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Personality Traits and Types in Relation to Career Success: An Empirical Comparison Using the Big Five

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The purpose of this study is twofold: First, it discusses and derives personality types based on Big Five traits. Second, it compares their associations with career success. After deriving both a statistical and content-wise meaningful two-type solution referring to a resilient and a distressed profile, the explanatory value for both objective (i.e., promotions and income) and subjective career success (i.e., self-reported career success and career satisfaction) is tested for both traits and types. For objective career success, only traits appeared to be relevant predictors. For subjective career success, types appeared to have explanatory value as well, next to traits. This study concludes with a short discussion of its implications and possible further research avenues.

INTRODUCTION

Personality significantly determines individual behaviour in the workplace (Penney, David, & Witt, 2011), and has been reported to be an important predictor of work and career success in both cross-sectional and longitudinal studies (see, e.g., Seibert & Kraimer, 2001; Wille, De Fruyt, & Feys, 2013). Two different operationalisations of the personality construct have been used in previous empirical research. First, the so-called *trait* approach typically focused on personality traits that were assumed to have predictive power, and—at the same time—convincingly attested to the importance of

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the "Five Factor Model" (i.e. the "Big Five"). Second, in the so-called *typological* approach, personality *clusters* or *types* were derived empirically, typically on the basis of multiple personality traits, for example, the Big Five (see, for instance, Asendorpf, Borkenau, Ostendorf, & Van Aken, 2001).

An individual's personality could then be statistically compared to prototype personalities, and—if required—assigned to the (proto)type showing the highest resemblance (see, e.g., Altmann, Sierau, & Roth, 2013). This so-called "person-centred" approach better reflects the integrated character of relevant human behaviour in a systematic way, in comparison with traits (see also Alessandri et al., 2014). Recently, Ferguson and Hull (2018) stressed the importance of taking the, in essence, hierarchical nature of the personality construct into account and underlined the relevance of Latent Profile Analysis (LPA) to derive personality profiles.

Previously, personality types have been explored for their explanatory value in studying social attitudes (Roth & Von Collani, 2007), psychological functioning (Merz & Roesch, 2011), mental health, well-being, and life events (Leikas & Salmela-Aro, 2014). Moreover, recent empirical work has reported its association with work-related stress and satisfaction (Van der Wal, Bucx, Hendriks, Scheffer, & Prins, 2016). As regards career success more specifically, to the best of our knowledge, only De Fruyt (2002) has explored the extent to which Big Five personality types revealed differences in career outcomes for former students, one year after graduation. Results of his study showed that personality types were (differentially) associated with job satisfaction, job stress and skill development.

To deepen our knowledge on the value of personality types for career outcomes, our study's goal is to extract meaningful Big Five (personality) types, and subsequently, to analyse to what extent these resulting types can succeed in explaining objective and subjective career success, when benchmarked with the extent to which the original Big Five traits explain objective and subjective career success.

The structure of this research note will therefore be as follows: First, on the basis of our sample data (individuals in diverse roles and functions in the habitat and construction markets) we identify a (statistically and content-wise) meaningful Big Five personality type structure. Second, relying on the derived personality type structure, we explore its value in explaining career success as benchmarked with the original set of Big Five traits.

PART 1: DERIVING BIG FIVE PERSONALITY TYPES

Big Five Types Based on Big Five Traits

Since the introduction of the Big Five (McCrae & Costa, 1985), regression-type analyses (Arthur, Woehr, & Graziano, 2001) have been used to

examine the unique (separate) contribution of traits for explaining relevant key outcome variables related to job and career success. Moreover, earlier empirical studies showed that combinations of Big Five traits (i.e., interactive effects) are instrumental in predicting key outcome variables (see, e.g., Ilies, Scott, & Judge, 2006; Jensen & Patel, 2011).

Personality types (profiles), on the other hand, can represent two- or k-way (k = 3 or more) interactions of certain trait levels, enabling all distinguished Big Five traits to simultaneously shape the interaction pattern (Asendorpf & Denissen, 2006). Most profile solutions (using the same sample and clustering method) vary from two to five types (solutions with an increasing number of types often giving more nuances on some types, leading to a modified type "label", but not on other types, preserving their label). Also across samples and/or clustering methods, some types may be labelled differently whereas other types are labelled identically. Table 1 summarizes previous scholarly work and portrays exemplary two to five type personality configurations. In empirical work examining job or career outcomes to date, mainly two profiles have been identified in research by De Fruyt (2002) and by Van der Wal et al. (2016).

