Psychological Services
2013, Vol. 10, No. 4, 372–377

1541-1559/13/$12.00 DOI: 10.1037/a0031800

Revised NEO Personality Inventory Normative Data for Police Officer Selection

Paul Detrick
Florissant Psychological Services, St. Louis, Missouri

John T. Chibnall
Saint Louis University

The Revised NEO Personality Inventory (NEO PI–R) has demonstrated utility in the personnel selection context. Its use in police officer selection has been relatively limited, in part, because there are no published normative data for the NEO PI–R for police officer applicants. The authors present normative data on NEO PI–R domain and facet scores for a large sample ($N = 288$) of police officer applicants in a large, urban, Midwestern police department who completed the NEO PI–R as part of a preemployment psychological evaluation. Applicants reported low levels of Neuroticism and high levels of Extraversion and Conscientiousness. Neuroticism and Conscientiousness scores were strongly and consistently correlated with the Positive Presentation Management (PPM) research validity scale of the NEO PI–R. Extraversion and Agreeableness scores were moderately and less consistently correlated with PPM. These data may serve as a normative comparison group for professionals and researchers who use or may want to use the NEO PI–R in the police officer selection context.

Keywords: Revised NEO Personality Inventory, police officer selection, normative data

Police departments are responsible for selecting and maintaining a capable and healthy workforce (*Bonsignore v. City of New York*, 1981; *Woods v. Town of Danville, WV,* 2010). As a result, psychological screening of police officer applicants for selection purposes has become widespread (Cochrane, Tett, & Vandecreek, 2003). Guidelines have been established by the International Association of Chiefs of Police (2009) for preemployment psychological evaluations, including recommendations that tests used for such purposes be objective, job-related, and validated for the purpose of police officer selection (Guidelines 7.1 and 7.2), and that they possess a "substantial research base for interpretation with normal range populations in general and public safety applicants in particular" (Guidelines 7.2.1). Although Five Factor Model (FFM) personality inventories—such as the Revised NEO Personality Inventory (NEO PI–R; Costa & McCrae, 1992)—are widely used in personnel selection, their application to police officer selection has been relatively limited. This relative lack of application is due in part to the absence of published police officer applicant norms.

This article was published Online First February 11, 2013.

Paul Detrick, Florissant Psychological Services, St. Louis, Missouri; and John T. Chibnall, Department of Neurology and Psychiatry, Saint Louis University School of Medicine.

We extend thanks to Shelley Spilberg for providing valuable information regarding the CA POST screening dimensions and their development and to John Schinka for sharing the scoring protocol for the NEO PI–R validity scale.

Correspondence concerning this article should be addressed to Paul Detrick, Florissant Psychological Services, 701 Street Francois, St. Louis, MO 63031. E-mail: fps-stl@sbcglobal.net

The FFM in Personnel Selection

The FFM has received widespread acceptance as a valid descriptor of normal personality "across languages, across different theoretical perspectives, and across rating sources" (Mount, Barrick, & Stewart, 1998, p. 146). Within the field of personnel selection, FFM personality traits (Neuroticism or Emotional Stability, Extraversion, Openness or Openness to Experience, Agreeableness, and Conscientiousness) demonstrate validity in the prediction of a broad range of measures of work performance (Barrick & Mount, 1991; Hurtz & Donovan, 2000; Mount & Barrick, 1995; Salgado, 1997; Tett, Jackson, & Rothstein, 1991). Neuroticism and Conscientiousness are characterized as "generalizable predictors" regarding work motivation and performance across most job types, whereas Extraversion, Openness, and Agreeableness are characterized as "niche" traits that predict performance in specific occupations and job functions (Barrick & Mount, 2005). These studies focused on the relationship between personality and task performance measures. Job performance, however, has been broadly conceptualized as including elements of both task performance and contextual or citizenship performance (Borman & Motowidlo, 1993; Motowidlo & Van Scotter, 1994). A recent meta-analysis reported significant associations between FFM personality traits and organizational citizenship behavior (contextual performance), including prosocial and proactive forms of citizenship behavior (Chiaburu, Oh, Berry, Li, & Gardner, 2011). Citizenship performance has been characterized as contributing to organizational effectiveness primarily by "shaping the organizational, social, and psychological context that serves as the critical catalyst for task activities and processes" (Borman & Motowidlo, 1993, p. 71). Organ (1997), too, has described organizational citizenship behavior as "contributing to the maintenance and enhancement of the social and psychological context that supports task performance" (p. 91). Thus, the FFM appears well-established as a model for

identifying personality traits that are useful in predicting both task and contextual aspects of job performance across occupational categories.

