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Predicting Sales Performance Criteria With Personality Measures: The Use of the General Factor of Personality, the Big Five and Narrow Traits

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The present study investigated the predictive validities of different hierarchical levels of personality for sales performance. The General Factor of Personality was expected to be most effective at predicting general sales performance, whereas the Big Five factors and its underlying narrow traits were expected to be most effective at predicting the specific sales performance criteria to which they are conceptually aligned. Six different sales performance measures were used in an international study involving 405 sales employees. The results suggest that General Factor of Personality is a valid predictor of general job performance but that some of the aligned narrow personality traits predict specific sales performance above and beyond the Big Five factors. The narrow trait Social Boldness has a negative relation with rated sales performance and sales results.

The relationship between personality and job performance has always been an important research topic in personnel psychology (Ghiselli, 1973; Guion & Gottier, 1965), yet personality has had a mixed reputation as a predictor of work outcomes. Several researchers have considered personality to be an ineffective predictor of performance (Davis-Blake & Pfeffer, 1989; Guion & Gottier, 1965; Mischel, 1985). Similarly, researchers like Morgeson et al. (2007) and Murphy and Dzieweczynski (2005) have stated that, in a selection context, personality has low predictive validity. Others, however, have confirmed that personality is measurable (e.g., Goldberg, 1993) and that it matters because it can add to the prediction of job performance (Barrick, Mount, & Judge, 2001; Judge & Erez, 2007; Ones, Dilchert, Viswesvaran, & Judge, 2007; Tett & Christiansen, 2007). The main reason for their optimism is the development of a construct-oriented approach, leading to several major personality models that have guided researchers. The best known of these models is the Five-Factor Model or the similar Big Five model, which consists of Openness to Experience, Conscientiousness, Extraversion, Agreeableness, and Emotional Stability (Digman, 1990; Goldberg, 1981; Costa, McCrae, & Dye, 1999). Researchers using this Big Five model have consistently shown that personality predicts job performance, mental health, and job satisfaction in a variety of jobs ranging from skilled and semiskilled workers (e.g., baggage handlers, production employees) to high-level management jobs (Barrick & Mount, 1991; Judge, Bono, Ilies, & Gerhardt, 2002). Nevertheless, even with

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the Big Five model, the reported magnitude of these effects varies from low to modest at most, with observed effect sizes ranging from $r = .11$ (Barrick et al., 2001) to $r = .37$ (Judge et al., 2002).

Despite the mixed support for personality as a predictor of performance, managers in many businesses and organizations habitually pay attention to the personality of their employees. Managers give almost the same weight to individual personality characteristics as to general mental ability or intelligence during their hiring decisions (Mount & Barrick, 1995). Thus, both in research and in practice, it is acknowledged that personality may have relevance for predicting job performance.

In trying to improve the predictive validity of personality, a relevant question is, Which level of personality measure is better, narrow or broad? So far, researchers have not been able to provide a conclusive answer to this question. The discussion about the value of narrow versus broad measures is often referred to as the "bandwidth-fidelity discussion" (Cronbach & Gleser, 1965; Ones & Viswesvaran, 1996) or the "fidelity-bandwidth trade-off" (J. Hogan & Roberts, 1996). Typical examples of narrow personality traits are the facets underlying the Big Five factors (e.g., Ashton, 1998; Hough, 1992; Stewart, 1999). In the bandwidth discussion, the Big Five are often considered broad traits. Nevertheless, some researchers have suggested that the Big Five do not necessarily represent the highest levels of personality and that there may be higher level personality factors (e.g., DeYoung, 2006; Digman, 1997; Musek, 2007; Rushton, Bons, & Hur, 2008). It remains an empirical question whether such higher level factors, beyond the Big Five, provide good predictions of behavior. One specific higher level factor that the present study takes into account is the General Factor of Personality (GFP; Musek, 2007; Rushton et al., 2008; Van der Linden, Te Nijenhuis, & Bakker, 2010). For decades, the Big Five were assumed to be the most basic personality factors, meaning that they are orthogonal and reflect the highest meaningful interpretation of personality. Several researchers (e.g., DeYoung, 2006; Digman, 1997; Musek, 2007), however, noted that the Big Five consistently show intercorrelations, indicating possible higher order factors. Based on these Big Five intercorrelations, Musek (2007) concluded that there is a general factor reflecting a combination of socially desirable personality traits. People scoring high on the GFP have been described as altruistic, emotionally stable, agreeable, conscientious, extraverted, and intellectually open, with high levels of well-being, satisfaction with life, self-esteem, and emotional intelligence (Musek, 2007; Rushton et al., 2008). The GFP has also been defined as a broad array of attributes that facilitate or inhibit personality-related success (Rushton et al., 2008; Rushton & Irwing, 2011; Van der Linden, Figueredo, De Leeuw, Scholte, & Engels, 2012; Van der Linden, Scholte, Cillessen, Te Nijenhuis, & Segers, 2010).

In the view just described, the GFP is considered to be a basic personality dimension occupying the top of the hierarchical factor structure of personality; thus it is the broadest personality trait possible. Indeed, several studies have confirmed that the GFP explains a substantial proportion of the Big Five variance (Musek, 2007; Rushton & Irwing, 2011; Van der Linden, Te Nijenhuis, et al., 2010). We have to note, however, that currently there is an ongoing debate about the GFP. For example, it has been suggested that the GFP may not reflect much more than socially desirable response tendencies (Backström, Björklund, & Larssen, 2009) or methodological artifacts that occur due to the way personality is measured (Ashton, Lee, Goldberg, & De Vries, 2009; R. De Vries, 2011). Further, it has been proposed that the GFP found in different personality

questionnaires may be inconsistent (R. De Vries, 2011; Hopwood, Wright, & Donnellan, 2011), which would make it difficult to give an interpretation of the GFP. Yet several recent studies have shown that the GFP in different personality measures does have a large overlap ($M\ r = .70$), suggesting that the GFP is consistent and may be present, independent of the personality questionnaire used (Loehlin & Martin, 2011a; Rushton et al., 2009; Van der Linden, Te Nijenhuis, Cremers, & van der Ven, 2011; Van der Linden, Tsaousis, & Petrides, 2012). Research has also proposed that the nature of the GFP depends on the method of factor analysis used or on the level of measurement (R. De Vries, 2011). However, GFPs extracted with different methods and from different levels often correlate between $r = .80$ to 1, thus suggesting that the presence of a GFP is independent of method used (e.g., Loehlin & Martin, 2011a, 2011b). All in all, the debate about the nature of the GFP continues, and in order for it to be settled, additional empirical data on the topic are necessary.

Regarding this debate, it has been suggested that a broad measure such as the GFP may be a good and consistent predictor in many domains, including job performance (Van der Linden, Te Nijenhuis, et al., 2010). The current controversy surrounding the GFP as a valid personality construct provides ample reason to include the GFP as a possible predictor of job performance in a field study. By taking into account the GFP as the broadest personality trait possible, we can provide valuable new insight into the bandwidth-fidelity discussion (Cronbach & Gleser, 1965; Ones & Viswesvaran, 1996).