As can be seen from Table 1, in all studies a so-called resilient (or well-adjusted) type is prevalent, accompanied by one or more different profiles having diverse labels. In terms of the Big Five, *Resilients* are generally characterised by relatively low scores on Neuroticism, as well as by high scores on all other traits. The relative size of the Resilient profile varies considerably across studies, and this variation cannot solely be attributed to a different number of profiles in the personality type configuration. As Herzberg and Roth (2006) argued, several factors may determine the size of a personality profile, including the number of profiles, sample size, sample composition, and the method by which respondents are assigned to profiles.

METHOD

Procedure and Sample

This study was carried out among a variety of employees working for various Dutch plants of a worldwide multinational (> 50 countries) in the habitat and construction markets. Employees working in diverse middle up to higher-level positions were asked to fill in an e-survey. Using company-owned lists of e-mail addresses, an independent market research agency took care of all electronic communication as well as data storage handling and guaranteed anonymity and confidentiality. To prevent Common-Method Bias (CMB), several remedies have been applied (see, e.g., Podsakoff, MacKenzie, Lee, & Podsakoff, 2012). For example, scales

TABLE 1
Exemplary Studies for Different Type Solutions (2–5 Types)

Study	*Sample*	*Measure*	*Labels*	*Neuroticism*	*Extraversion*	*Openness*	*Agreeable-ness*	*Conscien-tiousness*	*% per label*	*Method*
De Fruyt, 2002	College graduates, $N = 399$	NEO-PI-R Dutch version	Resilients	−	+	−	+	++	61.4%	Ward, cluster analysis
			Inter-/ externalizers	+	−	+	−	−−	38.6%	
Van der Wal et al., 2016	Anaesthesiologists, $N = 655$	BFI	Resilients	−−	++	+	+	+	33%	Ward, cluster analysis
			Distressed	++	−−	−	−−	−	67%	
Asendorpf et al., 2001	Several samples; adults, studentss and children	NEO FFM	Resilients	−−	+	+	+	++		Cluster analysis/ Q−sort
			Overcontrollers	++	−−	0	0	0		
			Undercontrollers	+	0	−	−	−		
Alessandri et al., 2014	College students samples, $N = 1476$ in total	BFQ	Resilients	−−	+	+	+	+	Diverse per country	Ward, cluster analysis
			Overcontrollers	+	−	−	−	−		
			Undercontrollers	+	0	0	−	−		
Ferguson & Hull, 2018	High school students US, $N = 374$	IPIP	Excitable	++	+	+	+	+	54%	Latent class (profile) analysis
			Reserved	−	−	−	−	−	4%	
			Well-adjusted	−	+	+	+	+	42%	
Gramzow et al., 2004	Undergraduate psychology students, $N = 199$	CAQ-sort and BFI-44	Resilients (under)	−	+	+	+	+	38%	Ward, cluster analysis
			Resilients (over) / ('Averaged')	0	0	0	0	0	27%	
			Brittle (under)	++	++	−	−	−	19%	
			Brittle (over)	+	+	+	−	−	16%	

(*Continued*)

TABLE 1 Continued

Study	*Sample*	*Measure*	*Labels*	*Neuroticism*	*Extraversion*	*Openness*	*Agreeable-ness*	*Conscien-tiousness*	*% per label*	*Method*
Leikas & Salmela Aro, 2014	Young Finns, $N = 493$	BFI-15	Resilients	−−	+	+	+	+	23–31%	Latent class analysis
			Overcontrolled	+	−	?	+	+	10–13%	
			Anti-resilients	++	−	−	−	−	10–13%	
			Averaged	0	0	0	0	0	50%	
Altmann et al., 2013	Intimate couples, $N = 133$	NEO FFI	Resilients	−−	+	+	+	+	13%	Discriminant analysis based on Herzberg & Roth, 2006
			Non-desirables	++	−−	−−	−	−	12%	
			Undercontrollers	+	−	−	−	−	20%	
			Confidents	0	+	+	+	+	25%	
			Reserved	−	−	−	0	0	26–34%	
Herzberg & Roth, 2006	German adults in I ($N = 1908$) and prisoners in II ($N = 256$)	NEO FFI	Resilients,	−−	++	+	++	++	14 %	Discriminant analysis for II based on Ward for I
			Overcontrolled	++	−−	−	0	−	11%	
			Undercontrolled	+	−	0	−−	−−	21%	
			Confidents	0	+	+	0	+	19.6%	
			Reserved	−	−	−	+	0	22.4%	
Zhang et al., 2015	Young adults (two waves, large group)	Mini-IPIP	Resilients	−	+	+	++	+	10.1%	Latent class analysis
			Rigids	+	−	−	−−	−	9.%	
			Reserved	−	−	−	−	+	6.9%	
			Confidents	−	+	+	+	0	28.5%	
			Ordinary	0	0	0	0	0	45.1%	