The FFM in Police Officer Selection

With regard to police officer selection specifically, a number of meta-analyses have supported the use of FFM measures as predictors of job performance. Barrick and Mount (1991) found Conscientiousness to have the strongest estimated "true" correlation with police officer job performance as derived from performance ratings and productivity data ($\rho = .22$). More modest associations were reported for Neuroticism, Extraversion, and Agreeableness ($\rho = .10$, .09, and .10, respectively). Salgado (1997) reported a similar pattern of results for associations between Conscientiousness, Emotional Stability, and Extraversion and police officer job performance in Europe (estimated true validity coefficient, $\rho = .39$, .22, and .20, respectively). Contrary to Barrick and Mount (1991), however, Salgado reported a significant association between Openness and police officer performance ($\rho = .18$). In a meta-analysis by Aamodt (2004), Neuroticism, Openness, and Conscientiousness were each predictive of police academy grades, performance ratings, and discipline problems; Extraversion was associated with grades and discipline problems; and Agreeableness was associated with performance ratings and discipline problems. Of the FFM domains, Openness had the strongest association with grades ($r = .22$), Conscientiousness with performance ratings ($r = .12$), and Neuroticism (Emotional stability) with discipline problems ($r = -.09$).

In arguably the most sophisticated undertaking of its kind to date, a large-scale research project was conducted by the California Commission on Peace Officer Standards and Training (POST) to identify personality characteristics that are important for both task and contextual police officer job performance (Spilberg et al., 2004). In the first phase of the project, a multimethod personality-based job analysis was conducted involving development and administration of a personality-based job analysis instrument (a revision of the instrument developed by Raymark, Schmit, & Guion, 1997), collection of critical incidents, and panel meetings with subject matter experts at many organizational levels. The resulting set of 10 psychological "dimensions" included both effective and counterproductive job behaviors (California Commission on Peace Officer Standards & Training, 2006). In the second phase, a comprehensive meta-analysis was conducted to assess the validity of the personality traits and police performance relationships (Ones, Viswesvaran, & Dilchert, 2004). Police psychologists first linked scales from personality inventories that are commonly used in preemployment screening to the newly developed POST dimensions. The POST dimensions were then mapped against the FFM factors, facets, and compound personality traits using the taxonomy created by Hough and Ones (2002). Over 19,000 validity coefficients from over 6,000 published and unpublished police-personality studies were meta-analyzed against 11 performance criteria (job, training, task, interpersonal, and counterproductive). Significant associations with performance measures were most common for Neuroticism and its facets, Extraversion and its facets, Agreeableness, and Conscientiousness and its facets. Few associations were noted for Openness. Among compound traits, the most prominent associations were with combinations of Neuroticism and Conscientiousness facets. These screening dimensions specify validated, behaviorally defined police officer psychological attributes and associated positive and counterproductive work behaviors and provide a template for translating clinical findings into job-related concerns and issues (California Commission on Peace Officer Standards & Training, 2009).

The NEO PI–R in Police Officer Selection

The NEO PI–R (Costa & McCrae, 1992) is an FFM-derived, 240-item personality inventory widely used in personnel selection. It measures the FFM personality domains and 30 facets (six facets/domain). The domains are Neuroticism (susceptibility to experience symptoms of psychological distress, develop irrational ideas, demonstrate poor impulse control, and be vulnerable under stress); Extraversion (tendency to enjoy people, demonstrate assertiveness, be active, enjoy excitement and stimulation, and be positive in disposition); Openness (tendency to demonstrate an active imagination, intellectual curiosity, attentiveness to inner feelings); Agreeableness (tendency to be sympathetic to others, cooperative, a team player); and Conscientiousness (tendency to be purposeful, dependable, determined, self-controlled, well-organized). The authors of the NEO PI–R maintained that the empirical evidence did not support the use of validity scales. In response to criticism of this position (Ben-Porath & Waller, 1992), Schinka, Kinder, and Kremer (1997) developed three NEO PI–R research validity scales: the Inconsistent Responding scale; the Negative Presentation Management scale, to assess negative response distortion or "faking bad"; and the Positive Presentation Management (PPM) scale, to assess positive response distortion or "faking good." Several analogue demand-simulation studies and clinical studies have provided support for the validity of these scales in clinical applications (Ballenger, Caldwell-Andrews, & Baer, 2001; Caldwell-Andrews, Baer, & Berry, 2000; Morasco, Gfeller, & Elder, 2007; Morey et al., 2002; Sellbom & Bagby, 2008; Young & Schinka, 2001). Qualified support for the validity of the PPM in personnel contexts has also been demonstrated (Reid-Seiser & Fritzsche, 2001). These authors found that the PPM was able to differentiate between applicant and general instruction sets, but also tended to be related more to possessing a positive self-concept rather than engaging in overt impression management. In a recent study of positive response distortion on the NEO PI–R in police officer applicants under high- and low-demand conditions, Detrick, Chibnall, and Call (2010) found limited support for PPM validity regarding demand; PPM did not predict demand-induced elevations observed under the high-demand conditions of personnel selection for Conscientious (standardized regression coefficient, $\beta = .11$) and Agreeableness ($\beta = .00$); however, it did successfully predict demand-induced variation in NEO PI–R responding for Neuroticism ($\beta = -.24$).

