extraversion				
Activity	.71	.06	7	9,852
Assertiveness	.79	.08	20	13,827
Excitement-seeking	.74	.07	4	1,805
Gregariousness	.75	.09	13	4,540
Positive emotions	.79	.14	18	4,428
Warmth	.79	.04	4	1,792
Overall job performance	.82	.17	37	11,704
Task performance	.78	.16	44	13,696
Contextual performance	.79	.15	25	9,379

(Appendices continue)

Appendix C
Primary Studies Included in the Meta-Analysis

Source	<i>N</i>	NEO trait	<i>r_{xx}</i>	Performance	<i>r_{yy}</i>	<i>r</i>	NEO trait	<i>r_{xx}</i>	Performance	<i>r_{yy}</i>	<i>r</i>
Abramis (1994)	281	Angry hostility	.84	Overall	.59	-.11	Angry hostility	.84	Task	.83	-.05
	281	Depression	.77	Overall	.59	-.15	Depression	.77	Task	.83	-.18
	281	Anxiety	.77	Overall	.59	-.14	Anxiety	.77	Task	.83	-.15
	281	Angry hostility	.84	Contextual	.76	-.19	Anxiety	.77	Contextual	.76	-.15
	281	Depression	.77	Contextual	.76	-.17					
Abu-Eita & Sherif (1990)	14	Ideas	—	Task	—	.52	Actions	—	Task	—	.12
	14	Fantasy	—	Task	—	.03	Trust	—	Task	—	.52
	14	Dutifulness	—	Task	—	.07	Order	—	Task	—	.38
	14	Gregariousness	—	Task	—	.55	Assertiveness	—	Task	—	-.40
	14	Warmth	—	Task	—	.41	Positive emotions	—	Task	—	.34
	14	Anxiety	—	Task	—	-.04					
Adkins & Naumann (2001)	281	Achievement striving	—	Task	—	.13					
Adler & Weiss (1988)	50	Competence	.81	Task	—	.12					
Allworth & Hesketh (1999)	179	Competence	.93	Task	.89	-.02	Competence	.93	Contextual	.94	-.11
	179	Competence	.93	Overall	.96	-.09					
Ashton (1998)	131	Compliance	—	Contextual	—	.07	Straightforwardness	—	Contextual	—	-.16
	131	Competence	—	Contextual	—	-.09	Dutifulness	—	Contextual	—	.40
	131	Order	—	Contextual	—	.14	Activity	—	Contextual	—	.03
	131	Excitement-seeking	—	Contextual	—	-.30	Warmth	—	Contextual	—	-.06
	131	Angry hostility	—	Contextual	—	-.07	Anxiety	—	Contextual	—	.08
	131	Actions	—	Contextual	—	.09	Ideas	—	Contextual	—	-.02
	131	Values	—	Contextual	—	.15					
Baggett, Saab, & Carver (1996)	55	Anxiety	—	Task	—	-.25					
Bahr & Martin (1983)	490	Trust	—	Task	—	.31	Competence	—	Task	—	.23
Barling & Boswell (1995)	161	Achievement striving	.67	Overall	.50	.18	Angry hostility	.70	Overall	.50	-.04
Barling & Charboneau (1992)	113	Achievement striving	.70	Task	—	.25	Angry hostility	.71	Task	—	.01
Barrick, Stewart, & Piotrowski (2002)	164	Achievement striving	.88	Task	.86	.21	Assertiveness	.89	Task	.86	.36
	164	Compliance	.76	Task	.86	-.10					
Begley, Lee, & Czajka (2000)	102	Achievement striving	.60	Task	.85	.21	Angry hostility	.52	Task	.85	.05
	102	Achievement striving	.60	Contextual	.95	.12	Angry hostility	.52	Contextual	.95	-.03
	102	Achievement striving	.60	Overall	.82	.16	Angry hostility	.52	Overall	.82	.01
Beutler (1985)	65	Trust	—	Task	—	.23	Anxiety	—	Task	—	.01
	65	Depression	—	Task	—	.30	Impulsiveness	—	Task	—	-.18
	65	Assertiveness	—	Contextual	—	.21					

(Appendices continue)

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Appendix C (continued)

Source	N	NEO trait	r_{xx}	Performance	r_{yy}	r	NEO trait	r_{xx}	Performance	r_{yy}	r
Blake, Potter, & Slimak (1993)	85	Compliance	—	Overall	—	.18	Tender-mindedness	—	Overall	—	.24
	85	Achievement striving	—	Overall	—	.10	Competence	—	Overall	—	-.21
	85	Dutifulness	—	Overall	—	.24	Self-discipline	—	Overall	—	-.16
	85	Assertiveness	—	Overall	—	.25	Gregariousness	—	Overall	—	.08
	85	Positive emotions	—	Overall	—	.21	Actions	—	Overall	—	-.17
Borman & Hallam (1991)	85	Ideas	—	Overall	—	.24	Values	—	Overall	—	.12
	79	Achievement striving	—	Task	—	.00	Deliberation	—	Task	—	-.06
	79	Self-discipline	—	Task	—	-.02	Warmth	—	Task	—	-.09
Borman, White, Pulakos, & Oppler (1991)	79	Actions	—	Task	—	.03					
	4,362	Achievement striving	—	Overall	—	.18	Dutifulness	—	Overall	—	.20
Bosshardt, Carter, Gialluca, Dunnette, & Ashworth (1992)	4,362	Achievement striving	—	Task	—	.09	Dutifulness	—	Task	—	.10
	357	Dutifulness	.62	Overall	.88	.11	Assertiveness	.81	Overall	.88	.06
Bradley, Nicol, Charbonneau, & Meyer (2002)	357	Dutifulness	.62	Task	.81	.06	Assertiveness	.81	Task	.81	.13
	357	Dutifulness	.62	Contextual	.77	.10	Assertiveness	.81	Contextual	.77	.07
	357	Gregariousness	.74	Overall	.88	.07	Vulnerability	.75	Overall	.88	.13
	357	Gregariousness	.74	Task	.81	.12	Vulnerability	.75	Task	.81	.16
	357	Gregariousness	.74	Contextual	.77	-.02	Vulnerability	.75	Contextual	.77	-.01
Brandes et al. (2008)	174	Compliance	.75	Overall	—	-.04	Achievement striving	.72	Overall	—	.04
	174	Competence	.59	Overall	—	.11	Dutifulness	.65	Overall	—	-.03
	174	Activity	.70	Overall	—	.10	Assertiveness	.61	Overall	—	.12
Brayfield & Marsh (1957)	174	Vulnerability	.74	Overall	—	.06	Values	.50	Overall	—	.05
	129	Positive emotions	.83	Contextual	.89	.46					
	50	Trust	—	Overall	—	.14	Gregariousness	—	Overall	—	.20
Brewster & Stoloff (2004)	50	Anxiety	—	Overall	—	.05	Depression	—	Overall	—	-.20
	50	Vulnerability	—	Overall	—	.07					
	112	Depression	—	Overall	—	.18					
W. G. Britt (1983)	111	Self-discipline	—	Overall	—	.25	Gregariousness	—	Overall	—	.16
	111	Actions	—	Overall	—	.11					
Brosnan (1998)	50	Anxiety	—	Task	—	.03	Competence	—	Task	—	.23
Brown, Cron, & Slocum (1998)	158	Assertiveness	.84	Task	—	.33	Competence	—	Task	—	.77
	150	Depression	—	Task	—	-.13	Vulnerability	.85	Task	—	-.23
Buddington (2002)	150	Depression	—	Task	—	-.13	Vulnerability	.85	Task	—	-.23
Burroughs & Eby (1998)	256	Gregariousness	.68	Contextual	.87	.39					
Calvo & Miguel-Tobal (1998)	50	Competence	—	Task	—	.23					
Cane & Gotlib (1985)	48	Depression	—	Task	—	.16					
Chadha (1982)	25	Anxiety	—	Task	—	-.86					
Chemers, Watson, & May (2000)	57	Competence	—	Task	—	.29	Competence	—	Overall	—	.29
Chen, Gully, Whiteman, & Kilcullen (2000)	158	Anxiety	.71	Task	.70	-.17	Competence	.68	Task	.70	.19
	158	Ideas	.68	Task	.70	.10					
Colquitt & Simmering (1998)	124	Anxiety	.95	Task	.90	-.24	Competence	.84	Task	.90	.27
	124	Ideas	.77	Task	.90	.15					
Colquitt & Simmering (1998)	103	Ideas	.83	Task	—	.03					

(Appendices continue)

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Appendix C (continued)