In contrast to researchers who focus on higher order factors, others have suggested that lower order facets, or so-called narrow personality traits, may increase validity regarding job performance (Ashton, 1998; Hough, 1992; Mershon & Gorsuch, 1988; Murtha, Kanfer, & Ackerman, 1996; Stewart, 1999). Ones and Viswesvaran (1996) defined narrow personality traits as concrete traits (Allen & Ebbesen, 1981) with clear "behavioral connotations." For example, the Order subfactor of Conscientiousness can be considered a narrow personality trait because it measures orderliness, which is a rather specific type of behavior. On the other hand, broad personality traits are defined by Ones and Viswesvaran (1996) as more inclusive, general and abstract variables. They consider each of the Big Five Personality factors to be a broad trait. Ones and Viswesvaran further suggest that personality can be described as a hierarchy of levels going from narrow (i.e., facets) to broad (i.e., Big Five). In our study we expand this hierarchy by adding the even broader personality measure of the GFP on top of the Big Five factors. Thus, our study contains three levels of personality measurement, where most, if not all, previous studies of personality bandwidth assessment contained only two (see also Table 1).

Another approach for improving the predictive validity of personality measures is conceptual *alignment,* which reflects a process in which personality constructs are linked with specific performance criteria. Campbell (1990) suggested an alignment strategy in which personality characteristics that underlie specific types of job performance are identified. For example, the narrow personality trait detail orientation, which reflects the tendency to focus on and check details thoroughly (e.g., Stewart, 1999), may underlie performance on administrative tasks in which it is important to be systematic and to work through detailed information thoroughly. J. Hogan and Holland (2003) found the predictive validity of personality to indeed increase when predictors and criterion measures were conceptually aligned. Similarly, Tett, Steele, and Beauregard (2003) found that matching personality traits with specific criteria resulted in better predictions of performance.

TABLE 1
Bandwidth of the Personality Predictors and Sales Performance Criteria

	Bandwidth
Personality trait	
GFP	Broadest bandwidth
Big Five Traits	Broad bandwidth
Specific personality traits	Narrow Bandwidth
Job performance criteria	
General Job Performance	Broad bandwidth
Objective Sales Performance	Broad bandwidth
Specific Sales Performance	Narrow bandwidth

Note. GFP = General Factor of Personality.

OVERVIEW OF THE PRESENT STUDY

In the present study we focus on personality as a predictor of sales success. In line with previous research (Mol, Born, Willemsen, & Van Der Molen, 2005), we investigate whether specific sales performance criteria are best predicted by narrow conceptually related predictors and whether broad performance criteria are best predicted by the broad personality predictors (the Big Five) and the broadest personality predictor, the GFP. An asset of the present study is that we not only focus on the validities of different hierarchical levels of personality but also take into account the alignment between personality and performance. Beyond that, our study extends previous research in this area in three ways.

First, five types of supervisor ratings were collected for *broad* sales performance and *specific* or narrow sales performance (Table 1). This enabled us to use Campbell's (1990) strategy of aligning personality predictors with job performance criteria that have a conceptually related content. Second, we included an objective measure of productivity (Total New Customers) to measure performance, rather than relying purely on supervisor ratings that may be susceptible to bias (Salgado, 1997; Vinchur, Schippmann, Switzer, & Roth, 1998). We consider the objective productivity measure a broad measure because in order to attain new customers an employee must perform a broad range of tasks requiring numerous abilities. Third, we used two different personality measures. One personality measure (Big Five Inventory [BFI]) to assess the broad personality factors (GFP and the Big Five), and another measure (Bridge Personality [BP]; Sitser, 2007) to assess the underlying narrow traits. Paunonen and Ashton (2001) suggested that using the same personality questionnaire to measure broad personality factors and their underlying traits may cloud the unique variance of narrow personality traits, as the higher order factors are a linear combination of the underlying narrow personality traits. Using different personality tests to measure broad factors and narrow traits will prevent this mathematical effect from occurring.

In the present study, three levels of personality predictors, as well as two levels of job performance criteria, are organized from broad to specific (Table 1). By doing so, we add a job-performance dimension to the bandwidth-fidelity discussion (Cronbach & Gleser, 1965; J. Hogan & Roberts, 1996; Ones & Viswesvaran, 1996). In this study we aim to align the broadest personality measure (GFP) with broad performance measures, the five broad personality measures

with broad and narrow performance measures, and narrow personality traits with narrow job performance measures (Paunonen & Ashton, 2001).

HYPOTHESES

The hypotheses are arranged from broad to narrow personality predictors, and alignment is based on hierarchical level (all hypotheses) as well as on the content of the personality and performance measures (H3, H4, and H5). We start with the hypothesis about the GFP and broad performance measures, followed by three hypotheses linking the broad Big Five measures and narrow personality traits to the conceptually related sales performance criteria. The last two hypotheses compare the predictive validity of the different levels of measurement.

Recent research has shown that the predictive validity of a broad personality measure such as the GFP may benefit from predicting broad job performance constructs (Van der Linden, Te Nijenhuis, et al., 2010). In addition, Viswesvaran, Schmidt, and Ones (2005) suggested that a general factor of performance may best be predicted with a broad personality measure. In line with the aforementioned findings, we expect the following:

H1: The GFP will show its highest predictive validity for broad job performance measures and will have a lower predictive validity for specific aspects of performance.

In our study, the first hierarchical level of personality lower than the GFP involves the Big Five. Numerous studies have already examined the predictive validity of the Big Five on job performance, which have resulted in several large meta-analyses (Barrick & Mount, 1991; Hurtz & Donovan, 2000; Salgado, 1997). In our study, the Big Five take an intermediate position, in the sense that they are obviously more specific than the GFP but less specific than the narrow traits. As such, we expect that the individual Big Five dimensions may also show relationships with relatively broad performance measures. These expectations are based on previous studies that have found, for example, that Openness was an effective predictor of achieving a sales target (number of new customers; Furnham & Fudge, 2008). This finding suggests that employees describing themselves as change oriented and as actively seeking new experiences are better equipped to attain new customers. In addition, Conscientiousness is often found to be the most important of the Big Five factors for predicting performance across many job performance criteria and occupational groups (Barrick & Mount, 1991; Salgado, 1997). We therefore hypothesize the following:

H2: Of the Big Five factors:
a: Conscientiousness is the best predictor of General Job Performance.
b: Openness is the best predictor of Total New Customers.

In previous studies, the predictive validity of the Big Five was found to be dependent on the conceptual overlap with the outcome behavior. For instance, Openness, which is a propensity to search for new experiences, was found to predict turnover (Timmerman, 2006). This fits with the idea that high Openness causes a propensity to search for new experiences, which thereby increases the chance an employee will desire a new job. Another study found Conscientiousness, which reflects being organized and working hard, to predict academic performance (A. De Vries, De Vries, & Born, 2010; Lievens, Coetsier, De Fruyt, & De Maeseneer, 2002). As for sales

performance, Salgado (1997) and Hurtz and Donovan (2000) showed that of the Big Five factors, Conscientiousness has the highest predictive validity. Both Barrick and Mount (1991) and Hurtz and Donovan (2000) showed that Extraversion was a predictor for sales performance. In addition, Vinchur et al. (1998) found that Extraversion and Conscientiousness were the best predictors for both *objective* (sales figures) and s*ubjective* (ratings) measures of sales success. This suggests that sales employees who are talkative, energetic, assertive (Extraversion) and organized, and thorough and who plan their behavior (Conscientiousness) are more effective at achieving sales success. Agreeableness and Emotional Stability showed only minor relations or no relation at all to sales performance. However, unlike the present study, these previous studies did not predict specific aspects of sales performance.