A number of studies have provided support for NEO PI–R validity for police officer selection in general. Black (2000) found that the overall training performance of police recruits in New Zealand (as measured by 17 practical and academic tests, including firearms, self-defense, cognitive ability, and driving) was most strongly associated with Conscientiousness ($r = .27$) and its facets (Competence, $r = .23$; Order, $r = .20$; Dutifulness, $r = .21$; Achievement Striving, $r = .22$; Self-Discipline, $r = .25$; and Deliberation, $r = .14$). Additional significant associations were

noted for Extraversion (r = .16) and Neuroticism (r = −.16) and two of its facets (Impulsiveness, r = −.17; Vulnerability, r = −.17). The Extraversion domain was also correlated with physical performance (r = .13), as well as several of its facets (Assertiveness, r = .15; Activity, r = .23; and Excitement-Seeking, r = .18). Detrick, Chibnall, and Luebbert (2004) also found relationships between NEO PI–R facet scores and a variety of police academy performance measures. Higher scores on Values (Openness domain) and lower scores on Excitement-Seeking predicted stronger academic performance (β = .33 and −.29, respectively); stronger firearms performance was associated with lower Anxiety (Neuroticism) scores (β = −.22); physical performance was associated with lower Fantasy (Openness) and Deliberation (Conscientiousness) scores (β = −.43 for each) and higher Activity (Extraversion domain) scores (β = .31); absenteeism (<1 day vs. ≥1 day) was predicted by Self-Consciousness and Vulnerability (Neuroticism), Positive Emotions (Extraversion), Altruism (Agreeableness), Feelings (Openness), and Order (Conscientiousness) (odds ratio [OR] = .40, 1.73, .57, .53, 2.04, and 1.74, respectively); and nongraduation was associated with Vulnerability (Neuroticism) (canonical r = .28). In an investigation of the relationship between coping styles and personality measures in police officers in Singapore using canonical correlation analysis (three coping variables vs. five NEO PI–R domain scores), Bishop et al. (2001) found that effective problem solving (canonical loading on variate 1 = .95) was associated with Conscientiousness (canonical loading on variate 1 = .71); avoidance behavior (canonical loading on variate 2 = 1.00) was associated with Neuroticism (canonical loading on variate 2 = .92) and inversely related to Conscientiousness (canonical loading on variate 2 = −.64); and positive reappraisal (canonical loading on variate 3 = .95) was associated with Extraversion (canonical loading on variate 3 = .77), Openness (canonical loading on variate 3 = .55), and Agreeableness (canonical loading on variate 3 = .67). Chibnall and Detrick (2003) found that the Minnesota Multiphasic Personality Inventory-2 (MMPI-2), Inwald Personality Inventory, and NEO PI–R each contributed significantly to the prediction of police academy performance. The NEO PI–R, however, was unique in its ability to predict physical performance and demonstrated the greatest level of incremental validity of the three inventories (R^2 change = .11–.16, compared to 0–.03 for the Inwald and 0–.08 for the MMPI-2). Finally, when asked to identify the personality characteristics of the "best" entry-level police officers that they had supervised, field training officers using the Observer form (Form R) of the NEO PI–R described officers that were low on Neuroticism, high on Conscientiousness, and high on Extraversion (Detrick & Chibnall, 2006).

The primary purpose of this study is to provide normative data on the NEO PI–R for successful police officer applicants (applicants that received a conditional offer of employment and passed a preemployment psychological evaluation). Despite studies supporting the construct validity of the NEO PI–R for use in police officer selection, there are no published NEO PI–R data on large samples of police officer applicants. Such normative data would prove useful to police psychologists and other professionals involved in police officer selection by providing an important reference for interpretation of selection data (Society for Industrial & Organizational Psychology, 2003). It may also stimulate the inclusion of personality assessment in the police officer selection process and research on the personality-job performance relationship.

To assist in detecting and suggesting possible effects of positive response distortion on the NEO PI–R under the high-demand conditions of personnel selection, norms are also provided for the PPM research validity scale as well as correlations between the NEO PI–R scale scores and the PPM.