Source	N	NEO trait	r_{xx}	Performance	r_{yy}	r	NEO trait	r_{xx}	Performance	r_{yy}	r
Colquitt,	79	Actions	.81	Task	—	.02	Aesthetics	.88	Task	—	.00
Hollenbeck,	79	Fantasy	.84	Task	—	.05	Feelings	.81	Task	—	.09
Igen,	79	Ideas	.86	Task	—	-.01	Values	.89	Task	—	-.06
LePine, & Sheppard (2002)											
K. W. Cook,	136	Angry hostility	—	Task	.96	-.06	Anxiety	—	Task	.96	-.23
Vance, & Spector (2000)	136	Achievement striving	—	Task	.96	.26	Competence	—	Task	.96	.10
	103	Angry hostility	—	Task	.66	-.02	Anxiety	—	Task	.66	-.19
	103	Achievement striving	—	Task	.66	.19			Overall	.76	
M. Cook,	889	Compliance	—	Overall	.76	.24	Tender-mindedness	—	Overall	.76	.11
Young,	889	Achievement striving	—	Overall	.76	.11	Competence	—	Overall	.76	.13
Taylor, & Bedford (2000)											
	889	Dutifulness	—	Overall	.76	.01	Self-discipline	—	Overall	.76	.14
	889	Assertiveness	—	Overall	.76	.15	Gregariousness	—	Overall	.76	.17
	889	Positive emotions	—	Overall	.76	.21	Actions	—	Overall	.76	-.21
	889	Ideas	—	Overall	.76	.07	Values	—	Task	.71	-.02
	889	Compliance	—	Task	.71	.11	Tender-mindedness	—	Task	.71	.08
	889	Achievement striving	—	Task	.71	.04	Competence	—	Task	.71	.06
	889	Dutifulness	—	Task	.71	-.05	Self-discipline	—	Task	.71	.04
	889	Assertiveness	—	Task	.71	.06	Gregariousness	—	Task	.71	.10
	889	Positive emotions	—	Task	.71	.11	Actions	—	Task	.71	-.11
	889	Ideas	—	Task	.71	.04	Values	—	Task	.71	-.04
	889	Compliance	—	Contextual	.68	.23	Tender-mindedness	—	Contextual	.68	.07
	889	Achievement striving	—	Contextual	.68	.10	Competence	—	Contextual	.68	.12
	889	Dutifulness	—	Contextual	.68	.04	Self-discipline	—	Contextual	.68	.16
	889	Assertiveness	—	Contextual	.68	.13	Gregariousness	—	Contextual	.68	.12
	889	Positive emotions	—	Contextual	.68	.18	Actions	—	Contextual	.68	-.19
	889	Ideas	—	Contextual	.68	.06	Values	—	Contextual	.68	.00
Cooper,	15	Trust	—	Task	—	.26	Dutifulness	—	Task	—	.01
Robertson, & Sharman (1986)											
	15	Order	—	Task	—	.20	Assertiveness	—	Task	—	-.04
	15	Gregariousness	—	Task	—	-.22	Positive emotions	—	Task	—	.39
	15	Warmth	—	Task	—	.07	Anxiety	—	Task	—	-.00
	15	Actions	—	Task	—	.18	Fantasy	—	Task	—	.03
	15	Ideas	—	Task	—	.03					
Cousinea, Hall, Rosik, & Hall (2007)											
	158	Trust	—	Overall	—	.00	Dutifulness	—	Overall	—	.05
	158	Order	—	Overall	—	.13	Assertiveness	—	Overall	—	.09
	158	Gregariousness	—	Overall	—	.08	Positive emotions	—	Overall	—	.15
	158	Warmth	—	Overall	—	.15	Anxiety	—	Overall	—	-.01
	158	Actions	—	Overall	—	-.07	Fantasy	—	Overall	—	.11
Darke (1988)											
	32	Anxiety	—	Task	—	-.14					
	32	Anxiety	—	Task	—	-.52					
	32	Anxiety	—	Task	—	-.39					
Denzine & Anderson (1999)											
	111	Competence	.69	Overall	—	.32					
Deshpande & Kawane (1982)											
	60	Anxiety	—	Task	—	-.64					
Dibartolo, Brown, & Barlow (1997)											
	30	Anxiety	—	Task	—	.45					

(Appendices continue)

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Appendix C (continued)

Source	<i>N</i>	NEO trait	<i>r_{xx}</i>	Performance	<i>r_{yy}</i>	<i>r</i>	NEO trait	<i>r_{xx}</i>	Performance	<i>r_{yy}</i>	<i>r</i>
R. C. Edwards (1977)	115	Straightforwardness	—	Overall	—	.39	Tender-mindedness	—	Overall	—	.64
	115	Deliberation	—	Overall	—	-.02	Dutifulness	—	Overall	—	.22
	115	Self-discipline	—	Overall	—	.61	Assertiveness	—	Overall	—	.06
	115	Gregariousness	—	Overall	—	-.13	Angry hostility	—	Overall	—	.30
	115	Impulsiveness	—	Overall	—	.00	Fantasy	—	Overall	—	-.24
	115	Altruism	—	Overall	—	-.15					
	340	Straightforwardness	—	Overall	—	.11	Tender-mindedness	—	Overall	—	.50
	340	Deliberation	—	Overall	—	.29	Dutifulness	—	Overall	—	.44
	340	Self-discipline	—	Overall	—	.55	Assertiveness	—	Overall	—	-.16
	340	Gregariousness	—	Overall	—	.01	Angry hostility	—	Overall	—	-.02
340	Impulsiveness	—	Overall	—	-.31	Fantasy	—	Overall	—	-.25	
340	Altruism	—	Overall	—	.22						
Elliman, Green, Rogers, & Finch (1997)	72	Anxiety	—	Task	—	.26					
Erez & Judge (2001)	112	Competence	.80	Task	—	.14	Competence	.80	Contextual	—	.10
	112	Competence	.80	Overall	—	.15					
	124	Competence	.80	Task	—	.18	Competence	.80	Contextual	—	.08
124	Competence	.80	Overall	—	.22						
Eysenck (1985)	32	Anxiety	—	Task	—	-.65					
	24	Anxiety	—	Task	—	-.48					
Ferris, Bergin, & Wayne (1988)	152	Anxiety	—	Overall	.91	.15					
Ferris, Youngblood, & Yates (1985)	58	Anxiety	—	Task	—	.03	Assertiveness	—	Task	—	.04
Fleenor (1996)	102	Ideas	—	Overall	—	.09	Assertiveness	—	Overall	—	.25
	102	Ideas	—	Task	—	.13	Assertiveness	—	Task	—	.25
	102	Ideas	—	Contextual	—	.05	Assertiveness	—	Contextual	—	.26
	102	Impulsiveness	—	Overall	—	-.17	Impulsiveness	—	Task	—	-.14
	102	Impulsiveness	—	Contextual	—	-.24					
Fletcher, Lovatt, & Baldry (1997)	38	Anxiety	.86	Overall	—	.23	Anxiety	.86	Task	—	.31
	38	Anxiety	.86	Contextual	—	.11					
Fogarty (2004)	240	Positive emotions	.91	Task	.60	.15					
Fortunato & Mincy (2003)	339	Positive emotions	.91	Overall	.95	.19					
Fritzsche, McIntire, & Yost (2002)	455	Ideas	.91	Task	—	.09	Aesthetics	.92	Task	—	-.03
	455	Gregariousness	.90	Task	—	.10	Assertiveness	.90	Task	—	-.07
Fritzsche, Young, & Hickson (2003)	206	Anxiety	.50	Task	—	-.01	Self-discipline	.83	Task	—	.19
Fulk & Wendler (1982)	308	Anxiety	.91	Overall	.84	-.29					
Furnham (1991)	63	Trust	—	Overall	.93	.11	Dutifulness	—	Overall	.93	.23
	63	Order	—	Overall	.93	.07	Assertiveness	—	Overall	.93	-.12
	63	Gregariousness	—	Overall	.93	-.07	Positive emotions	—	Overall	.93	-.07

(Appendices continue)

Appendix C (continued)

Source	<i>N</i>	NEO trait	<i>r_{xx}</i>	Performance	<i>r_{yy}</i>	<i>r</i>	NEO trait	<i>r_{xx}</i>	Performance	<i>r_{yy}</i>	<i>r</i>
Furnham & Stringfield (1993)	63	Warmth	—	Overall	.93	.03	Anxiety	—	Overall	.93	-.03
	63	Actions	—	Overall	.93	-.05	Fantasy	—	Overall	.93	-.18
	63	Ideas	—	Overall	.93	-.02					
	148	Tender-mindedness	—	Overall	—	.03	Ideas	—	Overall	—	-.10
	148	Tender-mindedness	—	Task	—	.04	Ideas	—	Task	—	.03
	148	Tender-mindedness	—	Contextual	—	-.04	Ideas	—	Contextual	—	.07
	222	Tender-mindedness	—	Overall	—	.05	Ideas	—	Overall	—	-.03
	222	Tender-mindedness	—	Task	—	.05	Ideas	—	Task	—	-.04
	222	Tender-mindedness	—	Contextual	—	.03	Ideas	—	Contextual	—	-.07
Garner, Byars, Greenwood, & Garner (2003)	74	Dutifulness	—	Task	.86	-.08	Order	—	Task	.86	.03
	74	Assertiveness	—	Task	.86	-.16	Gregariousness	—	Task	.86	.05
	74	Positive emotions	—	Task	.86	-.14	Warmth	—	Task	.86	-.03
	74	Anxiety	—	Task	.86	.17	Actions	—	Task	.86	.03
	74	Fantasy	—	Task	.86	.21	Ideas	—	Task	.86	.15
	74	Trust	—	Task	.86	.13					
			Achievement striving	.55	Task	—	.19	Gregariousness	.55	Task	—
Geiger & Cooper (1995)	81	Assertiveness	.70	Task	—	.18					
Geisler & Leith (1997)	40	Competence	—	Task	—	.09					
Gellatly (1996)	117	Achievement striving	.64	Task	.86	.08	Deliberation	.59	Task	.86	.16
	117	Order	.88	Task	.86	.20	Self-discipline	.74	Task	.86	.06
	117	Impulsiveness	.72	Task	.86	-.19	Positive emotions	.72	Task	.86	-.01
Gellatly, Paunonen, Meyer, Jackson, & Coffin (1991)	59	Altruism	—	Overall	—	.12	Altruism	—	Task	.89	.11
	59	Achievement striving	—	Overall	—	.01	Achievement striving	—	Task	.89	-.01
	59	Gregariousness	—	Overall	—	-.19	Gregariousness	—	Task	.89	-.09
	59	Impulsiveness	—	Overall	—	-.10	Impulsiveness	—	Task	.89	-.03
	59	Actions	—	Overall	—	-.18	Actions	—	Task	.89	-.13
Glass, Arnkoff, Wood, & Meyerhoff (1995)	60	Anxiety	—	Task	—	-.02	Competence	—	Task	—	.50
Goffin, Rothstein, & Johnston (1996)	68	Achievement striving	.67	Overall	—	.33	Assertiveness	.82	Overall	—	.45
	68	Achievement striving	.67	Task	.94	.08	Assertiveness	.82	Task	.94	.12
	68	Achievement striving	.67	Contextual	.80	.17	Assertiveness	.82	Contextual	.80	.05
	68	Gregariousness	.73	Overall	—	.30	Gregariousness	.73	Task	.94	.07
Gough, Bradley, & McDonald (1991)	68	Gregariousness	.73	Contextual	.80	-.01					
	95	Compliance	—	Overall	—	.19	Tender-mindedness	—	Overall	—	.20
	95	Achievement striving	—	Overall	—	.17	Competence	—	Overall	—	.14
	95	Dutifulness	—	Overall	—	.15	Self-discipline	—	Overall	—	.14
	95	Assertiveness	—	Overall	—	.09	Gregariousness	—	Overall	—	.09
	95	Positive emotions	—	Overall	—	.24	Actions	—	Overall	—	.02
	95	Aesthetics	—	Overall	—	-.16	Ideas	—	Overall	—	.10
95	Values	—	Overall	—	.17						