The examples previously described illustrate Campbell's (1990) alignment strategy, which links personality to conceptually related job performance criteria. In accordance with this strategy, we used Subject Matter Experts (SMEs) to determine which of the Big Five factors could be aligned with the more specific aspects of sales performance (see Table 2 and the Method section for details).

Based on the SMEs ratings we could formulate the following hypothesis:

H3: Of the Big Five factors:
- a: Conscientiousness is the best predictor of Achieving Sales Results.
- b: Conscientiousness is the best predictor of Administration.
- c: Agreeableness is the best predictor of Customer Relationship Management.
- d: Emotional Stability is the best predictor of Handling Customer Objections.

The SMEs also aligned the narrow personality traits to the specific sales performance criterion to which they have the most conceptual alignment (Table 2), leading to the following hypothesis:

H4: Of the narrow personality traits:
- a: Achievement Motivation is the best predictor of Achieving Sales Results.
- b: Detail Orientation is the best predictor of Administration.
- c: Consideration is the best predictor of Customer Relationship Management.
- d: Consideration is the best predictor of Handling Customer Objections.

TABLE 2
Alignment of the Broad and Narrow Personality Traits With the Specific Sales Performance Criteria by the Subject Matter Experts

	Criterion		*Predictor*	
Hypothesis	*Job Performance*	*Bandwidth*	*Personality Trait*	*Bandwidth*
5a	Achieving Sales Results	Narrow	Conscientiousness	Broad
5b	Administration	Narrow	Conscientiousness	Broad
5c	Customer Relationship Management	Narrow	Agreeableness	Broad
5d	Handling Customer Objections	Narrow	Emotional Stability	Broad
6a	Achieving Sales Results	Narrow	Proactivity	Narrow
6b	Administration	Narrow	Detail Orientation	Narrow
6c	Customer Relationship Management	Narrow	Consideration	Narrow
6d	Handling Customer Objections	Narrow	Consideration	Narrow

The previous hypotheses mainly refer to the predictive validity *within* each personality level. However, a different approach is to compare the different levels of measurement regarding their predictive validity. From our reasoning just presented, it follows that, compared to narrow traits, we expect broad personality traits to be better predictors of broad performance measures and narrow personality traits to be better predictors of specific job performance criteria. Therefore, we can also formulate the following hypotheses:

H5a: The conceptually aligned broad personality traits show higher predictive validity for broad job performance criteria than for the specific job performance criteria.

H5b: The conceptually aligned narrow personality traits show higher predictive validity for specific job performance criteria than for the broad job performance criteria.

METHOD

Participants and Procedure

A total of 434 employees (61% male, 39% female, $M_{age} = 37.2$, $SD = 1.56$) of a large multinational insurance company were asked to participate. The employees were based in offices around the world. For privacy reasons, the participating company chose not to provide the office locations. The response rate was high (92%, $N = 403$), which was mostly due to obligatory participation for the respondents as part of a company-wide development program. Participants were rewarded with an automatically generated personality report. All participants were responsible for selling financial services to wealthy individuals, families, and big businesses. Participants filled out an online survey consisting of two personality questionnaires, The BFI (John & Srivastava, 1999), and the BP (Sitser, 2007). As the corporate language of the participants' firm is English, the participants and managers completed all questionnaires in English. Completing the survey took approximately 1 hr.

The managers of the sales employees filled out an online survey measuring the different sales performance criteria. Managers were also asked to provide information on the objective sales result (Total New Customers in 2009). The managers spent about 10 min completing a survey for each sales employee. The average manager provided ratings on 12 employees ($SD = 2.6$). The data were gathered over 3 months in 2010.

Measures: Independent Variables

Personality

To assess the participants' personality, two personality questionnaires were used. One questionnaire measured the Big Five factors (BFI; John & Srivastava, 1999) at the factor level only and the other questionnaire measured the Big Five factors based on 13 underlying narrow personality traits (BP; Sitser, 2007).

BFI

The BFI (John & Srivastava, 1999) is a 44-item inventory designed to give a quick (10 min), reliable, and valid overview of the candidates' scores on the Big Five factors. Each factor is measured with 10 to 12 items, answered on a 5-point Likert scale from 1 (*strongly disagree*) to 5 (*strongly agree*). Reliabilities of the five factors ranged from $\alpha = .72$ (Agreeableness) to $\alpha = .83$ (Emotional Stability; see Table 3).

Bridge Personality

Because the BFI does not measure narrow personality traits, we used a second personality questionnaire: The BP (Sitser, 2007) questionnaire contains 246 items in a 9-point Likert scales format, from 1 (*very strongly disagree*) to 9 (*very strongly agree*), that make up 34 scales measuring the Big Five as well as additional occupational personality aspects. In the present study we used only the personality scales that underlie the Big Five factors. In the BP, the Big Five are measured with 13 scales. To confirm the construct validity of the BP in the present sample, the 13 traits were factor analyzed (principal component analysis) to verify the underlying Big Five factor structure (see Table 3).

Each personality factor contains two to three narrow traits. The BP has convergent validity with the Big Five as measured with the BFI. The results in Table 4 indicate adequate convergent relations for the BP Big Five scales with the corresponding personality scales from the BFI.

The alpha reliabilities were adequate, ranging from $\alpha = .82$ for Agreeableness to $\alpha = .91$ for Extraversion and Openness (Table 5).

TABLE 3
Factor Loading of the 13 Bridge Personality Traits on the Big Five Factors

Narrow Personality Trait	*O*	*C*	*E*	*A*	*ES*
1. Creativity	**.63**	.08	.55	.09	.09
2. Entrepreneurial Focus	**.68**	.18	.54	−.07	.09
3. Proactivity	**.81**	.16	.11	.22	.19
4. Achievement Motivation	.38	**.60**	.24	.12	.26
5. Detail Orientation	.21	**.69**	−.08	.25	.27
6. Planfulness	.11	**.86**	.28	.05	.03
7. Focus on Networking	.22	.12	**.81**	.22	.17
8. Social Boldness	.19	.11	**.79**	.15	.26
9. Social Focus	.21	.13	**.58**	.56	−.05
10. Consideration	−.09	.07	.25	**.81**	.22
11. Helpfulness	.29	.17	.04	**.80**	.11
12. Stress Resistance	.41	.25	.17	.11	**.75**
13. Positivity	.05	.15	.40	.44	**.66**

Note. O = Openness to Experience, C = Conscientiousness, E = Extraversion, A = Agreeableness, ES = Emotional Stability.

TABLE 4
Intercorrelations of the Five Big Five Inventory (BFI) Factors and the Big Five as Measured With the Bridge Personality (BP) Questionnaire

	BFI				
BP	*O (BFI)*	*C (BFI)*	*E (BFI)*	*A (BFI)*	*N (BFI)*
Openness	**.62****	.30**	.42**	.03	−.29**
Conscientiousness	.26**	**.54****	.12	.13*	−.25**
Extraversion	.38**	.23**	**.62****	.23**	−.32**
Agreeableness	.19**	.27**	.20**	**.50****	−.30**
Emotional Stability	.35**	.43**	.40**	.31**	**−.62****

Note. O = Openness to Experience, C = Conscientiousness, E = Extraversion, A = Agreeableness, N = 405.
*Correlation is significant at the .05 level (one-tailed). **Correlation is significant at the .01 level (one-tailed).