Method

Applicants

Data were available from 288 police officer applicants to a large, urban, Midwestern police department who had received conditional offers of employment and successfully completed a preemployment psychological evaluation. All applicants signed an informed consent allowing their preemployment NEO PI–R and demographic data to be used for research. The 288 applicants were derived from an initial pool of approximately 1,500 applicants to the department over a 4-year period (2007–2011). The initial pool of applicants was first screened by the department, including a background investigation, record check, fitness test, written examination, and oral board interview, after which 304 applicants were given conditional offers of employment. No demographic data were available regarding applicants who did not receive conditional offers. Of the 304 conditional applicants, 16 (5.3%) failed the preemployment psychological evaluation (alcohol abuse, n = 5; interpersonal problems, n = 5; anxiety or depression, n = 2; and acting out, n = 4). The remaining 288 applicants were predominantly male (79%, n = 229) and had a mean age of 25.9 years (SD = 4.5). Non-Hispanic Caucasian was the predominant racial/ethnic group (62%, n = 178), followed by African American (34%, n = 99), Hispanic Caucasian (2%, n = 7), Asian (1%, n = 3), and "other" (0.3%, n = 1).

Procedure/Measures

Applicants completed the NEO PI–R (Costa & McCrae, 1992) as part of the preemployment psychological evaluation, in addition to the MMPI-2 (Butcher et al., 2004), the Inwald Personality Inventory (Hilson Research, 2006), and a semistructured individual interview with one of the authors (PD). Unbeknownst to the applicants, the NEO PI–R was not used in the subsequent selection process. Nongendered norms were used to calculate scale scores for the five NEO PI–R domains and 30 facets. Scale scores are categorized as very low (<35), low (35–44), average (45–55), high (56–65), and very high (>65) (Costa & McCrae, 1992). As detailed in the *NEO PI–R Professional Manual* (Costa & McCrae, 1992), substantial support exists for the reliability and validity of the NEO PI–R and it has been used in hundreds of clinical and basic research personality studies. A raw score for the PPM research validity scale was also calculated. Because PPM is most relevant to personnel selection, of the three Schinka validity scales, only PPM was examined here. PPM includes 10 NEO PI–R items (two Neuroticism, three Extraversion, three Openness, one Agreeableness, and one Conscientiousness) and ranges from 0 to 40, with higher scores indicating higher levels of positive presentation management. There are no norm-referenced scale scores for PPM.

Results

Table 1 displays normative data for the NEO PI–R scale scores (five domains, 30 facets) and the PPM score, as well as NEO PI–R

Table 1
Normative Data for NEO PI–R Scales and Correlations With Positive Presentation Management (PPM) Scale