(Appendices continue)

Appendix C (continued)

Source	N	NEO trait	r_{xx}	Performance	r_{yy}	r	NEO trait	r_{xx}	Performance	r_{yy}	r
Gowan (1955)	485	Assertiveness	—	Task	—	.11	Gregariousness	—	Task	—	-.06
Hakstian & Farrell (2001)	82	Assertiveness	—	Overall	.98	.21	Ideas	—	Overall	.98	.04
	85	Assertiveness	—	Overall	.97	.13	Ideas	—	Overall	.97	.21
Hakstian, Scratchley, MacLeod, Tweed, & Siddarth (1997)	85	Achievement striving	—	Overall	.86	.20	Competence	—	Overall	.86	.35
	85	Achievement striving	—	Task	—	.15	Competence	—	Task	—	.26
	85	Achievement striving	—	Contextual	—	.12	Competence	—	Contextual	—	.33
	85	Compliance	—	Overall	.86	.23	Compliance	—	Task	—	.18
	85	Compliance	—	Contextual	—	.20					
Halvari (1996)	45	Anxiety	.89	Task	—	.14					
Hargrave & Hiatt (1989)	90	Compliance	—	Task	—	.22	Dutifulness	—	Task	—	.08
	90	Self-discipline	—	Task	—	.30	Positive emotions	—	Task	—	.23
	90	Values	—	Task	—	.20					
	579	Compliance	—	Overall	—	.08	Achievement striving	—	Overall	—	.13
	579	Competence	—	Overall	—	.09	Dutifulness	—	Overall	—	.10
	579	Self-discipline	—	Overall	—	-.01	Assertiveness	—	Overall	—	.08
	579	Gregariousness	—	Overall	—	.14	Positive emotions	—	Overall	—	.15
	579	Actions	—	Overall	—	.04	Ideas	—	Overall	—	.12
	579	Values	—	Overall	—	.11					
Hargrave, Hiatt, & Gaffney (1986)	63	Compliance	—	Overall	—	.15	Tender-mindedness	—	Overall	—	.17
	63	Achievement striving	—	Overall	—	.19	Competence	—	Overall	—	.17
	63	Dutifulness	—	Overall	—	.17	Self-discipline	—	Overall	—	.18
	63	Assertiveness	—	Overall	—	.21	Gregariousness	—	Overall	—	.23
	63	Positive emotions	—	Overall	—	.21	Depression	—	Overall	—	-.42
	63	Vulnerability	—	Overall	—	.13	Actions	—	Overall	—	.24
	63	Ideas	—	Overall	—	.15	Values	—	Overall	—	.15
	160	Compliance	—	Overall	—	.09	Tender-mindedness	—	Overall	—	.13
	160	Achievement striving	—	Overall	—	.28	Competence	—	Overall	—	.20
	160	Dutifulness	—	Overall	—	.22	Self-discipline	—	Overall	—	.10
	160	Assertiveness	—	Overall	—	.19	Gregariousness	—	Overall	—	.24
	160	Positive emotions	—	Overall	—	.33	Depression	—	Overall	—	-.08
	160	Vulnerability	—	Overall	—	.03	Actions	—	Overall	—	-.10
	160	Ideas	—	Overall	—	.23	Values	—	Overall	—	.28
Harrell & Stahl (1981)	156	Achievement striving	—	Task	—	.20	Assertiveness	—	Task	—	.38
Hattrup (1998)	266	Competence	.92	Task	—	.13					
Hayes, Roehm, & Castellano (1994)	130	Dutifulness	—	Overall	—	.29	Assertiveness	—	Overall	—	.05
	130	Dutifulness	—	Task	—	.24	Assertiveness	—	Task	—	.01
	130	Dutifulness	—	Contextual	—	.23	Assertiveness	—	Contextual	—	.04
	130	Gregariousness	—	Overall	—	-.23	Warmth	—	Overall	—	.01
	130	Gregariousness	—	Task	—	-.20	Warmth	—	Task	—	-.03
	130	Gregariousness	—	Contextual	—	-.18	Warmth	—	Contextual	—	.02
	130	Vulnerability	—	Overall	—	.16	Ideas	—	Overall	—	-.18
	130	Vulnerability	—	Task	—	.09	Ideas	—	Task	—	-.15
	130	Vulnerability	—	Contextual	—	.15	Ideas	—	Contextual	—	-.12
Helmreich, Spence, & Pred (1988)	118	Achievement striving	—	Task	—	.20	Angry hostility	—	Task	—	.08
	118	Assertiveness	—	Task	—	-.02					

(Appendices continue)

Appendix C (continued)

Source	N	NEO trait	r _{xx}	Performance	r _{yy}	r	NEO trait	r _{xx}	Performance	r _{yy}	r
Henriques & Davidson (1997)	30	Depression	—	Task	—	-.10					
Henry & Stone (1995)	524	Competence	.89	Task	.82	.43					
Hills (1985)	116	Compliance	—	Overall	—	.22	Assertiveness	—	Overall	—	.28
	116	Gregariousness	—	Overall	—	.21	Ideas	—	Overall	—	.14
	121	Compliance	—	Overall	—	.20	Assertiveness	—	Overall	—	.22
	121	Gregariousness	—	Overall	—	.13	Ideas	—	Overall	—	.14
Hinsz & Matz (1997)	82	Competence	—	Task	—	.31					
Hofmann & Strickland (1995)	182	Self-discipline	.90	Task	.75	-.02					
R. Hogan (1971)	42	Compliance	—	Overall	—	.35	Tender-mindedness	—	Overall	—	.10
	42	Achievement striving	—	Overall	—	.44	Competence	—	Overall	—	-.27
	42	Dutifulness	—	Overall	—	.30	Self-discipline	—	Overall	—	-.53
	42	Assertiveness	—	Overall	—	.16	Gregariousness	—	Overall	—	.14
	42	Positive emotions	—	Overall	—	.37	Actions	—	Overall	—	.02
	42	Ideas	—	Overall	—	.51	Values	—	Overall	—	.28
	141	Compliance	—	Overall	—	.07	Tender-mindedness	—	Overall	—	-.03
	141	Achievement striving	—	Overall	—	.16	Competence	—	Overall	—	-.22
	141	Dutifulness	—	Overall	—	.16	Self-discipline	—	Overall	—	-.02
	141	Assertiveness	—	Overall	—	.19	Gregariousness	—	Overall	—	.14
	141	Positive emotions	—	Overall	—	.17	Actions	—	Overall	—	-.04
	141	Ideas	—	Overall	—	.30	Values	—	Overall	—	.16
J. Hogan, Hogan, & Busch (1984)	101	Compliance	—	Contextual	—	.31	Actions	—	Contextual	—	.14
	101	Ideas	—	Contextual	—	.07	Dutifulness	—	Contextual	—	.07
	101	Anxiety	—	Contextual	—	-.13	Actions	—	Contextual	—	.12
	101	Excitement-seeking	—	Contextual	—	.03					
	145	Compliance	—	Contextual	—	.29	Tender-mindedness	—	Contextual	—	-.03
	145	Achievement striving	—	Contextual	—	.30	Competence	—	Contextual	—	.32
	145	Dutifulness	—	Contextual	—	.26	Self-discipline	—	Contextual	—	.21
	145	Assertiveness	—	Contextual	—	.42	Gregariousness	—	Contextual	—	.36
	145	Positive emotions	—	Contextual	—	.51	Actions	—	Contextual	—	-.09
	145	Ideas	—	Contextual	—	.34	Values	—	Contextual	—	.37
	169	Aesthetics	—	Contextual	—	.08	Order	—	Contextual	—	.20
	169	Assertiveness	—	Contextual	—	.15	Ideas	—	Contextual	—	.15
	169	Gregariousness	—	Contextual	—	.27					
J. Hogan, Hogan, & Gregory (1992)	127	Tender-mindedness	—	Overall	.85	.19	Achievement striving	—	Overall	.85	.13
	127	Dutifulness	—	Overall	.85	-.03	Assertiveness	—	Overall	.85	.06
	127	Gregariousness	—	Overall	.85	.03	Warmth	—	Overall	.85	.05
	127	Anxiety	—	Overall	.85	.09	Self-consciousness	—	Overall	.85	.14
	127	Vulnerability	—	Overall	.85	-.14	Ideas	—	Overall	.85	.18
J. Hogan, Rybicki, Motowidlo, & Borman (1998)	85	Dutifulness	—	Contextual	.93	.08	Assertiveness	—	Contextual	.93	.23
	85	Gregariousness	—	Contextual	.93	-.11	Warmth	—	Contextual	.93	.09

(Appendices continue)

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Appendix C (continued)