GFP

The viability of the GFP in this sample was examined by extracting the first unrotated factor of the BFI (see also Van der Linden, Te Nijenhuis, et al., 2010; Van der Linden, Te Nijenhuis et al., 2011). We report the values of the Principal Factoring extraction method but also tested other extraction methods (maximum likelihood and principal component analysis). However, this did not lead to different conclusions. The factor analyses showed that the first factor explained 48.4% of the Big Five variance. The eigenvalue was 2.24. The level of explained variance and eigenvalue of the first factor were more than twice as large as those of the second factor (21.2% and 1.1%, respectively). It is important to note that all Big Five factors loaded highly on the GFP, with loadings of .57, .74, .65, .67, and .83 for O, C, E, A, and ES respectively. Thus, a reliable GFP could be identified in the current sample. Although in the present study we used the GFP that is calculated from the BFI, for validation purposes we also calculated a GFP from the 13 narrow BP traits, as well as from the BP Big Five factors. The correlation between the different GFPs was .60 ($p < .01$), indicating that these constructs are consistent and highly alike. The GFP score of the participants was obtained based on the product of the Big Five factor scores and their GFP factor loadings.

Measures: Dependent Variables

Research literature suggests that job performance can be described as a hierarchy of multiple dimensions (Campbell, Gasser, & Oswald, 1996). Ones, Viswesvaran, and Schmidt (2005) suggested that on the top of this hierarchy, a general factor of Job Performance exists. In our study we use a performance measure from two different hierarchical levels. That is, we have four specific performance measures that involve a relatively limited set of behaviors, for example, administrative tasks (*Specific Sales Performance*), and two broad performance measures that involve a broader range of tasks. The broad job performance measures are *General Job Performance* (similar to the one used in Ones et al., 2005) and a broad objective measure of job performance.

TABLE 5
Means, Standard Deviations, and Observed Correlations of the Predictors and the Job Performance Criteria

						Dependent and Independent Variables										
	M	*SD*	*Min–Max*	*No. of Items*	*1.*	*2.*	*3.*	*4.*	*5.*	*6.*	*7.*	*8.*	*9.*	*10.*	*11.*
1. Age	4.31	1.56	—	—	—										
2. Gender	0.46	0.50	—	—	.08	—									
3. GFP (BFI)	0.00	0.87	—	—	.28**	.11	—								
4. Openness (BFI)	3.61	0.51	2.20–4.90	10	.11	.20**	.54**	.73							
5. Conscientiousness (BFI)	37.56	4.79	2.44–5.00	9	.31**	−.04	.68**	.27**	.79						
6. Extraversion (BFI)	3.58	0.62	2.00–5.00	8	.10	.08	.65**	.44**	.25**	.74					
7. Agreeableness (BFI)	4.07	0.51	2.67–5.00	9	.20**	−.08	.60**	.11	.46**	.20**	.72				
8. Emotional Stability (BFI)	2.33	0.73	1.00–4.38	8	.26**	.13*	.90**	.31**	.51**	.44**	.50**	.83			
9. Consideration	51.63	5.93	6.97–7.69	7	−.05	−.07	.34**	.13*	.17**	.19**	.45**	.29**	.74		
10. Helpfulness	49.80	5.80	6.22–7.53	7	.19**	.03	.35**	.21**	.30**	.17**	.43**	.25**	.54**	.74	
11. Creativity	43.50	8.63	5.93–6.56	7	.06	.11	.32**	.57**	.15*	.33**	−.01	.19**	.25**	.29**	.88
12. Detail Orientation	45.97	7.48	5.16–7.13	7	.09	−.03	.24**	.13*	.44**	.01	.11	.18**	.25**	.32**	.22**
13. Focus on Networking	44.97	8.38	5.64–7.59	7	.04	.02	.44**	.37**	.22**	.53**	.23**	.29**	.38**	.34**	.57**
14. Stress Resistance	46.54	8.09	6.65–7.00	7	.21**	.13*	.56**	.33**	.43**	.30**	.22**	.56**	.27**	.37**	.45**
15. Entrepreneurial Focus	43.36	8.10	5.59–7.24	7	.20	.19**	.39**	.55**	.24**	.38**	−.04	.25**	.09	.24**	.71**
16. Planfulness	47.14	6.90	6.01–7.50	7	.08	−.16**	.22**	.13*	.40**	.05	.08	.14*	.20**	.27**	.33**
17. Positivity	49.75	6.50	6.53–7.67	7	.12	−.20	.56**	.28**	.32**	.43**	.33**	.52**	.54**	.47**	.37**
18. Achievement Motivation	49.11	5.65	6.22–7.47	7	.12*	.01	.42**	.40**	.44**	.26**	.13*	.29**	.20**	.36**	.49**
19. Social Focus	46.80	7.44	6.13–7.03	7	.06	.02	.37**	.25**	.17**	.51**	.24**	.21**	.47**	.44**	.43**
20. Social Boldness	45.06	7.81	5.91–6.96	7	.04	.02	.46**	.37**	.20**	.58**	.14*	.33**	.34**	.31**	.57**
21. Proactivity	47.89	7.83	6.60–7.16	7	.20**	.14*	.46**	.46**	.39**	.36**	.14*	.30**	.21**	.35**	.54**
22. Rating: General Job Performance	35.36	4.68	3.00–5.00	9	.18**	.02	**.20****	**.10**	**.22****	**.13***	**.14***	**.13***	**.01**	**.13***	**.09**
23. Rating: Achieving Sales Results	3.71	0.58	3.53–3.96	7	.20**	.07	**.14***	**.12**	**.14***	**.12**	**.01**	**.10**	**−.12**	**.03**	**.09**
24. Rating: Customer Relationship Management	3.88	0.55	3.63–4.13	5	−.01	−.03	**.11**	**.00**	**.02**	**.05**	**.18****	**.13***	**.10**	**.11**	**−.00**
25. Rating: Administration	4.11	0.56	3.88–4.28	3	.20**	−.05	**.17****	**.08**	**.25****	**.05**	**.17****	**.11**	**−.01**	**.12**	**.03**
26. Rating: Handling Client Objections	3.75	0.71	3.71–3.79	2	.01	.05	**.04**	**−.05**	**−.01**	**−.10**	**.15***	**.20**	**.10**	**−.01**	**−.05**
27. Objective Sales Result (Total New Clients 2009)	1.40	0.75	—	—	.05	.15**	**.20****	**.28****	**.12**	**.19****	**−.02**	**.16***	**.02**	**−.01**	**.23****

(*Continued*)

TABLE 5
(Continued)