and scale anchors were different across the e-survey measures, and reversed items were included. Moreover, one of our main outcome variables, objective career success (see for more details Part 2), represents "factual data that are, in principle, verifiable from other sources" (Podsakoff & Organ, 1986, p. 532), comprising a data type which reduces CMB.

Our final sample consisted of 293 employees (response rate was 91.8%) and included 242 males (82.6%) and 51 females (17.4%). Their mean age was 41 years (SD = 9.2), and their organisational tenure was, on average, 10.7 years (SD = 9.7). The employees' educational level comprised the following categories: (1) primary school (1.0%); (2) high school or equivalent (45.1%); (3) lower technical and vocational degree, typically earned before 18 years old (34.1%); (4) higher technical and vocational degree, typically earned after 18 years old (17.1%); and (5) academic degree, such as a bachelor's or a master's degree (2.7%). Commonly encountered job titles are: "adjunct director" (N = 11), "head of department" (N = 24), "plant manager" (N = 27), "head of product group" (N = 24), "commercial collaborator" (N = 50), "administrative collaborator" (N = 14), "collaborator in finance and accounting" (N = 25), "project leader" (N = 12), "show room manager" (N = 11), and "system (IT) manager" (N = 6).

Measures

Personality was measured using the 60-item short version of the validated Dutch translation (Hoekstra, Ormel, & De Fruyt, 1996) of the NEO Five-Factor instrument (Costa & McCrae, 1992). All items were scored using a five-point rating scale ranging from: (1) strongly disagree to (5) strongly agree. Cronbach's alpha values for the (12-item) subscales were .69 for *Neuroticism*, .67 for *Extraversion*, .64 for *Openness to experience*, .58 for *Agreeableness* and .72 for *Conscientiousness*, respectively. A recalculation of the reliabilities excluding observations with neutral (i.e. midrange) scores provided (overall) slightly better scores, with the final lowest value being .63, more specifically, for Agreeableness. Given these slightly improved Cronbach's alpha values and following the argumentation by Kruyen et al. (2012), we accepted the somewhat lower alpha levels (and, obviously, included the neutral response category).

Analytical Strategy

Using respondents' mean item scores for the NEO subscales, a special form of "mixture modelling" namely "latent profile analysis" (see for details Oberski, 2011) was relied on. Unlike the traditional "hard clustering" techniques (e.g., *k*-means clustering), in which an individual is entirely assigned to one cluster (here: latent profile), latent profile analysis derives a probabilistic

cluster solution (here: latent profile configuration). Obviously, all latent profile probabilities calculated for the same individual sum up to 1.00.

Latent profile analyses were run in MPlus version 7.11 (Muthén & Muthén, 1998–2012) to derive alternative latent profile configurations, each configuration containing a different number (i.e., two, three, four, or five) of latent profiles. Statistically speaking, the choice for one of the alternative latent profile configurations, each of them representing an increasing number of personality types, is guided by a series of statistical comparisons of latent profile configurations containing k versus $k - 1$ latent profiles ($k = 2$ first, then $k = 3$, $k = 4$, $k = 5$, etc.). Such a statistical comparison is enabled through the Vuong-Lo-Mendell-Rubin Likelihood Ratio Test (LRT) and its adjusted variant (i.e., the Adjusted LRT). In addition to statistical comparisons of alternative latent profile configurations, content-wise examination of each latent profile configuration guided our final choice. In line with personality (profile) descriptions as found in other studies using latent profile analysis (see Ferguson & Hull, 2018), each individual (employee) may be assigned to the most likely latent (personality) profile.