Source	<i>N</i>	NEO trait	<i>r_{xx}</i>	Performance	<i>r_{yy}</i>	<i>r</i>	NEO trait	<i>r_{xx}</i>	Performance	<i>r_{yy}</i>	<i>r</i>
	85	Vulnerability	—	Contextual	.93	-.07	Ideas	—	Contextual	.93	-.08
	94	Dutifulness	—	Contextual	.93	.19	Assertiveness	—	Contextual	.93	-.09
	94	Gregariousness	—	Contextual	.93	.02	Warmth	—	Contextual	.93	-.02
	94	Vulnerability	—	Contextual	.93	.17	Ideas	—	Contextual	.93	.07
	203	Dutifulness	—	Contextual	.93	-.05	Assertiveness	—	Contextual	.93	.12
	203	Gregariousness	—	Contextual	.93	.00	Warmth	—	Contextual	.93	-.03
	203	Vulnerability	—	Contextual	.93	.02	Ideas	—	Contextual	.93	.08
	214	Dutifulness	—	Contextual	.93	.19	Assertiveness	—	Contextual	.93	.00
	214	Gregariousness	—	Contextual	.93	-.03	Warmth	—	Contextual	.93	.10
	214	Vulnerability	—	Contextual	.93	-.17	Ideas	—	Contextual	.93	-.02
Hough (1998)	862	Dutifulness	—	Overall	—	.16					
Hough, Eaton, Dunnette, Kamp, & McCloy (1990)	7,666	Compliance	.81	Overall	—	.11	Compliance	.81	Task	—	.10
	7,666	Competence	.74	Overall	—	.11	Competence	.74	Task	—	.09
	7,666	Dutifulness	.81	Overall	—	.13	Dutifulness	.81	Task	—	.13
	7,666	Activity	.82	Overall	—	.13	Activity	.82	Task	—	.11
	7,666	Assertiveness	.80	Overall	—	.07	Assertiveness	.80	Task	—	.06
	7,666	Values	.69	Overall	—	.13	Values	.69	Task	—	.13
Houston (1971)	24	Anxiety	—	Task	—	-.14					
Hoyt, Murphy, Halverson, & Watson (2003)	100	Competence	—	Task	—	.02					
Inwald & Brockwell (1991)	307	Trust	—	Overall	—	.25	Assertiveness	—	Overall	—	.01
	307	Gregariousness	—	Overall	—	.19	Anxiety	—	Overall	—	-.11
	307	Depression	—	Overall	—	-.18	Vulnerability	—	Overall	—	.07
	307	Actions	—	Overall	—	.06					
Jacobs, Conte, Day, Silva, & Harris (1996)	574	Dutifulness	—	Overall	.91	.00	Warmth	—	Overall	.91	-.02
	574	Dutifulness	—	Task	.78	.01	Warmth	—	Task	.78	.01
	574	Dutifulness	—	Contextual	—	.01	Warmth	—	Contextual	—	-.03
	574	Vulnerability	—	Overall	.91	-.01	Ideas	—	Overall	.91	-.02
	574	Vulnerability	—	Task	.78	-.01	Ideas	—	Task	.78	-.02
	574	Vulnerability	—	Contextual	—	-.02	Ideas	—	Contextual	—	-.02
Joyce, Slocum, & von Glinow (1982)	193	Achievement striving	.89	Overall	.96	.05					
Judge, Thoresen, Pucik, & Welbourne (1999)	514	Competence	.79	Overall	—	.09	Excitement-seeking	.76	Overall	—	-.07
	514	Positive emotions	.82	Overall	—	.12	Actions	.73	Overall	—	.11
Kammeyer- Muller & Wanberg (2003)	589	Achievement striving	.89	Task	.84	.30					
Katwal & Kamalanabhan (2001)	60	Anxiety	—	Task	—	-.58					
Kaufmann & Vosburg (1997)	91	Anxiety	—	Task	—	-.29					

(Appendices continue)

Appendix C (continued)

Source	<i>N</i>	NEO trait	<i>r_{xx}</i>	Performance	<i>r_{yy}</i>	<i>r</i>	NEO trait	<i>r_{xx}</i>	Performance	<i>r_{yy}</i>	<i>r</i>
	92	Anxiety	—	Task	—	-.20					
Kavussanu, Crews, & Gill (1998)	35	Competence	—	Task	—	.73					
Kelly (1974)	120	Anxiety	—	Task	—	-.33					
Kernan & Lord (1988)	80	Achievement striving	—	Task	—	.21					
Kieffer, Schinka, & Curtiss (2004)	514	Assertiveness	—	Overall	—	.04	Gregariousness	—	Overall	—	.02
	514	Aesthetics	—	Overall	—	.05	Ideas	.89	Overall	—	.02
King & Williams (1997)	68	Achievement striving	.79	Overall	—	.30					
Klein & Barnes (1994)	45	Anxiety	—	Task	—	-.11	Vulnerability	—	Task	—	-.15
Kozlowski et al. (2001)	60	Competence	.95	Task	—	.34	Ideas	.85	Task	—	.14
Krajewski, Goffin, Rothstein, & Johnston (2007)	371	Assertiveness	.75	Overall	.83	.18	Gregariousness	.80	Overall	.83	.21
	371	Achievement striving	.85	Overall	.83	.05					
Krulowicz & Lowery (1996)	73	Straightforwardness	—	Task	—	-.13	Achievement striving	—	Task	—	.19
	73	Deliberation	—	Task	—	-.05	Dutifulness	—	Task	—	.29
	73	Assertiveness	—	Task	—	.01	Gregariousness	—	Task	—	.15
	73	Anxiety	—	Task	—	.09					
Ksionzky & Mehrabian (1986)	32	Activity	—	Task	—	.39	Assertiveness	—	Task	—	-.24
	32	Positive emotions	—	Task	—	-.06					
Kurosowa & Harackiewicz (1995)	96	Anxiety	.95	Task	—	-.19					
Lafer (1989)	62	Dutifulness	—	Overall	—	.24	Assertiveness	—	Overall	—	-.07
	62	Positive emotions	—	Overall	—	.29	Anxiety	—	Overall	—	-.49
	62	Actions	—	Overall	—	.33	Values	—	Overall	—	.36
Lall, Holmes, Brinkmeyer, Johnson, & Yatko (1999)	530	Altruism	—	Task	—	-.02	Compliance	—	Task	—	-.04
	530	Tender-mindedness	—	Task	—	-.05	Trust	—	Task	—	.02
	530	Achievement striving	—	Task	—	.19	Competence	—	Task	—	.12
	530	Deliberation	—	Task	—	.11	Dutifulness	—	Task	—	.08
	530	Assertiveness	—	Task	—	.22	Excitement-seeking	—	Task	—	.16
	530	Gregariousness	—	Task	—	.00	Warmth	—	Task	—	-.05
	530	Angry hostility	—	Task	—	-.02	Anxiety	—	Task	—	.05
	530	Impulsiveness	—	Task	—	-.02	Self-consciousness	—	Task	—	-.10
	530	Vulnerability	—	Task	—	.05	Actions	—	Task	—	.03
	530	Aesthetics	—	Task	—	.03	Ideas	—	Task	—	.17
Lamont & Lundstrom (1977)	71	Tender-mindedness	—	Overall	—	-.20	Self-discipline	—	Overall	—	.23
	71	Tender-mindedness	—	Task	—	-.16	Self-discipline	—	Task	—	.18
	71	Tender-mindedness	—	Contextual	—	-.19	Self-discipline	—	Contextual	—	.29
	71	Assertiveness	—	Overall	—	.07	Assertiveness	—	Contextual	—	.08
	71	Assertiveness	—	Task	—	.06					

(Appendices continue)

Appendix C (continued)

Source	N	NEO trait	r_{xx}	Performance	r_{yy}	r	NEO trait	r_{xx}	Performance	r_{yy}	r
Lane & Lane (2001)	76	Competence	.71	Task	—	.40					
LePine, Colquitt, & Erez (2000)	73	Achievement striving	.77	Task	.74	.03	Competence	.82	Task	.74	.02
	73	Deliberation	.78	Task	.74	.17	Dutifulness	.82	Task	.74	.20
	73	Order	.82	Task	.74	.19	Self-discipline	.77	Task	.74	.02
	73	Actions	.70	Task	.74	.23	Aesthetics	.67	Task	.74	.19
	73	Fantasy	.72	Task	.74	.11	Feeling	.71	Task	.74	.27
	73	Ideas	.71	Task	.74	.22	Values	.67	Task	.74	.20
LePine & Van Dyne (2001)	276	Altruism	—	Task	.82	-.02	Compliance	—	Task	.82	.01
	276	Altruism	—	Contextual	.77	.13	Compliance	—	Contextual	.77	.07
	276	Altruism	—	Overall	—	.01	Compliance	—	Overall	—	-.03
	276	Modesty	—	Task	.82	-.01	Straightforwardness	—	Task	.82	.07
	276	Modesty	—	Contextual	.77	.08	Straightforwardness	—	Contextual	.77	.14
	276	Modesty	—	Overall	—	-.00	Straightforwardness	—	Overall	—	.03
	276	Tender-mindedness	—	Task	.82	.01	Trust	—	Task	.82	.05
	276	Tender-mindedness	—	Contextual	.77	.09	Trust	—	Contextual	.77	.18
	276	Tender-mindedness	—	Overall	—	-.01	Trust	—	Overall	—	.05
	276	Achievement striving	—	Task	.82	-.05	Competence	—	Task	.82	-.02
	276	Achievement striving	—	Contextual	.77	.15	Competence	—	Contextual	.77	.14
	276	Achievement striving	—	Overall	—	.11	Competence	—	Overall	—	.12
	276	Deliberation	—	Task	.82	.10	Dutifulness	—	Task	.82	.02
	276	Deliberation	—	Contextual	.77	.11	Dutifulness	—	Contextual	.77	.08
	276	Deliberation	—	Overall	—	.12	Dutifulness	—	Overall	—	.06
	276	Order	—	Task	.82	-.16	Self-discipline	—	Task	.82	-.08
	276	Order	—	Contextual	.77	.10	Self-discipline	—	Contextual	.77	.15
	276	Order	—	Overall	—	.05	Self-discipline	—	Overall	—	.11
	276	Activity	—	Task	.82	-.05	Assertiveness	—	Task	.82	-.02
	276	Activity	—	Contextual	.77	.17	Assertiveness	—	Contextual	.77	.10
	276	Activity	—	Overall	—	.14	Assertiveness	—	Overall	—	.14
	276	Excitement-seeking	—	Task	.82	-.11	Gregariousness	—	Task	.82	-.02
	276	Excitement-seeking	—	Contextual	.77	.03	Gregariousness	—	Contextual	.77	.07
	276	Excitement-seeking	—	Overall	—	.05	Gregariousness	—	Overall	—	.07
	276	Positive emotions	—	Task	.82	-.03	Warmth	—	Task	.82	-.09
	276	Positive emotions	—	Contextual	.77	.12	Warmth	—	Contextual	.77	.14
	276	Positive emotions	—	Overall	—	.10	Warmth	—	Overall	—	.06
	276	Angry hostility	—	Task	.82	-.13	Anxiety	—	Task	.82	.01
	276	Angry hostility	—	Contextual	.77	-.15	Anxiety	—	Contextual	.77	-.03
	276	Angry hostility	—	Overall	—	-.11	Anxiety	—	Overall	—	-.04
	276	Depression	—	Task	.82	-.06	Impulsiveness	—	Task	.82	-.05
	276	Depression	—	Contextual	.77	-.08	Impulsiveness	—	Contextual	.77	-.07
	276	Depression	—	Overall	—	-.05	Impulsiveness	—	Overall	—	-.05
	276	Self-consciousness	—	Task	.82	-.04	Vulnerability	—	Task	.82	-.05
	276	Self-consciousness	—	Contextual	.77	-.06	Vulnerability	—	Contextual	.77	-.09
	276	Self-consciousness	—	Overall	—	-.06	Vulnerability	—	Overall	—	-.10
	276	Actions	—	Task	.82	.05	Aesthetics	—	Task	.82	-.03
	276	Actions	—	Contextual	.77	.06	Aesthetics	—	Contextual	.77	.05
	276	Actions	—	Overall	—	.08	Aesthetics	—	Overall	—	.02
	276	Fantasy	—	Task	.82	.02	Feeling	—	Task	.82	-.05
	276	Fantasy	—	Contextual	.77	-.05	Feeling	—	Contextual	.77	.06
	276	Fantasy	—	Overall	—	-.00	Feeling	—	Overall	—	.02
	276	Ideas	—	Task	.82	.07	Values	—	Task	.82	.05
	276	Ideas	—	Contextual	.77	.06	Values	—	Contextual	.77	.05
	276	Ideas	—	Overall	—	.08	Values	—	Overall	—	.05