NEO PI–R	*M* (*SD*)	Range	Q1–Q2–Q3	Skewness/kurtosis	Very low	Low	Average	High	Very high	*r* with PPM
Neuroticism	37.0 (6.8)	18–58	33–37–42	−.39*/.26	30% (87)	57% (163)	13% (37)	.3% (1)	0	−.57**
Anxiety	40.2 (6.3)	23–61	36–40–44	.02/.14	17% (50)	61% (175)	22% (62)	.3% (1)	0	−.48**
Angry hostility	40.2 (7.5)	23–62	36–40–45	−.14/-.05	20% (58)	48% (137)	31% (89)	1.4% (4)	0	−.56**
Depression	39.6 (6.0)	26–62	36–40–42	.29*/.32	17% (48)	65% (188)	17% (50)	.7% (2)	0	−.52**
Self-consciousness	39.7 (7.7)	18–63	36–40–45	.00/.27	24% (68)	47% (135)	28% (80)	1.7% (5)	0	−.49**
Impulsiveness	37.8 (8.5)	14–60	32–37–44	−.26/.37	26% (76)	52% (149)	20% (58)	1.7% (5)	0	−.49**
Vulnerability	37.9 (7.6)	24–53	32–40–45	−.31*/−.92*	30% (87)	42% (121)	28% (80)	0	0	−.60**
Extraversion	55.3 (6.2)	36–74	51–55–59	.12/.26	0	3% (9)	48% (137)	44% (127)	5% (15)	.23**
Warmth	55.8 (7.5)	35–73	50–55–60	.36*/−.25	0	3% (8)	58% (166)	29% (84)	10% (30)	.48**
Gregariousness	59.5 (7.5)	40–82	55–59–64	.18/.18	0	2% (7)	29% (83)	46% (132)	23% (66)	.34**
Assertiveness	60.8 (7.8)	38–80	57–61–65	−.17/.30	0	3% (8)	21% (60)	53% (153)	23% (67)	.48**
Activity	54.2 (6.7)	35–76	51–53–58	.17/.57*	0	9% (27)	57% (165)	29% (82)	5% (14)	.33**
Excitement-seeking	57.5 (8.1)	34–82	53–57–63	−.22/.24	.3% (1)	5% (14)	34% (98)	42% (120)	19% (55)	−.02
Positive emotions	52.0 (7.8)	30–70	47–52–58	−.27/.00	1.4% (4)	13% (37)	47% (135)	36% (103)	3% (9)	.21**
Openness	47.9 (7.9)	25–70	43–47–53	.23/.02	3% (9)	32% (92)	47% (134)	16% (47)	2% (6)	.09
Fantasy	43.2 (8.5)	16–67	39–43–49	−.09/.11	18% (51)	37% (107)	39% (111)	6% (18)	.3% (1)	−.34**
Aesthetics	45.7 (9.3)	17–73	39–45–53	.28*/.29	9% (27)	38% (108)	39% (111)	11% (32)	3% (10)	−.06
Feelings	46.9 (7.9)	24–72	42–47–52	.10/.39	7% (21)	36% (104)	43% (123)	13% (36)	1.4% (4)	.05
Actions	51.2 (8.9)	26–79	46–49–57	.17/.12	1.7% (5)	22% (63)	47% (134)	25% (72)	5% (14)	.11
Ideas	54.9 (9.2)	26–76	48–54–60	.01/.00	1.4% (4)	12% (35)	39% (111)	33% (96)	15% (42)	.33**
Values	50.1 (8.2)	24–78	46–51–56	.03/.78*	2% (6)	22% (63)	47% (136)	26% (74)	3% (9)	.13*
Agreeableness	50.5 (7.9)	29–77	45–50–56	.34*/.25	1% (3)	22% (62)	52% (149)	22% (64)	3% (10)	.41**
Trust	51.6 (8.5)	30–75	47–52–56	.11/.07	1% (3)	17% (49)	47% (136)	29% (83)	6% (17)	.43**
Straight-forwardness	53.0 (8.1)	29–75	47–52–59	.14/.60*	1.7% (5)	7% (21)	55% (159)	30% (86)	6% (17)	.45**
Altruism	57.5 (8.5)	37–74	51–57–64	.09/−.80*	0	5% (15)	40% (116)	37% (106)	18% (51)	.47**
Compliance	52.4 (8.9)	25–80	48–53–58	.02/.17	1% (3)	17% (50)	49% (140)	28% (81)	5% (14)	.36**
Modesty	48.4 (8.5)	29–74	43–48–55	.03/−.28	7% (19)	23% (66)	53% (154)	16% (45)	1.4% (4)	.05
Tender-mindedness	52.1 (8.9)	31–83	46–51–57	.47*/.88*	2% (7)	16% (45)	50% (145)	24% (69)	8% (22)	.22**
Conscientiousness	57.3 (8.3)	37–81	51–57–63	.27/−.28	0	4% (13)	39% (111)	41% (119)	16% (45)	.52**
Competence	59.5 (8.7)	38–78	52–58–67	.23/−.56	0	3% (9)	37% (107)	33% (96)	26% (76)	.52**
Order	51.8 (7.5)	24–79	48–52–57	.02/.84*	1.4% (4)	13% (36)	58% (166)	25% (72)	3% (10)	.28**
Dutifulness	55.5 (8.3)	37–73	49–55–62	−.04/−.58*	0	12% (35)	39% (112)	36% (105)	13% (36)	.57**
Achievement striving	60.5 (7.9)	40–79	54–61–66	−.05/−.69*	0	2% (7)	26% (75)	41% (118)	31% (88)	.43**
Self-discipline	59.3 (7.1)	43–74	55–57–64	.44*/−.44	0	.7% (2)	40% (116)	39% (111)	20% (59)	.60**
Deliberation	60.2 (9.3)	32–85	54–61–66	−.12/.00	.3% (1)	4% (11)	24% (70)	40% (114)	32% (92)	.56**
PPM	27.2 (3.9)	17–40	25–27–30	.40*/.49					—	—

Note. Q1–Q2–Q3 refer to the 25th, 50th, and 75th percentiles. Significance of skewness/kurtosis was evaluated by constructing a 95% confidence interval (CI) using the standard error (*SE*) of skewness (*SE* = .144; 95% CI = −.282–.282) or kurtosis (*SE* = .286; 95% CI = −.560–.560); values outside the interval range represented significant skewness or kurtosis.
* $p < .05$. ** $p < .001$.

score correlations with PPM. The profile of responding was notable for low Neuroticism, where 87% ($n = 250$) of applicants responded in the very low or low range. Facet scores for Impulsiveness and Vulnerability were particularly low. In addition, Neuroticism domain and facet scores were strongly and consistently correlated with PPM (range of $r = -.48$ to $-.60$). Applicants also described high levels of Extraversion (particularly Gregariousness, Assertiveness, and Excitement-Seeking facets), with 49% ($n = 142$) responding in the high or very high range. Moderate correlations with PPM (range of $r = .21$ to .48) were obtained for the Extraversion domain and several facet scores. Openness and Agreeableness scores were generally within the Average range (with the exception of the Openness facet Fantasy and the Agreeableness facet Altruism). Openness scores were generally not associated with PPM; Agreeableness scores tended to be moderately correlated with PPM (range of $r = .22$ to .47). Conscientiousness scores were also high (particularly Competence, Achievement Striving, Self-Discipline, and Deliberation facets), with 57% ($n = 164$) responding in the high or very high range. Conscientiousness scores were also strongly and consistently correlated with PPM (range of $r = .43$ to .60), with the exception of the Order facet ($r = .28$).