Latent Profile Configurations of Employees' Personalities

Using our data, successive statistical comparisons of latent profile configurations using the Vuong-Lo-Mendell-Rubin Likelihood Ratio Test (LRT) showed that: (a) two latent profiles are preferable to one latent profile ($p = .01$); (b) three latent profiles are *not* preferable to two latent profiles ($p = .28$); and (c) four latent profiles are *not* preferable to three latent profiles ($p = .09$). For more detailed results, we refer to the online supplement for this study.

The two resulting personality types can be recognized as the *Resilients* (with relatively low scores on neuroticism and relatively high scores on the other traits) and the *Internalizer/Externalizer* type (with relatively high scores on neuroticism and relatively low scores on the other traits, especially extraversion and agreeableness) of De Fruyt (2002). These types are also comparable with the two types identified by Van der Wal et al. (2016), who labelled the *Resilients* type *Well-adjusted* and the *Internalizer/Externalizer* type *Distressed*. For more detailed (statistical and content-wise) information of alternative typologies including three, four and five profiles, we refer to the online supplement.

For the purpose of cross-validation, we repeated our latent profile analyses using a second data set (e-survey data from Dutch teachers in higher education; the same personality measures were used). This cross-validation attested to a latent profile configuration with two latent profiles (for further details see the online supplement).

All in all, our (two) derived latent profiles are very similar to the personality typology as identified by De Fruyt (2002) and by Van der Wal et al. (2016). Therefore, we decided to base all subsequent analyses on the latent profiles identified.

PART 2: EXPLAINING CAREER SUCCESS BY BIG FIVE TRAITS AND TYPES

Objective and Subjective Career Success

Objective career success was measured using three single items (Gattiker & Larwood, 1988). *Objective hierarchical success* was measured as the number of promotions, which was defined as "any increase in hierarchical level and/or any significant increase in job responsibilities or job scope" employees have experienced "since joining their current organization" [*organization-specific objective hierarchical success* (first item)] and "in their entire career" [*overall objective hierarchical success* (second item)]. *Objective financial success* was measured as the logarithm of *current gross income* (per month) (excluding bonuses, share options, etc.) (third item).

Subjective career success was measured using five multi-item scales from Gattiker and Larwood (1986) comprising *job success* (8 items; Cronbach's alpha was .68, example item: "I am fully backed by management in the work I do"), *interpersonal success* (4 items; Cronbach's alpha was .62, example item: "I am respected by my peers"), *hierarchical success* (4 items; Cronbach's alpha was .61, example item: "I am pleased with the promotions I have received so far"), *financial success* (3 items; Cronbach's alpha was .70, example item: "I am receiving fair compensation compared to my peers") and a non-organisational component, so-called *life success* (4 items; Cronbach's alpha was .66, example item: "I am satisfied with my life overall"). All items were scored on a five-point rating scale ranging from: (1) disagree completely to (5) agree completely.

Career satisfaction was measured by means of the frequently used and thoroughly validated five-item Career Satisfaction Scale (Greenhaus, Parasuraman, & Wormley, 1990). All items were scored on a five-point scale ranging from: (5) strongly disagree to (1) strongly agree. An example item is: "I am satisfied with the progress I have made toward meeting my overall career goals". Numerous studies have attested to the high internal consistency of this scale; Cronbach's alpha values systematically exceeded .80 (Judge, Kammeyer-Mueller, & Bretz, 2004; Seibert & Kraimer, 2001). In our sample, Cronbach's alpha was .79.

Additionally, given their previously found effects on career success (see also Ng, Eby, Sorensen, & Feldman, 2005), the following socio-demographic control variables were included: age, gender, and highest educational qualification. Moreover, tenure with current employer (in years), being an important career-related variable, was included as well.

To analyse the impact of personality (both types and traits) on career success outcomes we relied on regression analyses.

RESULTS

Descriptives and Correlations for all Study Variables

First, for the entire sample, descriptive results for, and correlations between, all study variables are presented in Table 2.

Both the correlational data (i.e., correlations are all below .60) and Variance Inflation Factor (VIF) calculations (highest VIF value: 1.78) did not reveal a multi-collinearity issue. The (significant) correlations as found in Table 2 are in line with previous and meta-analytic findings on traits, except for the negative correlations between Extraversion and Openness on the one hand, and perceived financial success on the other hand. All control variables (age, gender, educational qualification, and organisational tenure) were found to have substantial associations with one another and at least some of the outcome variables. Therefore, we included all control variables in all our regression analyses.