12.	*13.*	*14.*	*15.*	*16.*	*17.*	*18.*	*19.*	*20.*	*21.*	*22.*	*23.*	*24.*	*25.*	*26.*	*27.*
.83															
.24**	.85														
.42**	.40**	.85													
.26**	.61**	.47**	.81												
.41**	.31**	.38**	.37**	.77											
.33**	.52**	.55**	.34**	.31**	.76										
.43**	.44**	.52**	.57**	.48**	.46**	.69									
.25**	.59**	.31**	.40**	.27**	.49**	.38**	.82								
.21**	.71**	.44**	.53**	.33**	.50**	.41**	.54**	.75							
.36**	.38**	.52**	.55**	.32**	.35**	.55**	.39**	.40**	.82						
.16*	**.02**	**.18****	**.09**	**.09**	**.06**	**.16****	**.09**	**−.02**	**.25****	.86					
.20	**.01**	**.17****	**.15***	**.08**	**−.01**	**.16****	**.01**	**−.03**	**.25****	.78**	.87				
.03	**.02**	**.09**	**−.00**	**−.00**	**.10**	**−.01**	**.06**	**−.09**	**−.02**	.56**	.45**	.75			
.27**	**−.11**	**.17****	**.01**	**.12***	**.05**	**.15***	**.03**	**−.09**	**.21****	.76**	.58**	.39**	.75		
.03	**−.03**	**.01**	**−.02**	**.00**	**.01**	**−.04**	**−.04**	**−.16***	**−.04**	.41**	.30**	.49**	.31**	.76	
.02	**.15***	**.14****	**.26****	**.00**	**−.02**	**.12**	**.09**	**.04**	**.17****	.21**	.22**	.09	.17**	.13*	—

Note. Reliabilities are reported in the diagonal. GFP = General Factor of Personality; BFI = Big Five Inventory.
*Correlation is significant at the .05 level (one-tailed). **Correlation is significant at the .01 level (one-tailed).

General Job Performance

Supervisor-rated performance was measured with nine items in a 5-point Likert scale ranging from *strongly disagree* to *strongly agree* (Ones et al., 2005). These items measure interpersonal competence, administrative competence, quality, productivity, effort, job knowledge, leadership, communication competence, and compliance/acceptance of authority and can be recalculated into a single score of general job performance. Ones et al. (2005) referred to this scale as a "general factor of Job Performance." The internal consistency of this scale in the present study is $\alpha = .86$ (see Table 3).

Specific Sales Performance

Supervisor-rated specific sales performance was measured with the sales job criteria as defined by the O*NET (O*NET, 2007) code 41-, Sales and Related. O*NET provides a broad, widely used system for defining jobs. As the sales scope of the participants' job is broad and there is no specific O*NET code available for selling trust services and corporate financial planning services, the broader (41-, sales-related) code was chosen. The specific O*NET criteria were transferred into a 12-item questionnaire, rated using a 5-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). which measures integrity, dependability, initiative, stress tolerance, persistence, attention to detail, self-control, cooperation, analytical thinking, independence, achievement/effort, concern for others, adaptability/flexibility, innovation, social orientation, and leadership. A principal components analysis was performed on the scores of the items of the O*NET questionnaire with as criterion for factor extraction eigenvalue > 1, and varimax rotation. This analysis revealed four factors that accounted for 65% of the variance. The first factor subsumed the questions about initiative, persistence, independence, achievement/effort, and leadership. All these questions related to the vigor in striving to achieve results; therefore we labeled this factor *Achieving Sales Results*. The second factor consists mainly of cooperation, concern for others, and social orientation, which relate to the interpersonal aspects of sales. We labeled this factor *Customer Relationship Management.* The third factor comprised integrity and dependability, which relate to the operational aspects of sales; we labeled this factor *Administration.* The fourth factor subsumed stress tolerance and self-control dealing with challenges and resistance from customers during sales situations. We labeled this factor *Handling Customer Objections*. Internal consistencies in this sample ranged from $\alpha = .87$ (Achieving Sales Results) to $\alpha = .75$ (Customer Relationship Management).

Determining Conceptual Predictor-Criterion Alignment

Ten SMEs were asked to align both a Big Five trait and a narrow personality trait to a narrow sales performance criterion. The SMEs ($N = 10$) had received either their doctorate ($n = 5$) or Master of Science degree ($n = 5$), and all were industrial–organizational psychologists experienced in personality questionnaire validation research. The SMEs were given definitions for the sales performance criteria and the personality constructs and were asked to choose only one personality construct for a sales performance criterion (Campbell, 1990). Table 2 shows the outcome of this

alignment strategy; criterion classification was based on the absolute level of rater agreement (i.e., 70%).

Objective Sales Performance

From the supervisors we obtained data regarding the number of Total New Customers that the sales employees attained in 2009. We considered this to be a broad performance measure because in order to attain new customers an employee must perform a broad range of tasks that require numerous abilities.

Statistical Analyses

We used four different methods to test the hypotheses: correlations, standard regression, hierarchical regression analyses, and relative weight analysis (Johnson, 2000). Regression analyses were conducted for each of the personality levels separately to examine which of the levels leads to the highest amount of explained variance in predicting the different performance criteria. Hierarchical regression was used to determine the incremental validity of the 13 Bridge Personality traits above and beyond the Big Five factors of the BFI for each of the six performance criteria. To study the relative contribution of the personality variables within each hierarchical level (i.e., Big Five, narrow traits) we performed relative weight analyses. Unlike hierarchical regression analysis, relative weight analysis determines the relative importance of each predictor to the criterion by considering the unique contribution of each predictor plus the contribution of each predictor in combination with the other predictors (Johnson, 2000; LeBreton & Tonidandel, 2008).

RESULTS

Observed correlations and descriptive statistics for the background variables, the personality predictors, and the job performance criteria are reported in Table 5.

H1 stated that the broad measure of the GFP will show its highest predictive validity for broad job performance measures and lower predictive validities for specific aspects of performance. Table 5 shows that the GFP had significant and positive correlations with the two broad performance measures, General Job Performance ($r = .20$, $p < .01$) and Total New Customers ($r = .20$, $p < .05$). The correlations between the GFP and the specific performance measures were lower, ranging from $r = .17$ ($p < .01$) for Administration to $r = .04$, (*ns*) for Handling Customer Objections. To test whether the correlations between the GFP and the broad criterion measures were indeed different from the correlations with the narrow criterion measures, we conducted a series of Hotelling's *t* tests. These tests showed that the correlation between the GFP and the broad measure General Job Performance was indeed significantly higher than the correlation between the GFP and three of the four specific sales criteria. Only the GFP–Administration correlation did not significantly differ from the GFP–General Job Performance correlation ($t = .56$, *ns*). These results partly support our first hypothesis that the GFP has the highest predictive validity for broad performance measures.

H2a stated that, at the Big Five level, General Job Performance is most optimally predicted by Conscientiousness., which was confirmed: Of the Big Five factors, Conscientiousness had the highest β value (β = .18, p < .05) for General Job Performance, which was a significantly stronger relation ($t = 3.45$, $p < .05$) than the highest correlating nonaligned Big Five factor, Agreeableness (β = .08, n.s.). H2b was also confirmed: Of the Big Five factors, Openness was a significantly stronger predictor ($t = 4.18$, $p < .05$) of Total New Customers (β = .22, p < .01) than the highest correlating nonaligned Big Five factor, Emotional Stability (β = .10, *ns*).

H3 stated that, based on the predictor-criterion alignment of the SMEs, each of the specific sales performance criteria is most optimally predicted by the Big Five factor to which it is conceptually aligned. H3a stated that Achieving Sales Results is most optimally predicted by Conscientiousness. Table 6 displays the Big Five and performance relationships. Conscientiousness indeed had the highest β value for Achieving Sales Results; however, this relation was only marginally significant (β = .13, $p < .08$). A Hotelling's t test showed that the Achieving Sales Results–Conscientiousness correlation indeed was significantly higher than the highest nonaligned Big Five–performance correlation (i.e., Achieving Sales Results–Openness $t = 3.85$, $p < .05$; see Table 7). H3b stated that Administration is most optimally predicted by Conscientiousness, which was confirmed (β = .23, $p < .01$). The Administration–Conscientiousness correlation differed significantly from the highest correlating nonaligned Big Five factor, Agreeableness ($t = 3.26$, $p < .05$).