Discussion

When completed as part of a preemployment psychological evaluation, the NEO PI–R profile of the successful police officer applicant is notable for very low levels of Neuroticism and high levels of Extraversion and Conscientiousness (with average levels of Openness and Agreeableness). To characterize this profile, successful applicants described themselves as very emotionally stable, particularly nonimpulsive and steady under stress; people-oriented, outgoing, socially dominant, and excitement craving; and capable, ambitious, disciplined, and cautious. It is striking the extent to which this profile reflects that obtained from field training officers when using the NEO PI–R to describe the "best"

entry-level police officers they have supervised (Detrick & Chibnall, 2006). It also has marked similarities to profiles obtained in previous research with police officer applicants completing the NEO PI–R in the high-demand context of the preemployment psychological evaluation (Detrick et al., 2010). In addition, this profile, generated by the NEO PI–R with its derivation in the FFM, dovetails nicely with the psychological screening dimensions developed by the California Commission on Peace Officer Standards and Training (2006), also based on the FFM. These screening dimensions serve as an important reference for psychologists involved in the selection of police officers, specifying psychological constructs found relevant to the performance of essential job functions by entry-level officers.

The strong correlations between Neuroticism, Conscientiousness, and to a lesser extent Agreeableness domain scores and the PPM research validity scale suggests where police officer applicant profiles are most likely to be affected by positive response distortion in the form of impression management. This pattern is generally consistent with findings from a recent study (Detrick et al., 2010), in which under the high-demand conditions of personnel selection police officer applicants generated lower NEO PI–R domain scores on Neuroticism and higher scores on Conscientiousness and Agreeableness compared to scores from these same applicants under low-demand conditions (after completion of the academy and when given assurance that scores were to be used for research purposes only and not shared with the department). PPM was found to explain a significant amount of demand-induced variability in Neuroticism for police officer applicants, such that PPM scores under high demand predicted change in Neuroticism (toward more normative levels of reporting) between scores obtained under high demand (preemployment psychological evaluation) and those obtained at retest under low demand. However, PPM did not predict demand-induced variability in any other NEO PI–R domains, including Conscientiousness and Agreeableness. The construct validity of validity scales designed as measures of respondent faking on personality inventories warrants greater study (Griffith & Peterson, 2008). For example, although Reid-Seiser and Fritzsche (2001) found that PPM was able to detect response distortion on the NEO PI–R, they nevertheless concluded that "PPM may be a personality-related tendency to view oneself positively rather than an overt impression management tactic, and it may not be helpful in adjusting applicants' personality scores for 'faking'" (p. 639). The data presented here cannot contribute to this debate. The normative data and PPM correlations presented in this study may serve, however, as useful benchmarks for future validity research regarding associations between NEO PI–R scores and job performance indicators for police officers, including contextual and task performance, as well as a basis for further study of the construct validity of the PPM. It remains important to note, however, that range restriction of both screening measures (e.g., NEO PI–R) and outcome measures (e.g., field training performance ratings), resulting from the noninclusion of failed applicants in the predictive validity pool, continues to be a primary concern regarding the utility of preemployment measures with respect to future job performance.

With respect to limitations, the data presented here are representative of a large Midwestern police department. Despite the sample size of nearly 300 cases, the generalizability of these data across other police departments and geographic regions must be considered. In addition, these data were obtained as part of the preemployment psychological evaluation (a high-demand condition) and represent only successful applicants; as a result, they may not generalize to other conditions and other types of police officers (e.g., those with actual policing experience). Despite these limitations, the data presented here are the first normative data for the NEO PI–R in a police officer selection context. They may prove useful as a comparison or reference point for professionals involved in police officer selection who use or are considering using the NEO PI–R. Future research may also benefit from a benchmark dataset for interpreting NEO PI–R profiles, particularly in relation to validity studies of performance prediction. Such predictive validity studies investigating the association of NEO PI–R individual and compound traits with aspects of police officer job performance are needed as are construct validity studies on widely used validity scales designed to detect response distortion under the high-demand conditions of personnel selection.

References

Aamodt, M. G. (2004). *Research in law enforcement selection*. Boca Raton, FL: Brown Walker.