Personality Traits and Types Explaining Objective Career Success

Linear regression analyses were performed to examine the effects of traits and types on objective career success. For the results we refer to Table 3.

As shown in Table 3, *traits* appeared to have no significant association with the number of promotions within the employee's current organization. However, *Agreeableness* appeared to be significantly negatively associated with the number of promotions made during one's entire career. Furthermore, *Neuroticism* showed a significant negative association with (the logarithm of) income. For all other traits, no associations with objective career success outcomes were found. When examining our two-type personality configuration, the *Resilient* personality type did not show any significant association with any objective career success outcomes. Differences in explained variance (adjusted R^2) of the regression models for traits versus types, appeared to be small. Across all objective career success outcomes, the largest difference in the amount of explained variance between traits and types amounted up to 0.031, meaning 3.1 percentage points.

Personality Traits and Types Explaining Subjective Career Success

In a next step, linear regression analyses were performed to examine the effects of traits and types on subjective career success outcomes. The results are shown in Table 4.

The results in Table 4 (as opposed to Table 3) show that the difference in adjusted R^2 between models based on traits versus types was more pronounced

TABLE 2
Means, Standard Deviations and Pearson's Correlations for All Variables in the Study ($N = 293$)

Variables	M	SD	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*13*	*14*	*15*	*16*	*17*
1. Neuroticism	2.0	0.4	–																
2. Extraversion	3.6	0.4	−0.40**																
3. Openness	3.0	0.4	−0.19**	0.31**															
4. Agreeableness	3.8	0.4	−0.23**	0.16**	0.20**														
5. Conscientiousness	4.0	0.3	−0.34**	0.32**	0.12*	0.28**													
6. No. prom. (org.)	1.4	1.7	0.05	−0.06	−0.04	−0.01	−0.01												
7. No. prom. (car.)	3.5	2.4	−0.11	0.09	0.16**	−0.06	0.03	0.46**											
8. Gross wage	3517	3754	−0.04	0.06	0.14*	0.02	0.04	0.09	0.16**										
9. Job success	3,5	0,5	−0.33**	0.26**	0.06	0.09	0.25**	0.16**	0.25**	0.13*									
10. Interpers. success	4.0	0.4	−0.28**	0.19**	0.07	0.20**	0.28**	0.10	0.01	0.06	0.40**								
11. Financial success	2.9	0.6	−0.02	−0.23**	−0.16**	0.03	−0.08	0.08	0.05	0.06	0.16**	0.01							
12. Hierarch. success	3.4	0.6	−0.24**	0.25**	0.03	0.07	0.20**	0.19**	0.21**	0.05	0.47**	0.18**	0.09						
13. Life success	4.4	0.4	−0.37**	0.29**	0.07	0.17**	0.28**	0.01	0.05	0.10	0.25**	0.22**	−0.09	0.14*					
14. Car. satisfaction	3.5	0.5	−0.16**	0.11	−0.05	0.08	0.11	0.21**	0.24**	0.13*	0.57**	0.18**	0.33**	0.51**	0.06				
15. Age	41.2	9.2	0.03	−0.09	0.08	0.15*	0.00	0.18**	0.32**	0.24**	0.15*	0.02	0.15*	−0.16**	−0.04	0.14*			
16. Female	17.4%		0.18**	−0.06	0.04	0.13*	−0.03	−0.12*	−0.20**	−0.17**	−0.20**	−0.10	−0.07	−0.12*	−0.07	−0.04	−0.24**		
17. Education	2.8	0.8	−0.12	0.11	0.16**	−0.03	0.11	−0.17**	−0.06	0.03	0.02	0.02	−0.06	0.06	0.01	−0.03	−0.28**	0.06	
18. Org. ten. in years	10.7	9.7	0.15**	−0.10	−0.13*	0.01	−0.06	0.44**	0.05	0.14*	0.05	−0.02	0.10	−0.11	−0.03	0.11	0.56**	−0.03	−0.25**

Notes. Correlations involving the variable female are Spearman's rho correlations. $^{*}p < .05$, $^{**}p < .01$

TABLE 3
Regression Models Based on Traits versus Types: Objective Career Success ($N = 293$)