(Appendices continue)

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Appendix C (continued)

Source	N	NEO trait	r _{xx}	Performance	r _{yy}	r	NEO trait	r _{xx}	Performance	r _{yy}	r
Lusch & Serpkenci (1990)	182	Compliance	.74	Overall	.95	-.02	Achievement striving	.66	Overall	.95	-.08
	182	Compliance	.74	Task	.95	.02	Achievement striving	.66	Task	.95	-.02
	182	Compliance	.74	Contextual	.95	-.03	Achievement striving	.66	Contextual	.95	-.05
Mabon (1998)	182	Competence	.85	Overall	.95	-.04	Competence	.85	Task	.95	-.04
	182	Competence	.85	Contextual	.95	-.02					
	62	Dutifulness	—	Overall	—	.15	Dutifulness	—	Contextual	—	.17
	62	Assertiveness	—	Overall	—	.27	Assertiveness	—	Contextual	—	.29
	62	Gregariousness	—	Overall	—	.06	Gregariousness	—	Contextual	—	.15
	62	Warmth	—	Overall	—	.08	Warmth	—	Contextual	—	.18
Marks (1967)	62	Vulnerability	—	Overall	—	-.28	Vulnerability	—	Contextual	—	-.24
	62	Ideas	—	Overall	—	.17	Ideas	—	Contextual	—	.13
Matsui, Okada, & Kakuyama (1982)	132	Achievement striving	—	Task	—	-.13					
McClelland & Rhodes (1969)	91	Achievement striving	—	Task	—	.28					
	54	Depression	—	Overall	—	.20	Vulnerability	—	Overall	—	-.01
McGregor & Elliot (2002)	72	Depression	—	Overall	—	-.12	Vulnerability	—	Overall	—	-.30
	150	Achievement striving	.33	Task	—	-.03					
McHenry, Hough, Toquam, Hanson, & Ashworth (1990)	174	Achievement striving	.32	Task	—	-.02					
	4,039	Achievement striving	—	Overall	.68	.25	Dutifulness	—	Overall	.68	.24
	4,039	Achievement striving	—	Task	.46	.16	Dutifulness	—	Task	.46	.14
	4,039	Achievement striving	—	Contextual	.74	.23	Dutifulness	—	Contextual	.74	.25
	4,039	Vulnerability	—	Overall	.68	.17	Vulnerability	—	Task	.46	.13
McIlroy & Bunting (2002)	4,039	Vulnerability	—	Contextual	.74	.15					
	219	Anxiety	.83	Task	.73	-.37	Competence	.83	Task	.73	.45
Meier (1991)	100	Vulnerability	.72	Task	—	.01	Depression	.82	Task	—	.09
	100	Anxiety	.94	Task	—	-.05					
Meronek & Tan (2004)	31	Anxiety	—	Task	—	-.17	Self-discipline	—	Task	—	-.25
Moscoso & Salgado (2004)	Mone, Baker, & Jeffries (1995)	215	Competence	.80	Task	.75	.29				
	85	Trust	.64	Task	.93	-.25	Gregariousness	.66	Task	.93	-.29
	85	Trust	.64	Contextual	.85	-.32	Gregariousness	.66	Contextual	.85	-.20
	85	Trust	.64	Overall	.96	-.33	Gregariousness	.66	Overall	.96	-.25
	85	Angry hostility	.73	Task	.93	-.32	Depression	.70	Task	.93	-.30
	85	Angry hostility	.73	Contextual	.85	-.34	Depression	.70	Contextual	.85	-.27
	85	Angry hostility	.73	Overall	.96	-.37	Depression	.70	Overall	.96	-.31
	85	Impulsiveness	.85	Task	.93	.10	Impulsiveness	.85	Contextual	.85	.05
	85	Impulsiveness	.85	Overall	.96	.07					
Motowidlo & van Scotter (1994)	253	Dutifulness	—	Overall	—	.18	Assertivness	—	Overall	—	.06
	253	Dutifulness	—	Task	—	.10	Assertivness	—	Task	—	.02
	253	Dutifulness	—	Contextual	—	.18	Assertivness	—	Contextual	—	.06
	253	Vulnerability	—	Overall	—	-.08	Tender-mindedness	—	Overall	—	.09
	253	Vulnerability	—	Task	—	-.05	Tender-mindedness	—	Task	—	.02
	253	Vulnerability	—	Contextual	—	-.08	Tender-mindedness	—	Contextual	—	.13
Motowidlo, Packard, & Manning (1986)	206	Angry hostility	.70	Overall	—	-.19	Anxiety	.75	Overall	—	-.09
	206	Angry hostility	.70	Task	—	-.18	Anxiety	.75	Task	—	-.16
	206	Angry hostility	.70	Contextual	—	-.20	Anxiety	.75	Contextual	—	-.04
	206	Depression	.81	Overall	—	-.27	Depression	.81	Task	—	-.29

(Appendices continue)

Appendix C (continued)

Source	<i>N</i>	NEO trait	<i>r_{xx}</i>	Performance	<i>r_{yy}</i>	<i>r</i>	NEO trait	<i>r_{xx}</i>	Performance	<i>r_{yy}</i>	<i>r</i>
Muchinsky (1993)	206	Depression	.81	Contextual	—	-.26					
	2,128	Dutifulness	—	Overall	—	.07	Assertiveness	—	Overall	—	.11
	2,128	Dutifulness	—	Task	.80	.04	Assertiveness	—	Task	.80	.10
	2,128	Dutifulness	—	Contextual	—	.03	Assertiveness	—	Contextual	—	.11
	2,128	Gregariousness	—	Overall	—	.09	Vulnerability	—	Overall	—	-.22
	2,128	Gregariousness	—	Task	.80	.10	Vulnerability	—	Task	.80	-.29
	2,128	Gregariousness	—	Contextual	—	.10	Vulnerability	—	Contextual	—	-.38
	2,128	Warmth	—	Overall	—	.08	Ideas	—	Overall	—	.22
	2,128	Warmth	—	Task	.80	.13	Ideas	—	Task	.80	.21
	2,128	Warmth	—	Contextual	—	.17	Ideas	—	Contextual	—	.15
Mughal, Walsh, & Wilding (1996)	48	Anxiety	—	Task	—	.28	Anxiety	—	Contextual	.76	.32
	48	Vulnerability	—	Task	—	.43	Vulnerability	—	Contextual	.76	.44
Murray (1975)	51	Anxiety	—	Task	—	.30	Anxiety	—	Contextual	.81	.36
	51	Vulnerability	—	Task	—	.17	Vulnerability	—	Contextual	.81	.11
	36	Altruism	.86	Overall	.96	.48	Altruism	.86	Task	—	.41
	36	Altruism	.86	Contextual	—	.59	Modesty	.81	Contextual	.88	.39
	36	Achievement striving	.74	Task	—	.38	Order	—	Overall	.96	.39
	36	Order	—	Task	—	.43	Self-discipline	.71	Task	—	.37
	36	Assertiveness	—	Overall	.96	.23	Assertiveness	—	Task	—	.46
	36	Assertiveness	—	Contextual	—	.60	Gregariousness	—	Overall	.96	.53
	36	Gregariousness	—	Task	—	.44	Gregariousness	—	Contextual	—	.52
	36	Positive emotions	.80	Overall	.96	.47	Positive emotions	.80	Task	—	.40
36	Positive emotions	.80	Contextual	—	.47	Angry hostility	.76	Task	—	-.34	
36	Angry hostility	.76	Contextual	—	-.47	Anxiety	.61	Overall	.96	-.56	
36	Anxiety	.61	Task	—	-.46	Anxiety	.61	Contextual	—	-.56	
36	Values	.85	Overall	.96	.63	Values	.85	Task	—	.46	
36	Values	.85	Contextual	—	.61						
Nease, Mudgett, & Quinones (1999)	80	Competence	.92	Task	.76	.23					
Nichols & Holland (1963)	275	Compliance	—	Task	—	.14	Achievement striving	—	Task	—	.20
	275	Competence	—	Task	—	.16	Dutifulness	—	Task	—	.13
	275	Order	—	Task	—	.09	Self-discipline	—	Task	—	.17
	275	Ideas	—	Task	—	.08					
	554	Compliance	—	Task	—	.28	Achievement striving	—	Task	—	.31
	554	Competence	—	Task	—	.04	Dutifulness	—	Task	—	.15
554	Order	—	Task	—	.21	Self-discipline	—	Task	—	.29	
554	Ideas	—	Task	—	-.05						
O'Neill & Mone (1998)	224	Competence	.81	Overall	.93	.21					
Oldham & Cummings (1996)	171	Ideas	.70	Overall	.80	.05					
Orpen (1985)	346	Achievement striving	.75	Overall	—	.08					
Parasuraman & Alutto (1984)	217	Anxiety	.65	Overall	.85	-.17					
Parikh, Patel, & Patel (1984)	50	Assertiveness	—	Task	—	.01	Positive emotions	—	Task	—	.22
	50	Gregariousness	—	Task	—	.21	Values	—	Task	—	.72
	50	Actions	—	Task	—	.22	Competence	—	Task	—	.19
	50	Angry hostility	—	Task	—	.21					
Park, Wilson, & Lee (2004)	240	Depression	.84	Overall	—	.04					
Payne & Corley (1994)	203	Anxiety	—	Task	—	-.59					