Ballenger, J. F., Caldwell-Andrews, A., & Baer, R. A. (2001). Effects of positive impression management on the NEO Personality Inventory—Revised in a clinical population. *Psychological Assessment, 13,* 254–260. doi:10.1037/1040-3590.13.2.254

Barrick, M. R., & Mount, M. K. (1991). The big five personality dimensions and job performance: A meta-analysis. *Personnel Psychology, 44,* 1–26. doi:10.1111/j.1744-6570.1991.tb00688.x

Barrick, M. R., & Mount, M. K. (2005). Yes, personality matters: Moving on to more important matters. *Human Performance, 18,* 359–372. doi:10.1207/s15327043hup1804_3

Ben-Porath, Y. S., & Waller, G. (1992). "Normal" personality inventories in clinical assessment: General requirements and the potential for using the NEO Personality Inventory. *Psychological Assessment, 4,* 23–25. doi:10.1037/1040-3590.4.1.23

Bishop, G. D., Tong, E. M. W., Diong, W. M., Enkelmann, H. C., Why, Y. P., Khader, M., & Ang, J. C. H. (2001). The relationship between coping and personality among police officers in Singapore. *Journal of Research in Personality, 35,* 353–374. doi:10.1006/jrpe.2001.2319

Black, J. (2000). Personality testing and police selection: Utility of the "Big Five." *New Zealand Journal of Psychology, 29,* 2–9.

Bonsignore v. City of New York, 521 F. Supp. 394 (1981).

Borman, W. C., & Motowidlo, S. J. (1993). Expanding the criterion domain to include elements of contextual performance. In N. Schmitt & W. C. Borman (Eds.), *Personnel selection* (pp. 71–98). San Francisco, CA: Jossey-Bass.

Butcher, J. N., Graham, J. R., Ben-Porath, Y. S., Tellegen, A., Dahlstrom, W. G., & Kaemmer, B. (2001). *Minnesota Multiphasic Personality Inventory-2: Manual for administration, scoring, and interpretation* (rev. ed.). Minneapolis: University of Minnesota Press.

Caldwell-Andrews, A., Baer, R. A., & Berry, D. T. T. (2000). Effects of response set on NEO PI–R scores and their relations to external criteria. *Journal of Personality Assessment, 74,* 472–488. doi:10.1207/S15327752JPA7403_10

California Commission on Peace Officer Standards and Training. (2006). *Patrol officer psychological screening dimensions*. Retrieved from http://lib.post.ca.gov/Publications/psychological-traits.pdf

California Commission on Peace Officer Standards and Training. (2009). *Selection requirements faqs-regulation 9055*. Retrieved from http://www.post.ca.gov/selection-standards.aspx

Chiaburu, D. S., Oh, I-S., Berry, C. M., Li, N., & Gardner, R. G. (2011). The five-factor model of personality traits and organizational citizenship

behavior: A meta-analysis. *Journal of Applied Psychology, 96,* 1140–1166. doi:10.1037/a0024004

Chibnall, J. T., & Detrick, P. (2003). The NEO PI–R, Inwald Personality Inventory, and MMPI-2 in the prediction of police of police academy performance: A case for incremental validity. *American Journal of Criminal Justice, 27,* 233–248. doi:10.1007/BF02885696

Cochrane, R. E., Tett, R. P., & Vandecreek, L. (2003). Psychological testing and the selection of police officers. *Criminal Justice and Behavior, 30,* 511–537. doi:10.1177/0093854803257241

Costa, P. T., Jr., & McRae, R. R. (1992). *NEO PI–R professional manual*. Odessa, FL: Psychological Assessment Resources.

Detrick, P., & Chibnall, J. T. (2006). NEO PI–R personality characteristics of high performing entry-level police officers. *Psychological Services, 3,* 274–285. doi:10.1037/1541-1559.3.4.274

Detrick, P., Chibnall, J. T., & Call, C. (2010). Demand effects on positive response distortion by police officer applicants on the Revised NEO Personality Inventory. *Journal of Personality Assessment, 92,* 410–415. doi:10.1080/00223891.2010.497401

Detrick, P., Chibnall, J. T., & Luebbert, M. C. (2004). The Revised NEO Personality Inventory as predictor of police academy performance. *Criminal Justice and Behavior, 31,* 676–694. doi:10.1177/0093854804268751

Griffith, R. L., & Peterson, M. H. (2008). The failure of social desirability measures to capture applicant faking behavior. *Industrial and Organizational Psychology: Perspectives on Science and Practice, 1,* 308–311. doi:10.1111/j.1754-9434.2008.00053.x

Hilson Research. (2006). *Inwald Personality Inventory technical manual*. Kew Gardens, NY: Author.