	Objective career success		
	Number of promotions in the organisation	*Number of promotions in one's career*	*Log_{10}(Current Gross Income)*
Trait-approach			
Intercept	1.610	1.357	3.067**
Female	−0.633*	−0.452	−0.190**
Age	−0.035**	0.105**	0.008**
Education	−0.186	−0.090	0.024*
Organisational Tenure	0.089**	−0.037*	<0.000
Neuroticism	−0.010	−0.418	−0.058*
Extraversion	−0.253	0.407	0.038
Openness	0.267	0.628	0.041
Agreeableness	0.057	−1.161*	−0.044
Conscientiousness	0.194	0.103	0.022
Model Fit:			
R^2	**0.229**	**0.175**	**0.398**
Adjusted R^2	**0.205**	**0.149**	**0.378**
Type-approach:			
Intercept	2.235**	−0.172	3.112**
Female	−0.580*	−0.705	−0.209**
Age	−0.029*	0.102**	0.008**
Education	−0.162	0.019	0.032**
Organisational Tenure	0.086**	−0.042*	0.000
Resilient type [a]	−0.096	−0.163	0.042
Model Fit:			
R^2	**0.223**	**0.133**	**0.359**
Adjusted R^2	**0.209**	**0.118**	**0.347**

Note: Unstandardised regression coefficients are displayed.
[a]The *Distressed* type is taken as the reference category.
*$p < .05$, **$p < .01$

in cases where subjective career success outcomes were explained (i.e. up to a difference of 8.8 per cent for *life success*).

As regards the trait models, significant associations involved *Conscientiousness* (positive association) and *Neuroticism* (negative

TABLE 4
Regression Models Based on Traits versus Types: Subjective Career Success ($N = 293$)

	Subjective career success					
	Job success	*Interpersonal success*	*Financial success*	*Hierarchical success*	*Life success*	*Career satisfaction*
Trait-approach:						
Intercept	2.565**	2.904**	4.788**	2.696**	3.731**	3.189**
Female	−0.143*	−0.088	−0.060	−0.198*	−0.036	0.029
Age	0.007	−0.001	0.008	−0.012*	−0.004	0.007
Education	0.011	−0.009	0.015	−0.011	−0.029	0.004
Organisational Tenure	0.001	0.001	0.001	0.001	0.003	0.003
Neuroticism	−0.245**	−0.156*	−0.209*	−0.163	−0.289**	−0.172*
Extraversion	0.177*	0.043	−0.350**	0.218*	0.138*	0.106
Openness	−0.055	−0.011	−0.192*	−0.053	−0.023	−0.131
Agreeableness	−0.018	0.136	0.129	0.062	0.076	0.027
Conscientiousness	0.185*	0.211**	−0.121	0.165	0.182*	0.066
Model Fit:						
R^2	**0.186**	**0.137**	**0.102**	**0.130**	**0.192**	**0.067**
Adjusted R^2	**0.161**	**0.109**	**0.073**	**0.102**	**0.167**	**0.037**
Type-approach:						
Intercept	3.217**	3.989**	2.594**	3.870**	4.530**	3.246**
Female	−0.219**	−0.105	−0.066	−0.246**	−0.097	−0.024
Age	0.005	0.000	0.009	−0.013**	−0.005	0.005
Education	0.024	0.001	−0.008	0.001	−0.014	0.005

(*Continued*)

TABLE 4 Continued

	Subjective career success					
	Job success	*Interpersonal success*	*Financial success*	*Hierarchical success*	*Life success*	*Career satisfaction*
Organisational Tenure	0.001	0.000	0.002	0.001	0.002	0.003
Resilient type[a]	0.349**	0.266**	−0.085	0.284**	0.364**	0.119
Model Fit						
R^2	**0.124**	**0.068**	**0.026**	**0.081**	**0.095**	**0.028**
Adjusted R^2	**0.109**	**0.052**	**0.009**	**0.065**	**0.079**	**0.011**

Note. Unstandardised regression coefficients are displayed.
[a]The *Distressed* type is taken as the reference category.
*$p < .05$, **$p < .01$

association) on the one hand, and subjective career success outcomes, on the other hand. Furthermore, *Extraversion* showed a significantly positive association with three out of the six subjective career success outcomes (job, hierarchical, and life success). In addition, *Extraversion and Openness* showed one significantly negative association with financial success. In line with earlier studies, *Agreeableness* appeared not to be (significantly) associated with any of the subjective career success outcomes.