H3c stated that Customer Relationship Management is most optimally predicted by Agreeableness. This is confirmed by the results (β = .18, $p < .05$). The Customer Relationship Management–Agreeableness correlation was significantly higher than the highest correlating nonaligned Big Five factor, Emotional Stability ($t = 2.16$, $p < .05$). H3d stated that Handling Customer Objections is most optimally predicted by Emotional Stability. This was partly confirmed by the results, as Emotional Stability had the highest β value (.16, $p < .05$). However, this was not significantly stronger ($t = .22$, *ns*) than the highest correlating nonaligned Big Five factor, Agreeableness (β = .15, $p < .05$).

H4a stated that, of the narrow traits, Achieving Sales Results is most optimally predicted by Proactivity, which was confirmed (β = .25, $p < .01$). This correlation was significantly higher than any of the other correlations between Achieving Sales Results and the narrow personality traits ($t = 4.66$, $p < .05$; see Table 7). H4b stated that Administration is most optimally predicted by Detail Orientation. This was also confirmed by the results. Of the narrow personality traits, Detail Orientation had the strongest correlation with Administration (β = .25, $p < .01$), but this was only marginally significantly stronger than the correlation with the highest nonaligned narrow trait, Proactivity ($t = 4.66$, $p < .10$). H4c stated that Customer Relationship Management is most optimally predicted by Consideration. This was not confirmed by the results, as Stress Resistance had a higher, marginally significant relationship with Customer Relationship Management (β = .11, *ns*). H4d stated that Handling Customer Objections is most optimally predicted by Consideration. This result was confirmed by the results (β = .20, $p < .05$). The Handling Customer Objections–Consideration relation was significantly different from the highest correlating nonaligned narrow personality trait, Networking ($t = 2.48$, $p < .05$).

H5a stated that the conceptually aligned broad personality traits showed higher predictive validity for their conceptually aligned broad job performance criteria than for their specific performance criteria. This hypothesis was rejected because the predictive validity of Conscientiousness was significantly higher ($t = 4.45$, $p < .05$) for Administration (β = .23, $p < .01$, rw = 57. 9%)

TABLE 6
Results of the Regression (for Each Personality Level) and Relative Weight Analyses (for the Big Five and the Narrow Facets)

	GJP			*ASR*			*CRM*			*ADMIN*			*HCO*			*TNC*		
Variables	β	*rw*	*R2*	β	*rw*	R^2	β	*rw*	R^2	β	*rw*	*R2*	β	*rw*	R^2	β	*rw*	R^2
GFP	.20**		.04**	.14*		.02	.11		.01	.17**		.03	.04		.00	.20**		.04
Big Five Factors			.07*			.06*			.05			.07*			.06*			.10**
Openness	.03	4.9%		.06	9.6%		−.02	3.5%		.05	7.3%		−.01	8.9%		.22**	47.6%	
Conscientiousness	.18*	43.3%		.13	41.7%		−.10	7.3%		.23**	57.9%		−.11	7.7%		.06	7.0%	
Extraversion	.08	19.7%		.06	36.2%		.01	5.2%		−.02	0.6%		−.17*	25.2%		.07	15.5%	
Agreeableness	.06	19.3%		−.08	3.8%		.18*	58.7%		.09	30.4%		.16*	37.9%		−.14	19.5%	
Emotional Stability	.04	12.0%		.03	4.3%		.09	25.8%		−.05	3.9%		.15	20.3%		.10	10.4%	
Narrow facets			.11**			.13**			.07			.16**			.08*			.14**
Creativity	.03	3.2%		−.02	2.8%		.02	4.0%		.03	4.4%		−.05	4.2%		.12	16.8%	
Entrepreneurial Focus	−.09	2.4%		.04	14.8%		.03	2.3%		−.09	10.1%		.11	3.2%		.20	22.6%	
Proactivity	.24**	27.7%		.25**	27.3%		−.06	3.7%		.18*	12.8%		.00	1.8%		.08	6.5%	
Achievement Motivation	.03	6.4%		.04	17.0%		−.09	3.4%		.05	5.0%		−.06	2.2%		.00	3.8%	
Detail Orientation	.04	7.7%		−.01	2.4%		−.03	1.9%		.19**	23.6%		.01	4.4%		.03	0.8%	
Planfulness	.01	10.2%		.02	1.5%		−.00	1.4%		.04	2.9%		.04	1.5%		.08	2.7%	
Focus on Networking	−.02	10.7%		.03	9.7%		.09	5.6%		−.19*	10.4%		.13	6.4%		.14	8.8%	
Social Boldness	−.21*	8.0%		−.19*	5.8%		−.31**	30.1%		−.14	7.2%		−35**	40.2%		−.23*	8.1%	
Social Focus	.09	4.3%		.03	1.4%		.08	6.2%		.08	2.2%		−.03	4.1%		.09	6.9%	
Consideration	−.10	1.9%		−.17*	9.8%		.04	6.7%		−.09	1.6%		.20*	21.8%		.06	6.2%	
Helpfulness	.07	4.9%		.02	1.6%		.08	11.6%		.07	3.0%		−.08	3.1%		.15	3.1%	
Stress Resistance	.12	10.8%		.14	9.9%		.15	14.3%		.11	7.9%		.07	2.4%		.12	7.5%	
Positivity	−.02	1.7%		−.04	3.2%		.08	9.0%		.04	9.1%		.02	3.6%		.14	6.4%	

Note. GJP = General Job Performance; ASR = Achieving Sales Results; CRM = Customer Relationship Management; ADMIN = Administration; HCO = Handling Customer Objections; TNC = Total New Customers; GFP = General Factor of Personality.

*Correlation is significant at the .05 level (one-tailed). **Correlation is significant at the .01 level (one-tailed).

TABLE 7
Alignment of the Broad and Narrow Personality Traits With the Specific Sales Performance Criteria by the Subject Matter Experts, the β Values, and the Hoteling's *t* Values

	Criterion		*Predictor*			
Hypothesis	*Job Performance*	*Bandwidth*	*Personality Trait*	*Bandwidth*	β	*Hoteling's t*
5a	Achieving Sales Results	Narrow	Conscientiousness	Broad	.13	3.85*
5b	Administration	Narrow	Conscientiousness	Broad	.23*	3.26*
5c	Customer Relationship Management	Narrow	Agreeableness	Broad	.18*	2.16*
5d	Handling Customer Objections	Narrow	Emotional Stability	Broad	.15	*ns*
6a	Achieving Sales Results	Narrow	Proactivity	Narrow	.25**	4.66*
6b	Administration	Narrow	Detail Orientation	Narrow	.19**	*ns*
6c	Customer Relationship Management	Narrow	Consideration	Narrow	.04	*ns*
6d	Handling Customer Objections	Narrow	Stress Resistance	Narrow	.20*	2.48*

Note. Hoteling's *t* values are calculated by testing the significant difference between the relation of the sales performance criteria with the aligned personality traits and the highest correlation nonaligned personality trait.
*Correlation is significant at the .05 level (one-tailed). **Correlation is significant at the .01 level (one-tailed).

than for General Job Performance (β = .18, $p < .05$, rw = 43. 3%). On the other hand, H5a was confirmed for Openness, which showed its only predictive validity for the broad performance measure Total New Customers (β = .22, $p < .05$, rw = 47, 6%). This validity was significantly higher ($t = 5.66$, $p < .05$) than the validity of the second strongest relationship with a specific sales performance criterion, Achieving Sales Results (β = .06, *ns*).