(Appendices continue)

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Appendix C (continued)

Source	<i>N</i>	NEO trait	<i>r_{xx}</i>	Performance	<i>r_{yy}</i>	<i>r</i>	NEO trait	<i>r_{xx}</i>	Performance	<i>r_{yy}</i>	<i>r</i>
Peacock & O'Shea (1984)	82	Altruism	—	Overall	—	.12	Compliance	—	Overall	—	.01
	82	Modesty	—	Overall	—	.04	Achievement striving	—	Overall	—	.08
	82	Deliberation	—	Overall	—	.08	Order	—	Overall	—	.12
	82	Self-discipline	—	Overall	—	.17	Assertiveness	—	Overall	—	.08
	82	Excitement-seeking	—	Overall	—	-.04	Gregariousness	—	Overall	—	.06
	82	Positive emotions	—	Overall	—	-.03	Angry hostility	—	Overall	—	-.01
	82	Impulsiveness	—	Overall	—	-.06	Actions	—	Overall	—	.04
	82	Aesthetics	—	Overall	—	-.11	Ideas	—	Overall	—	-.12
Perkins & Corr (2005)	68	Anxiety	—	Overall	—	-.00					
Petzel, Johnson, Johnson, & Kowalski (1981)	66	Depression	—	Task	—	.01					
	330	Ideas	.76	Task	.90	.15	Achievement striving	.72	Task	.90	.02
Phillips & Gully (1997)	330	Competence	.86	Task	.90	.38					
	47	Achievement striving	—	Task	.66	.26	Anxiety	—	Task	.66	-.11
Piedmont (1988)	88	Achievement striving	—	Task	.44	.23	Anxiety	—	Task	.44	-.01
	207	Altruism	.75	Overall	—	-.05	Compliance	.59	Overall	—	-.05
Piedmont & Weinstein (1994)	207	Altruism	.75	Task	—	-.03	Compliance	.59	Task	—	-.08
	207	Altruism	.75	Contextual	—	.10	Compliance	.59	Contextual	—	.07
	207	Modesty	.67	Overall	—	.03	Straightforwardness	.71	Overall	—	-.19
	207	Modesty	.67	Task	—	.00	Straightforwardness	.71	Task	—	-.14
	207	Modesty	.67	Contextual	—	-.08	Straightforwardness	.71	Contextual	—	-.07
	207	Tender-mindedness	.56	Overall	—	.02	Trust	.79	Overall	—	.00
	207	Tender-mindedness	.56	Task	—	.01	Trust	.79	Task	—	.10
	207	Tender-mindedness	.56	Contextual	—	.00	Trust	.79	Contextual	—	.12
	207	Achievement striving	.67	Overall	—	.23	Dutifulness	.62	Overall	—	.11
	207	Achievement striving	.67	Task	—	.26	Dutifulness	.62	Task	—	.16
	207	Achievement striving	.67	Contextual	—	.26	Dutifulness	.62	Contextual	—	.06
	207	Self-discipline	.75	Overall	—	.21	Competence	.67	Overall	—	.15
	207	Self-discipline	.75	Task	—	.28	Competence	.67	Task	—	.16
	207	Self-discipline	.75	Contextual	—	.18	Competence	.67	Contextual	—	.16
	207	Deliberation	.71	Overall	—	.11	Order	.66	Overall	—	.12
	207	Deliberation	.71	Task	—	.11	Order	.66	Task	—	.21
	207	Deliberation	.71	Contextual	—	.14	Order	.66	Contextual	—	.21
Pugh (1985)	23	Tender-mindedness	—	Overall	—	.08	Achievement striving	—	Overall	—	.21
	23	Competence	—	Overall	—	.08	Dutifulness	—	Overall	—	.18
	23	Self-discipline	—	Overall	—	.19	Assertiveness	—	Overall	—	.26
	23	Gregariousness	—	Overall	—	.14	Positive emotions	—	Overall	—	.27
	23	Actions	—	Overall	—	-.04	Ideas	—	Overall	—	.12
	23	Values	—	Overall	—	.29	Compliance	—	Overall	—	.26
Ralston & Waters (1996)	190	Achievement striving	—	Overall	—	.13					
Reio & Callahan (2004)	233	Anxiety	.76	Overall	.90	-.12	Angry hostility	.78	Overall	.90	.08
	233	Ideas	.80	Overall	.90	.31					
Riedel (1984)	21	Anxiety	—	Task	—	-.49					

(Appendices continue)

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Appendix C (continued)

Source	N	NEO trait	r_{xx}	Performance	r_{yy}	r	NEO trait	r_{xx}	Performance	r_{yy}	r
Rose, Fogg, Helmreich, & McFadden (1994)	65	Achievement striving	—	Overall	—	.08	Order	—	Overall	—	.22
	65	Achievement striving	—	Task	—	.09	Order	—	Task	—	.21
	65	Achievement striving	—	Contextual	—	.09	Order	—	Contextual	—	.22
	65	Assertiveness	—	Overall	—	-.01	Gregariousness	—	Overall	—	.10
	65	Assertiveness	—	Task	—	.10	Gregariousness	—	Task	—	.19
	65	Assertiveness	—	Contextual	—	.05	Gregariousness	—	Contextual	—	.04
	65	Angry hostility	—	Overall	—	.07	Impulsiveness	—	Overall	—	-.06
	65	Angry hostility	—	Task	—	-.23	Impulsiveness	—	Task	—	.20
	65	Angry hostility	—	Contextual	—	-.32	Impulsiveness	—	Contextual	—	-.18
	65	Feelings	—	Overall	—	.01	Self-discipline	—	Overall	—	.21
	65	Feelings	—	Task	—	.06	Self-discipline	—	Task	—	.21
	65	Feelings	—	Contextual	—	-.13	Self-discipline	—	Contextual	—	.16
	65	Depression	—	Overall	—	-.12	Depression	—	Task	—	-.07
	65	Depression	—	Contextual	—	-.20					
	Ross & Offermann (1997)	40	Actions	.59	Task	—	.01	Competence	—	Task	—
40		Assertiveness	—	Task	—	.10	Altruism	.83	Task	—	.08
40		Angry hostility	—	Task	—	.04					
Rubenzer, Faschingbauer, & Ones (2000)	41	Altruism	—	Overall	—	-.08	Compliance	—	Overall	—	-.20
	41	Modesty	—	Overall	—	-.07	Straightforwardness	—	Overall	—	-.28
	41	Tender-mindedness	—	Overall	—	.28	Trust	—	Overall	—	.07
	41	Achievement striving	—	Overall	—	.39	Competence	—	Overall	—	.39
	41	Deliberation	—	Overall	—	.00	Dutifulness	—	Overall	—	.01
	41	Order	—	Overall	—	-.12	Self-discipline	—	Overall	—	.26
	41	Activity	—	Overall	—	.28	Assertiveness	—	Overall	—	.42
	41	Excitement-seeking	—	Overall	—	.15	Gregariousness	—	Overall	—	-.07
	41	Positive emotions	—	Overall	—	.23	Warmth	—	Overall	—	.01
	41	Angry hostility	—	Overall	—	.11	Anxiety	—	Overall	—	.05
	41	Depression	—	Overall	—	-.05	Impulsiveness	—	Overall	—	-.02
	41	Self-consciousness	—	Overall	—	-.01	Vulnerability	—	Overall	—	-.28
	41	Actions	—	Overall	—	.24	Aesthetics	—	Overall	—	.22
	41	Fantasy	—	Overall	—	.09	Feelings	—	Overall	—	.33
	41	Ideas	—	Overall	—	.13	Values	—	Overall	—	.26
Saad & Sackett (2002)	4,547	Achievement striving	—	Overall	—	.18	Dutifulness	—	Overall	—	.17
	4,547	Achievement striving	—	Task	—	.16	Dutifulness	—	Task	—	.13
	4,547	Achievement striving	—	Contextual	—	.23	Dutifulness	—	Contextual	—	.24
	4,547	Vulnerability	—	Overall	—	-.12	Vulnerability	—	Task	—	.11
	4,547	Vulnerability	—	Contextual	—	-.14					
Sackett, Gruys, & Ellingson (1998)	87	Deliberation	—	Overall	.95	.02					
	247	Achievement striving	—	Overall	—	.15	Deliberation	—	Overall	—	.05
	247	Dutifulness	—	Overall	—	.07					
	8,274	Achievement striving	—	Task	—	.16	Dutifulness	—	Task	—	.13
	8,274	Achievement striving	—	Contextual	—	.23	Dutifulness	—	Contextual	—	.24
8,274	Achievement striving	—	Overall	—	.19	Dutifulness	—	Overall	—	.17	
Saks & Ashforth (1996)	91	Achievement striving	.62	Overall	—	.03	Anxiety	.80	Overall	—	-.18
	91	Depression	.76	Overall	—	-.05	Vulnerability	.37	Overall	—	-.18

(Appendices continue)

Appendix C (continued)