Hough, L. M., & Ones, D. S. (2002). The structure, measurement, validity, and use of personality variables in industrial, work, and organizational psychology. In N. Anderson, D. S. Ones, H. K. Sinangil, & C. Viswesvaran (Eds.), *Handbook of industrial, work & organizational psychology* (vol. 1, 2nd ed.; pp. 233–277). London, UK: Sage.

Hurtz, G. M., & Donovan, J. J. (2000). Personality and job performance: The big five revisited. *Journal of Applied Psychology, 85,* 869–879. doi:10.1037/0021-9010.85.6.869

International Association of Chiefs of Police, Police Psychological Services Section. (2009). *Pre-employment psychological evaluation guidelines*. Retrieved from http://theiacp.org/psych_services_section/pdfs/Psych-PreemploymentPsychEval.pdf

Morasco, B. J., Gfeller, J. D., & Elder, K. A. (2007). The utility of the NEO PI–R validity scales to detect response distortion: A comparison with the MMPI-2. *Journal of Personality Assessment, 88,* 276–283. doi:10.1080/00223890701293924

Morey, L. C., Quigley, B. D., Sanislow, C. A., Skodol, A. E., McGlashan, T. H., Shea, M. T., Stout, R. L., Zanarini, M. C., & Gunderson, J. G. (2002). Substance or style? An investigation of the NEO PI–R validity scales. *Journal of Personality Assessment, 79,* 583–599. doi:10.1207/S15327752JPA7903_11

Motowidlo, S. J., & Van Scotter, J. R. (1994). Evidence that task performance should be distinguished from contextual performance. *Journal of Applied Psychology, 79,* 475–480. doi:10.1037/0021-9010.79.4.475

Mount, M. K., & Barrick, M. R. (1995). The Big Five personality dimensions: Implications for research and practice in human resource management. *Research in Personnel and Human Resource Management, 13,* 153–200.

Mount, M. K., Barrick, M. R., & Stewart, G. L. (1998). Five-factor model of personality and performance in jobs involving interpersonal interactions. *Human Performance, 11,* 145–165.

Ones, D. S., Viswesvaran, C., & Dilchert, S. (2004). *A construct-based, comprehensive meta-analysis and implications for pre-offer screening and psychological evaluations*. Paper presented at the annual meeting of the International Association of Chiefs of Police, Los Angeles, CA.

Organ, D. W. (1997). Organizational citizenship behavior: It's construct cleanup time. *Human Performance, 10,* 85–97. doi:10.1207/s15327043hup1002_2

Raymark, P. H., Schmit, M. J., & Guion, R. M. (1997). Identifying potentially useful personality constructs for employee selection. *Personnel Psychology, 50,* 723–736. doi:10.1111/j.1744-6570.1997.tb00712.x

Reid-Seiser, H. L., & Fritzsche, B. A. (2001). The usefulness of the NEO PI–R positive presentation management scale for detecting response distortion in employment contexts. *Personality and Individual Differences, 31,* 639–650. doi:10.1016/S0191-8869(00)00168-9

Salgado, J. F. (1997). The five-factor model of personality and job performance in the European community. *Journal of Applied Psychology, 82,* 30–43. doi:10.1037/0021-9010.82.1.30

Schinka, J. A., Kinder, B. N., & Kremer, T. (1997). Research validity scales for the NEO PI–R: Development and initial validation. *Journal of Personality Assessment, 68,* 127–138. doi:10.1207/s15327752jpa6801_10

Sellbom, M., & Bagby, R. M. (2008). The validity and utility of the positive presentation and negative presentation management scales for the Revised NEO Personality Inventory. *Assessment, 15,* 165–176. doi:10.1177/1073191107310301

Society for Industrial & Organizational Psychology. (2003). *Principles for the validation and use of personnel selection procedures* (4th ed.). Retrieved from http://www.siop.org/_Principles/principles.pdf

Spilberg, S. W., Ones, D., Corey, D., Cuttler, M., Sax-Clifford, S., Trompetter, P., & Roberts, M. D. (2004). *California Commission on Post Preemployment Guidelines for Entry-Level Peace Officers*. Paper presented at the International Association of Chiefs of Police, Psychological Services Section, Annual Conference, Los Angeles, CA.

Tett, R. P., Jackson, D. N., & Rothstein, M. (1991). Personality measures as predictors of job performance: A meta-analytic review. *Personnel Psychology, 44,* 703–742. doi:10.1111/j.1744-6570.1991.tb00696.x

Woods v. Town of Danville, W. V., 712 F. Supp. 2d 502 - Dist. Court, SD West Virginia (2010).

Young, M. S., & Schinka, J. A. (2001). Research validity scales for the NEO PI–R: Additional evidence for reliability and validity. *Journal of Personality Assessment, 76,* 412–420. doi:10.1207/S15327752JPA7603_04

Received March 19, 2012
Revision received November 1, 2012
Accepted November 19, 2012 ■