H6 stated that the conceptually aligned narrow personality traits show higher predictive validity for their conceptually aligned specific job performance criteria than for the broad performance criteria. Proactivity was a significant predictor for Achieving Sales Results (β = .25, $p < .01$), which was in line with expectations. Contrary to our expectations, however, Proactivity displayed about the same predictive value for General Job Performance (β = .24, $p < .01$). Thus, Proactivity turned out to be a predictor of different levels of performance measures. Detail Orientation was a significant predictor for the aligned specific sales performance criterion Administration (β = .19, $p < .01$, rw = 29.1%), but not for any of the other broader performance indicators. Consideration was a significant predictor for Handling Customer Objections but not for any of the broad performance criteria. Thus, two of the four narrow personality traits particularly showed predictive validity for conceptually aligned specific job performance criteria but not for other criteria. Therefore, H6 was only partly confirmed.

We also considered it informative to examine the incremental validities of the aligned narrow personality traits above and beyond the Big Five factors (Table 8) and the partial correlations between the Big Five factors and the performance criteria while controlling for the GFP (Table 9). These tests are based on the assumption that the scores on lower order measures of personality, by definition, are partly due to the influence of higher order factors. After controlling for the Big Five factors, we found that Proactivity remained a significant predictor for Achieving Sales Results (β = .28, $p < .01$) and Detail Orientation remained a significant predictor for Administration (β = .24, $p < .01$). However, beyond the Big Five, Consideration no longer emerged as a significant predictor of Handling Customer Objections. After controlling for the GFP, the partial

TABLE 8
Incremental Predictive Validity of the 13 Bridge Personality Facets Above and Beyond the Big Five Scales From the Big Five Inventory (BFI) for General Job Performance (GJP), Achieving Sales Results (ASR), Customer Relationship Management (CRM), Administration (ADMIN), Handling Customer Objections (HCO) and Total New Customers (TNC)

		GJP	*ASR*	*CRM*	*ADMIN*	*HCO*	*TNC*
		BFI	*BFI*	*BFI*	*BFI*	*BFI*	*BFI*
	Big Five Factor						
1.	Openness	.02	.07	−.05	.04	−.03	**.20***
2.	Conscientiousness	**.16***	**.13**	−.13	**.21****	−.10	.07
3.	Extraversion	.09	.08	−.01	−.04	−.17*	.05
4.	Agreeableness	.09	−.05	**.19***	.10	.15*	−.11
5.	Emotional Stability	.01	−.03	−.10	.01	.16*	.12
	Bridge Personality Trait						
1.	Creativity	.12	.04	.07	.15	−.04	.19
2.	Entrepreneurial Focus	−.06	.07	.07	−.08	.13	.17
3.	Proactivity	**.22***	**.28****	−.04	.17*	.04	.03
4.	Achievement Motivation	.06	.08	−.01	.05	−.03	−.04
5.	Detail Orientation	.07	.05		**.24****	.10	−.02
6.	Planfulness	.06	.11	.11	.07	.17*	−.10
7.	Focus on Networking	−.03	.01	.07	−.27**	.16	.14
8.	Social Boldness	**−.34****	**−.35****	**−.43****	**−.24***	**−.39****	**−.34****
9.	Social Focus	−.01	−.09	.04	.04	−.04	.11
10.	Consideration	−.09	−.15	.00	−.15	.13	.07
11.	Helpfulness	.07	.02	.07	.04	−.13	−.12
12.	Stress Resistance	.04	.06	.04	.09	−.01	.03
13.	Positivity	−0.1	−.15	.05	−.07	−.09	−.24*

*Correlation is significant at the .05 level (one-tailed). **Correlation is significant at the .01 level (one-tailed).

TABLE 9
Partial Correlations Between the Big Five Personality Scales and the Performance Criteria (Corrected for the General Factor of Personality)

	Big Five Factor	*GJP*	*ASR*	*CRM*	*ADMIN*	*HCO*	*TNC*
1.	Openness	−.03	.06	−.03	−.01	−.07	.21**
2.	Conscientiousness	.12	.04	−.09	.20**	−.06	−.02
3.	Extraversion	.07	.06	−.03	.11	−.19	.09
4.	Agreeableness	.05	−.10	.14	.10	.18**	−.18
5.	Emotional Stability	.13	.08	−.06	.10	−.14	.05

Note. GJP = General Job Performance; ASR = Achieving Sales Results; CRM = Customer Relationship Management; ADMIN = Administration; HCO = Handling Customer Objections; TNC = Total New Customers.
*Correlation is significant at the .05 level (one-tailed). **Correlation is significant at the .01 level (one-tailed).

correlation between Conscientiousness and General Job Performance ($r = .12$, *ns*) was no longer significant. Conscientiousness remained significantly correlated with Administration ($r = .20$, $p < .05$), and Agreeableness remained correlated with Handling Client Objections ($r = .18$, $p < .05$), and Openness with Total New Clients ($r = .21$, $p < .05$). Thus, it appears that

several specific Big Five factors remain significant predictors beyond the GFP mainly when their overlap with the behavior in the criterion is large, as, for example, in Conscientiousness and administrative behavior, which both imply working carefully.

DISCUSSION

This study examined the predictive validities of three levels of personality measures on two levels of job performance criteria. *Both* the personality predictors and the job performance criteria were organized from broad to specific. In doing so, we extended previous research on personality bandwidth by examining predictors as well as criterion measures on different levels of specificity and broadness (Cronbach & Gleser, 1965; Ones & Viswesvaran, 1996). This approach yielded significant results for both the broadest personality factor (GFP), the Big Five factors, and the narrow personality traits.

The Use of the GFP as a Predictor of Performance in Sales Jobs

In the literature there is a debate about the theoretical and practical value of the GFP. Some researchers have suggested that this construct is a substantive one (Musek, 2007; Rushton & Irwing, 2011; Van der Linden, Scholte, et al., 2010; Van der Linden, Te Nijenhuis, et al., 2010), whereas others have argued that it mainly reflects methodological or statistical artifact (Anusic et al., 2009; Ashton et al., 2009; R. De Vries, 2011). Many issues regarding this construct still have to be resolved. Nevertheless, although the debate is ongoing, we found it useful to examine whether a GFP was present in our data set and whether it was related to the outcome variables. The results showed that there indeed was a relatively large general factor explaining almost half of the variance in the Big Five and on which each of the Big Five dimensions showed considerable factor loadings that were in line with theory. Moreover, the GFP in this study was rather effective at predicting the two broadest performance measures, namely, General Job Performance and Total New Customers. In fact, for predicting Total New Customers, an objective job performance measure, the GFP outperformed most of the Big Five factors and all of the narrow personality traits. This would indicate that sales employees who are "altruistic, emotionally stable, agreeable, conscientious, extraverted, and intellectually open, with high levels of well-being, satisfaction with life, self-esteem and emotional intelligence" (Musek, 2007, p. 125) are better able to attain new customers. This is in line with previous claims that individuals who score high on the GFP have a social advantage. For example, Van der Linden, Scholte, et al. (2010) found that high GFP adolescents were perceived to be more likeable and more popular by peers. A similar social advantage may have also helped the sales employees to bring in more new customers.