Source	N	NEO trait	r_{xx}	Performance	r_{yy}	r	NEO trait	r_{xx}	Performance	r_{yy}	r
Schuerger, Kochevar, & Reinwald (1982)	84	Trust	—	Task	—	.08	Dutifulness	—	Task	—	.24
	84	Order	—	Task	—	.16	Assertiveness	—	Task	—	-.02
	84	Gregariousness	—	Task	—	-.14	Positive emotions	—	Task	—	.11
	84	Warmth	—	Task	—	-.06	Anxiety	—	Task	—	-.11
	84	Actions	—	Task	—	-.20	Fantasy	—	Task	—	.16
B. Singh & Jain (1987)	60	Anxiety	—	Task	—	-.39	Achievement striving	—	Task	—	.15
I. L. Singh (1989)	80	Tender-mindedness	—	Task	—	.26	Competence	—	Task	—	-.23
	80	Dutifulness	—	Task	—	.30	Order	—	Task	—	-.43
	80	Assertiveness	—	Task	—	-.28	Warmth	—	Task	—	-.47
	80	Anxiety	—	Task	—	-.26	Actions	—	Task	—	-.25
	80	Ideas	—	Task	—	.24					
S. Singh (1979)	400	Tender-mindedness	.94	Task	—	.03	Trust	.90	Task	—	.07
	400	Achievement striving	—	Task	—	.42	Dutifulness	.88	Task	—	.04
	400	Order	.86	Task	—	.05	Assertiveness	—	Task	—	.14
	400	Gregariousness	—	Task	—	.05	Positive emotions	.71	Task	—	.09
	400	Warmth	.82	Task	—	.06	Anxiety	—	Task	—	.70
	400	Actions	.88	Task	—	.70	Aesthetics	.75	Task	—	.06
	400	Fantasy	.81	Task	—	.06	Ideas	.41	Task	—	.17
S. Singh (1983)	320	Vulnerability	—	Task	—	-.14	Achievement striving	—	Task	—	.17
	320	Dutifulness	—	Task	—	.21					
S. Singh (1989)	324	Achievement striving	.79	Overall	—	.19	Assertiveness	.82	Overall	—	.28
	324	Warmth	—	Overall	—	-.15	Anxiety	—	Overall	—	-.13
Slocum & Hand (1971)	324	Actions	—	Overall	—	.14	Ideas	—	Overall	—	.14
	37	Altruism	—	Overall	—	.18	Compliance	—	Overall	—	.01
	37	Altruism	—	Task	—	.18	Compliance	—	Task	—	-.01
	37	Altruism	—	Contextual	—	.18	Compliance	—	Contextual	—	.04
	37	Modesty	—	Overall	—	.03	Achievement striving	—	Overall	—	.05
	37	Modesty	—	Task	—	-.01	Achievement striving	—	Task	—	.09
	37	Modesty	—	Contextual	—	.07	Achievement striving	—	Contextual	—	.01
	37	Order	—	Overall	—	-.01	Self-discipline	—	Overall	—	.00
	37	Order	—	Task	—	-.03	Self-discipline	—	Task	—	-.01
	37	Order	—	Contextual	—	.01	Self-discipline	—	Contextual	—	.01
	37	Assertiveness	—	Overall	—	-.15	Gregariousness	—	Overall	—	.04
	37	Assertiveness	—	Task	—	-.14	Gregariousness	—	Task	—	.03
	37	Assertiveness	—	Contextual	—	-.16	Gregariousness	—	Contextual	—	.04
	37	Angry hostility	—	Overall	—	-.24	Actions	—	Overall	—	.02
	37	Angry hostility	—	Task	—	-.18	Actions	—	Task	—	-.02
37	Angry hostility	—	Contextual	—	-.30	Actions	—	Contextual	—	.05	
57	Altruism	—	Overall	—	.09	Compliance	—	Overall	—	-.16	
57	Altruism	—	Task	—	.14	Compliance	—	Task	—	-.17	
57	Altruism	—	Contextual	—	.04	Compliance	—	Contextual	—	-.15	
57	Modesty	—	Overall	—	-.00	Achievement striving	—	Overall	—	-.10	
57	Modesty	—	Task	—	.01	Achievement striving	—	Task	—	-.12	
57	Modesty	—	Contextual	—	-.02	Achievement striving	—	Contextual	—	-.09	

(Appendices continue)

Appendix C (continued)

Source	N	NEO trait	r_{xx}	Performance	r_{yy}	r	NEO trait	r_{xx}	Performance	r_{yy}	r	
Smillie, Yeo, Furnham, & Jackson (2006)	57	Order	—	Overall	—	-.13	Self-discipline	—	Overall	—	-.12	
	57	Order	—	Task	—	-.13	Self-discipline	—	Task	—	-.04	
	57	Order	—	Contextual	—	-.13	Self-discipline	—	Contextual	—	-.20	
	57	Assertiveness	—	Overall	—	.03	Gregariousness	—	Overall	—	.06	
	57	Assertiveness	—	Task	—	.04	Gregariousness	—	Task	—	.05	
	57	Assertiveness	—	Contextual	—	.03	Gregariousness	—	Contextual	—	.07	
	57	Angry hostility	—	Overall	—	-.07	Actions	—	Overall	—	.11	
	57	Angry hostility	—	Task	—	-.08	Actions	—	Task	—	.08	
	57	Angry hostility	—	Contextual	—	-.06	Actions	—	Contextual	—	.15	
	96	Anxiety	.83	Task	—	-.05	Anxiety	.83	Contextual	—	.00	
	96	Anxiety	.83	Overall	—	-.03						
	G. M. Smith (1967)	348	Altruism	—	Task	—	-.07	Compliance	—	Task	—	-.04
		348	Modesty	—	Task	—	-.07	Straightforwardness	—	Task	—	.11
		348	Tender-mindedness	—	Task	—	.03	Trust	—	Task	—	.08
		348	Achievement striving	—	Task	—	.03	Deliberation	—	Task	—	.12
	Soyer, Rovenpor, & Kopelman (1999)	348	Order	—	Task	—	.12	Self-discipline	—	Task	—	.29
348		Assertiveness	—	Task	—	.09	Excitement-seeking	—	Task	—	.26	
348		Gregariousness	—	Task	—	-.03	Positive emotions	—	Task	—	-.03	
348		Warmth	—	Task	—	.18	Angry hostility	—	Task	—	-.07	
348		Anxiety	—	Task	—	-.08	Vulnerability	—	Task	—	-.05	
348		Actions	—	Task	—	.07	Aesthetics	—	Task	—	.13	
348		Fantasy	—	Task	—	-.16	Ideas	—	Task	—	.29	
348		Values	—	Task	—	.25						
190		Achievement striving	.61	Task	—	.20						
Spence, Pred, & Helmreich (1989)		281	Achievement striving	—	Task	.96	.30					
	264	Achievement striving	—	Task	.95	.30						
	281	Achievement striving	—	Task	.93	.26						
	178	Achievement striving	—	Task	.95	.32						
Spreitzer, Kizilos, & Nason (1997)	344	Competence	.79	Overall	.93	.21	Gregariousness	.81	Overall	.93	.12	
	376	Competence	.51	Task	.90	.20	Anxiety	.89	Task	.90	-.01	
Staples, Hulland, & Higgins (1999)	376	Vulnerability	.82	Task	.90	-.51						
Steers (1975a)	133	Achievement striving	.74	Overall	—	.15						
Steers (1975b)	133	Achievement striving	—	Contextual	—	.32	Achievement striving	—	Overall	—	.15	
Stewart (1999)	183	Achievement striving	.67	Task	—	.12	Order	.66	Task	—	.16	
Stricker & Rock (1998)	137	Achievement striving	.85	Overall	.71	.31	Achievement striving	.85	Task	—	.33	
	137	Competence	.87	Overall	.71	.26	Competence	.87	Task	—	.23	
	137	Assertiveness	.87	Overall	.71	.26	Assertiveness	.87	Task	—	.23	
	137	Gregariousness	.86	Overall	.71	.13	Gregariousness	.86	Task	—	.18	
Stoeber & Kersting (2007)	111	Achievement striving	.73	Task	.94	.13	Order	.93	Task	.94	.32	
Stokes, Toth, Searcy, Stroupe, & Carter (1999)	471	Altruism	.76	Contextual	.62	-.03	Competence	.83	Contextual	.62	-.06	
	471	Altruism	.76	Task	.81	.05	Competence	.83	Task	.81	.03	
	471	Altruism	.76	Overall	.67	.01	Competence	.83	Overall	.67	-.02	
	471	Dutifulness	.75	Contextual	.62	.08	Activity	.69	Contextual	.62	-.00	
	471	Dutifulness	.75	Task	.81	.11	Activity	.69	Task	.81	.07	
	471	Dutifulness	.75	Overall	.67	.10	Activity	.69	Overall	.67	.03	
	471	Anxiety	.77	Contextual	.62	.01	Anxiety	.77	Task	.81	.06	
	471	Anxiety	.77	Overall	.67	.04						

(Appendices continue)

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Appendix C (continued)