As regards the so-called type models, we found that the *Resilient* type had significant positive associations with four out of the five subjective career success outcomes, excluding financial success. Additionally, no significant association was found between profiles and career satisfaction.

DISCUSSION AND CONCLUSION

The purpose of this study was two-fold: First, to derive a meaningful (Big Five) personality type configuration (for the sample at hand) and, second, to systematically assess the predictive value of the set of five Big Five traits versus personality types with respect to career success outcomes. Related to our first purpose, our Latent Profile Analysis using Big Five data led to a convincing configuration including two personality types (profiles) which resembled the personality types as previously identified by De Fruyt (2002) and by Van der Wal et al. (2016). Our sample does not support configurations including three personality types, which in some studies (see, e.g., Alessandri et al., 2014; Asendorpf et al., 2001), seem to be considered as being established both statistically and content-wise, that is, as regards the meaning of the types. It may well be that the most adequate configuration of personality types using Big Five data is dependent on "study context" (e.g., sample characteristics) as well as on "study method" (e.g., the analytical procedure used to identify personality types). In other words, a personality configuration, which seems most adequate for the study at hand, may not be fully comparable to personality configurations as identified in previous research as each and every profile that is found using different data sets is in fact unique. In this respect, trait activation theory (Tett & Burnett, 2003) suggests that situational factors cue the expression of traits at work and, as a result, the same trait may be expressed in different ways in different contexts, and/or across different jobs.

As regards our second purpose, our data supported previous notions in the literature that being a *Resilient* personality type can have positive consequences for one's career. Our regression analyses (predicting career outcomes based on Big Five traits) produced trait-outcome associations that are congruent with results as obtained in earlier (meta) analyses. All identified

significant associations between traits and career success outcomes are congruent, except for the negative association between *Openness* and *Extraversion* on the one hand and perceived financial success on the other hand. It might be that especially people who score high on *Openness* may not be that easily satisfied with the financial rewards for their labour. In this respect, Ganzach and Pazy (2015) found that Openness is well associated with *actual* income of both men and women. Dissatisfaction with one's current income status might therefore help in being focused on obtaining a higher income later in time. An interpretation of the negative association between *Extraversion* and perceived financial success might be that people scoring high on this trait might be more inclined to actually report their dissatisfaction with their income through their score on this scale. The same results could account for being a Resilient type of personality [i.e. also implying high(er) scores for Openness and Extraversion] and (perceived) financial success in our study. However, we did not find such an effect.

In line with earlier findings (see, e.g., Asendorpf & Denissen, 2006), we identified a loss of explanatory power when using a type-based representation of personality compared to a trait-based representation, in particular in explaining subjective career success. Taking into account as well that the explanatory power of personality is known to be larger for subjective career outcomes than for objective career outcomes (see, e.g., Ng & Feldman, 2014), one may convincingly argue for the use of traits over the use of types in a (predictive) statistical analysis. In comparison to types, traits have both higher explanatory power and they reveal more explicit effects. That being said, when considering the practical relevance of personality at work, considering types may still be worthwhile. After all, the *Resilient* type is consistently returning in the literature as the preferable type in terms of, for example, social, health-related and work-related outcomes. In addition, personality types were found to be useful in different contexts in which interaction with people happens on a daily basis (see, e.g., Altmann et al., 2013; Roth & Von Collani, 2007). Taken all together, as personality is not rigid, yet rather changeable to a certain extent (see also Wille et al., 2013), it might be worth taking personality into account in career counselling or coaching, in order to stimulate employee behavioural patterns that are known for their positive effects on career success.

The present study has limitations as well. First, our (male-dominated) data have all been collected using self-reports for both personality and career success outcomes, herewith risking some common-method bias (see, e.g., Podsakoff et al., 2012). In future scholarly work, studies should therefore include both males and females in a more balanced representation, using multi-method measurements in a longitudinal design, to overcome

the cross-sectional nature of this study as well (De Lange, Taris, Kompier, Houtman, & Bongers, 2004). Moreover, personality may not only predict career outcomes, yet also reciprocal effects might be possible (Sutin, Costa Jr, Miech, & Eaton, 2009). It would therefore be worthwhile to further study possible reversed causality issues, and developments in both personality and career outcomes over time (see also Ganzach & Pazy, 2015; Wille et al., 2013).