Van der Linden, Te Nijenhuis, et al. (2010) have already shown that the GFP may be an effective predictor of performance in a range of jobs, yet the current study shows that the GFP is also a useful predictor of sales results. This finding may have implications for the use of personality questionnaires in selecting sales employees, as sales results are often considered to be an important part of sales performance. As Ones and Viswesvaran (1996) suggested, the complexity or dimensionality of a predictor should match the dimensionality of the criterion to optimize accuracy in prediction. If the goal is to focus on overall performance and to select sales employees

who attain more customers and perform well on other important job aspects (e.g., supervisor ratings), using only the Big Five factors may not generate the optimal result; calculating a GFP score in a personality report might be considered.

Overall, the GFP was a good and significant predictor of General Job Performance. However, when predicting narrow performance measures its predictive validity was somewhat lower than that of narrow traits like Proactivity and Social Boldness. The benefit of using the GFP to predict sales performance, however, becomes visible in its consistency as the only valid predictor of *both* the sales performance ratings by supervisors and the sales results obtained from objective data. Those involved in sales employee selection may therefore benefit from using a GFP score if their goal is to predict ratings *and* results.

The Use of Big Five Factors as Predictors of Performance in Sales Jobs

Of the Big Five factors, supervisor-rated General Job Performance was most effectively predicted by Conscientiousness, which is in line with many previous studies (e.g., Barrick & Mount, 1991). However, in the present study the number of new customers attained was best predicted by Openness. This latter finding fits with earlier results from Furnham and Fudge (2008). They found that Openness predicted sales target achievement (consisting of the number of new customers) for sales employees in the fitness industry. However, our finding was not fully in line with an earlier meta-analytic finding by Vinchur et al. (1998), who found Conscientiousness to be the best predictor of performance ratings and an objective sales criterion, whereas Openness was not a significant predictor. A possible reason for this may be that in a meta-analysis, data from different studies are cumulated. Such studies use different questionnaires to measure the Big Five factors and use different criteria measures to tap into the same construct (i.e., sales performance). R. Hogan (2005) suggested that this technique of averaging personality and performance scores may hide meaningful true relations between personality factors and performance criteria in a specific job. In our study, which used one personality questionnaire to measure Conscientiousness and Openness and measured one objective sales criterion (Total New Customers), Openness clearly outperformed Conscientiousness as a predictor of objective sales results.

Two of the Big Five factors showed their highest criterion-related validity for the sales performance criteria to which they were conceptually aligned according to the SME. Conscientiousness was an effective predictor of Administration and Agreeableness was an effective predictor of Customer Relationship Management.

The Use of Narrow Traits as Predictors of Performance in Sales Jobs

We found clear indications that narrow traits indeed best predict those narrow performance measures with which they were conceptually aligned. More specifically, we found that Achieving Sales Results is most optimally predicted by Proactivity, which measures behaviors such as "action initiation" and "self-starting." A link between these types of behaviors and sales results is in line with earlier findings by Vinchur et al. (1998) and Warr, Bartram, and Martin (2005). As expected, Administration was most optimally predicted by Detail Orientation. Finally, Handling Customer Objections was best predicted by Consideration, which seems plausible as considerate

employees can be expected to be better able to perceive and deal with customers' feelings during complaints.

Regarding the comparison between the different measurement levels, we expected an increase in the predictive validity of the narrow personality traits when the narrowness of the job performance criterion increased. This expectation was partly confirmed by the results. The only exception was that Proactivity turned out to be a significant predictor of not only Achieving Sales Results but also General Job Performance, one of the broader job performance constructs.

An interesting ad hoc finding in our study was that the narrow personality trait with the single highest *negative* predictive validity for several job performance criteria was Social Boldness. This narrow trait measures courage and bravery in social situations. This bravery, however, could be perceived by others as arrogance. In their study of "dark traits" and the derailing or negative effect these traits may have on leadership performance, R. Hogan and Hogan (2001) found that "Boldness," a trait that has a strong overlap with Social Boldness in our study, was a strong predictor for "derailment" or counterproductive behavior in leadership. Thus, those with high scores on Boldness may be perceived by others as "ego-centered," thereby making it a "dark trait." In our study we found that Social Boldness has the same negative effect on the job performance criteria. This indicates that sales employees who are perceived as arrogant may be less effective in handling customer relationships and less able to deal with their customers' objections. Employees who scored higher on Social Boldness also attained fewer new customers ($\beta = -.23$, $p < .01$). This would suggest that a high score on Social Boldness may have a direct negative effect on both sales ratings and sales results.

As to the predictive value of narrow personality traits above and beyond the Big Five personality factors, both Proactivity and Administration were effective predictors of Achieving Sales Results and Administration, respectively, after controlling for the Big Five. This suggests that practitioners of personnel selection should consider using these narrow traits for selecting sales employees, as they clearly take variance into account that is not explained by the broader Big Five factors.

Although the present results may contribute to the debate about personality bandwidth and conceptual alignment, two limitations should be pointed out. First, although the GFP turned out to be a good predictor of job performance, we acknowledge that there may be other combinations of Big Five or facet scales that predict a higher percentage of variance across job performance measures. However, such a sample-based mix of personality traits would not necessarily reflect the same construct as the theoretical higher order construct of the GFP. Thus, although tailor-made combinations of traits or facets may sometimes be useful in selection from a practical point of view, they may not have the benefit of being backed up by substantive personality theories and may therefore be less consistent and interpretable over different studies. Second, the present results were based on an international sample of employees responsible for selling trust services and corporate financial planning. As this is a specific type of sales work, one should be cautious about generalizing these results to other, more typical sales jobs.

Practical Implications for Personnel Selection

Overall, our study provides insights that can be put into practice in four different ways. First, scoring the GFP in a personality questionnaire may be useful for selecting sales employees, as

this construct predicted attaining new customers as well as supervisor-rated overall performance. Second, although Conscientiousness is often considered to be the best Big Five predictor of job performance, practitioners who have to select sales employees might also want to take Openness into account. Openness predicted objectively measured sales success, whereas Conscientiousness did not. Third, when selecting employees for relatively narrow sales tasks, one might want to carefully align personality traits to the designated task. Fourth, although an ad hoc finding, Social Boldness appears to be negatively related to supervisor-rated sales performance and sales results, indicating that selection practitioners should use caution when sales employees score high on this narrow trait.

CONCLUSION

The present results show that using a GFP score may be useful for selecting sales employees when the goal is to predict overall sales performance ratings as well as objective results. If one wants to select personnel for rather specific and more restricted tasks, such as dealing with customers or doing administrative work, then the use of more narrow measures may be better. Depending on the nature of these specific tasks, either using Big Five dimensions or narrow traits should depend on careful alignment between the content of the trait (either Big Five or narrower) and the content of the job to be done. Finally, being too socially bold may actually be a disadvantage for some sales jobs.

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