Source	N	NEO trait	r _{xx}	Performance	r _{yy}	r	NEO trait	r _{xx}	Performance	r _{yy}	r
Struthers, Eaton, Czynielewski, & Dupuis (2005)	118	Angry hostility	—	Contextual	—	-.37	Dutifulness	—	Contextual	—	-.28
	118	Tender-mindedness	—	Contextual	—	.39					
Surette & Serafino (2003)	129	Compliance	—	Overall	—	.01	Tender-mindedness	—	Overall	—	.10
	129	Trust	—	Overall	—	-.14	Achievement striving	—	Overall	—	.05
	129	Competence	—	Overall	—	.00	Dutifulness	—	Overall	—	.00
	129	Self-discipline	—	Overall	—	.12	Assertiveness	—	Overall	—	.00
	129	Gregariousness	—	Overall	—	-.14	Positive emotions	—	Overall	—	-.09
	129	Anxiety	—	Overall	—	-.02	Depression	—	Overall	—	.10
	129	Vulnerability	—	Overall	—	.02	Actions	—	Overall	—	-.11
	129	Ideas	—	Overall	—	-.05	Values	—	Overall	—	-.11
Tang & Reynolds (1993)	52	Competence	—	Task	—	.74					
Tang & Ibrahim (1998)	147	Achievement striving	.35	Contextual	.56	.20	Competence	.85	Contextual	.56	.26
	340	Achievement striving	.57	Contextual	.70	.40	Competence	.64	Contextual	.70	.47
Taylor, Locke, Lee, & Gist (1984)	169	Competence	.60	Task	.56	.30					
Tett, Steele, & Beauregard (2003)	100	Altruism	.65	Task	—	.02	Achievement striving	.70	Task	—	.08
	100	Order	.88	Task	—	-.05	Self-discipline	.76	Task	—	.04
	100	Assertiveness	.87	Task	—	-.02	Gregariousness	—	Task	—	-.02
	100	Positive emotions	.70	Task	—	-.02	Impulsiveness	.78	Task	—	.05
	100	Actions	.59	Task	—	.08	Aesthetics	.66	Task	—	.03
	100	Ideas	.71	Task	—	.05					
	335	Altruism	—	Task	—	.04	Compliance	—	Task	—	.01
	335	Altruism	—	Contextual	—	.06	Compliance	—	Contextual	—	.12
	335	Altruism	—	Overall	—	.05	Compliance	—	Overall	—	.07
	335	Tender-mindedness	—	Task	—	.02	Trust	—	Task	—	.02
	335	Tender-mindedness	—	Contextual	—	.14	Trust	—	Contextual	—	.14
	335	Tender-mindedness	—	Overall	—	.09	Trust	—	Overall	—	.09
	335	Mastery	—	Task	—	.14	Competence	—	Task	—	.06
	335	Mastery	—	Contextual	—	.05	Competence	—	Contextual	—	.04
	335	Mastery	—	Overall	—	.09	Competence	—	Overall	—	.05
	335	Deliberation	—	Task	—	.08	Dutifulness	—	Task	—	.09
	335	Deliberation	—	Contextual	—	.09	Dutifulness	—	Contextual	—	.04
	335	Deliberation	—	Overall	—	.08	Dutifulness	—	Overall	—	.06
	335	Assertiveness	—	Task	—	.09	Excitement-seeking	—	Task	—	-.04
	335	Assertiveness	—	Contextual	—	.07	Excitement-seeking	—	Contextual	—	-.05
	335	Assertiveness	—	Overall	—	.08	Excitement-seeking	—	Overall	—	-.04
	335	Gregariousness	—	Task	—	-.03	Warmth	—	Task	—	.02
	335	Gregariousness	—	Contextual	—	.05	Warmth	—	Contextual	—	.18
	335	Gregariousness	—	Overall	—	.01	Warmth	—	Overall	—	.11
	335	Angry hostility	—	Task	—	.00	Anxiety	—	Task	—	-.02
	335	Angry hostility	—	Contextual	—	-.12	Anxiety	—	Contextual	—	-.10
	335	Angry hostility	—	Overall	—	-.07	Anxiety	—	Overall	—	-.07
	335	Depression	—	Task	—	-.04	Impulsiveness	—	Task	—	-.10
	335	Depression	—	Contextual	—	-.06	Impulsiveness	—	Contextual	—	-.05
	335	Depression	—	Overall	—	-.05	Impulsiveness	—	Overall	—	-.07
	335	Self-consciousness	—	Task	—	.00	Vulnerability	—	Task	—	.03
	335	Self-consciousness	—	Contextual	—	-.04	Vulnerability	—	Contextual	—	.15
	335	Self-consciousness	—	Overall	—	-.02	Vulnerability	—	Overall	—	.10
	335	Actions	—	Task	—	-.03	Aesthetics	—	Task	—	-.03
	335	Actions	—	Contextual	—	.01	Aesthetics	—	Contextual	—	-.08
335	Actions	—	Overall	—	-.01	Aesthetics	—	Overall	—	-.06	
335	Ideas	—	Task	—	-.01	Ideas	—	Contextual	—	.02	
335	Ideas	—	Overall	—	.01						

(Appendices continue)

Appendix C (continued)

Source	<i>N</i>	NEO trait	<i>r_{xx}</i>	Performance	<i>r_{yy}</i>	<i>r</i>	NEO trait	<i>r_{xx}</i>	Performance	<i>r_{yy}</i>	<i>r</i>
Thompson & Perlini (1998)	48	Competence	—	Task	—	.11	Anxiety	—	Task	—	-.35
Timmerman (2004)	203	Altruism	.75	Overall	—	.12	Compliance	.59	Overall	—	.08
	203	Modesty	.67	Overall	—	.07	Straightforwardness	.71	Overall	—	.06
	203	Tender-mindedness	.56	Overall	—	.11	Trust	.79	Overall	—	.16
	203	Achievement striving	.67	Overall	—	.15	Competence	.67	Overall	—	.18
	203	Deliberation	.71	Overall	—	.07	Dutifulness	.62	Overall	—	.18
	203	Order	.66	Overall	—	.08	Self-discipline	.75	Overall	—	.12
	203	Activity	.63	Overall	—	.09	Assertiveness	.77	Overall	—	.13
	203	Excitement-seeking	.65	Overall	—	-.14	Gregariousness	.72	Overall	—	-.13
	203	Positive emotions	.73	Overall	—	.09	Warmth	.73	Overall	—	.12
	203	Angry hostility	.75	Overall	—	-.08	Anxiety	.78	Overall	—	.01
	203	Depression	.81	Overall	—	.01	Impulsiveness	.70	Overall	—	.00
	203	Self-consciousness	.68	Overall	—	.08	Vulnerability	.77	Overall	—	.04
	203	Actions	.58	Overall	—	-.01	Aesthetics	.76	Overall	—	-.04
	203	Fantasy	.76	Overall	—	-.13	Feelings	.66	Overall	—	.09
	203	Ideas	.80	Overall	—	.01	Values	.67	Overall	—	-.02
Van Scotter & Motowidlo (1996)	508	Competence	.77	Overall	.96	.19	Positive emotions	.87	Overall	.96	.14
	508	Competence	.77	Task	.94	.14	Positive emotions	.87	Task	.94	.05
	508	Competence	.77	Contextual	.53	.16	Positive emotions	.87	Contextual	.53	.15
	508	Self-consciousness	.85	Overall	.96	.06	Self-consciousness	.85	Task	.94	.03
	508	Self-consciousness	.85	Contextual	.53	.05					
Van Yperen (2003)	42	Positive emotions	.81	Overall	.92	.32					
Verbeke (1994)	70	Straightforwardness	.81	Task	—	.39	Competence	.73	Task	—	.05
	70	Actions	.84	Task	—	.09					
Waldersee (1994)	21	Competence	.59	Overall	.75	.17	Anxiety	.72	Overall	.59	-.05
	26	Competence	.61	Overall	.82	.09	Anxiety	.72	Overall	.61	-.18
Wang et al. (2004)	286	Depression	—	Task	—	-.31					
Wegge (2006)	60	Trust	.89	Task	—	.09	Positive emotions	.84	Task	—	.00
	88	Activity	.68	Task	.85	-.01	Excitement-seeking	.81	Task	.85	.14
	88	Anxiety	.72	Task	.85	-.10					
Witkowski (1997)	41	Compliance	—	Contextual	—	-.42	Compliance	—	Task	—	.60
	41	Tender-mindedness	—	Contextual	—	-.29	Achievement striving	—	Overall	—	.41
	41	Achievement striving	—	Contextual	—	.42	Achievement striving	—	Task	—	.40
	41	Self-discipline	—	Contextual	—	.26	Gregariousness	—	Contextual	—	-.43
	41	Positive emotions	—	Contextual	—	.45	Positive emotions	—	Task	—	.46
	41	Self-consciousness	—	Overall	—	-.37	Actions	—	Contextual	—	.25
	41	Actions	—	Task	—	.40	Ideas	—	Overall	—	.43
	41	Ideas	—	Contextual	—	.40	Ideas	—	Task	—	.41
	41	Values	—	Contextual	—	-.23	Assertiveness	—	Overall	—	.33
	41	Assertiveness	—	Contextual	—	.31					
T. A. Wright, Cropanzano, Denney, & Moline (2002)	49	Positive emotions	.93	Task	.56	.04					
P. M. Wright, Kacmar, McMahan, & Deleeuw (1995)	203	Achievement striving	.84	Overall	.90	-.10					

(Appendices continue)

Appendix C (continued)

Source	<i>N</i>	NEO trait	r_{xx}	Performance	r_{yy}	r	NEO trait	r_{xx}	Performance	r_{yy}	r
Yamauchi, Beech, Hampson, & Lynn (1991)	145	Achievement striving	—	Task	—	.10	Competence	—	Task	—	-.05
	145	Assertiveness	—	Task	—	.08	Anxiety	—	Task	—	.16
Yukl & Kanuk (1979)	26	Altruism	—	Overall	.50	.18	Deliberation	—	Overall	—	.25
	26	Gregariousness	—	Overall	—	-.06					
Zaccaro, Mumford, Connelly, Marks, & Gilbert (2000)	1,807	Tender-mindedness	—	Task	—	-.11	Achievement striving	—	Task	—	.08
	1,807	Dutifulness	—	Task	—	.24	Assertiveness	—	Task	—	.04
	1,807	Ideas	—	Task	—	.03					

Note. Dashes indicate that a value was not reported in a study.

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Call for Nominations

The Publications and Communications (P&C) Board of the American Psychological Association has opened nominations for the editorships of **History of Psychology**; **Journal of Family Psychology**; **Journal of Personality and Social Psychology: Personality Processes and Individual Differences**; **Psychological Assessment**; **Psychological Review**; **International Journal of Stress Management**; and **Personality Disorders: Theory, Research, and Treatment** for the years 2016–2021. Wade Pickren, PhD, Nadine Kaslow, PhD, Laura King, PhD, Cecil Reynolds, PhD, John Anderson, PhD, Sharon Glazer, PhD, and Carl Lejuez, PhD, respectively, are the incumbent editors.

Candidates should be members of APA and should be available to start receiving manuscripts in early 2015 to prepare for issues published in 2016. Please note that the P&C Board encourages participation by members of underrepresented groups in the publication process and would particularly welcome such nominees. Self-nominations are also encouraged.

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- **History of Psychology**, David Dunning, PhD
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- **International Journal of Stress Management**, Neal Schmitt, PhD
- **Personality Disorders: Theory, Research, and Treatment**, Kate Hays, PhD, and Jennifer Crocker, PhD

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Deadline for accepting nominations is January 11, 2014, when reviews will begin.