The current study did not include situational factors that may also moderate the personality-career success relationship. For example, high-quality leader-subordinate relationships (LMX; Leader-Member eXchange) and perceived organisational support are known to moderate the work value fit with career success (see, e.g., Erdogan et al., 2004). Similarly, these factors might be relevant for the personality–career success relationship.

Despite these limitations, this research adds to the literature in two important ways: the present study is the first that systematically compares a two-type solution for personality types, as regards their comparative and complementary value, to traits in explaining both objective and subjective career success. Second, this study acknowledges the complementary value of types based on the Big Five scores, in addition to the Big Five traits. Although from a statistical point of view, traits have the advantage of revealing the most (trait) specific information on what personality characteristics explain different aspects of career outcomes, in day-to-day reality, using profiles makes more sense. Moreover, as up until now, in the context of work and organisations, a more integrated indication of personality (types) is often applied by using unreliable and invalid methods (Vermeren, 2013), we call for more empirical work using latent profile analyses that is aimed at enhancing our insights into how personality and career success are interrelated.

REFERENCES

Alessandri, G., Vecchione, M., Donellan, B.M., Eisenberg, N., Caprara, G.V., & Cieciuch, J. (2014). On the cross-cultural replicability of the resilient, undercontrolled, and overcontrolled personality types. *Journal of Personality*, *82*(4), 340–353.

Altmann, T., Sierau, S., & Roth, M. (2013). I guess you're just not my type. Personality types and similarity between types as predictors of satisfaction in intimate couples. *Journal of Individual Differences*, *34*(2), 105–117.

Arthur, W., Woehr, D., & Graziano, W. (2001). Personality testing in employment settings: Problems and issues in the application of typical selection practices. *Personnel Review*, *30*, 657–676.

Asendorpf, J.B., Borkenau, P., Ostendorf, F., & Van Aken, M. (2001). Carving personality description at its joints: Confirmation of three replicable prototypes for both children and adults. *European Journal of Personality*, *15*, 169–198.

Asendorpf, J.B., & Denissen, J.J.A. (2006). Predictive validity of personality types versus personality dimensions from early childhood to adulthood: Implications for the distinction between core and surface traits. *Merrill-Palmer Quarterly*, *52*, 486–513.

Costa, P. Jr, & McCrae, R.R. (1992). *NEO PI-R professional manual*. Odessa, FL: Psychological Assessment Resources, Inc.

De Fruyt, F. (2002). A person-centered approach to P-E fit questions using a multiple-trait model. *Journal of Vocational Behavior*, *60*, 73–90.

De Lange, A.H., Taris, T.W., Kompier, M.A.J., Houtman, I.L.D., & Bongers, P.M. (2004). The relationships between work characteristics and mental health: Examining normal, reversed and reciprocal relationships in a 4-wave study. *Work & Stress*, *18*, 149–166.

Erdogan, B., Kraimer, M.L., & Liden, R.C. (2004). Work value congruence and intrinsic career success: The compensatory roles of leader-member exchange and perceived organizational support. *Personnel Psychology*, *57*(2), 305–332.

Ferguson, S.L., & Hull, D.M. (2018). Personality profiles: Using latent profile analysis to model personality typologies. *Personality & Individual Differences*, *122*, 177–183.

Ganzach, Y., & Pazy, A. (2015). Cognitive versus non-cognitive individual differences and the dynamics of career success. *Applied Psychology: An International Review*, *64*(4), 701–726.

Gattiker, U.E., & Larwood, L. (1986). Subjective career success: A study of managers and support personnel. *Journal of Business and Psychology*, *1*(2), 78–94.

Gattiker, U.E., & Larwood, L. (1988). Predictors for managers' career mobility, success, and satisfaction. *Human Relations*, *41*, 569–591.

Gramzow, R.H., Sedikides, C., Panter, A.T., Sathy, V., Harris, J., & Insko, C.A. (2004). Patterns of self-regulation and the Big Five. *European Journal of Personality*, *18*(5), 367–385.

Greenhaus, J.H., Parasuraman, S.J., & Wormley, W.M. (1990). Effects of race on organizational experiences, job performance evaluations, and career outcomes. *Academy of Management Journal*, *33*, 64–86.

Herzberg, P.Y., & Roth, M. (2006). Beyond resilients, undercontrollers, and overcontrollers? An extension of personality prototype research. *European Journal of Personality*, *20*(1), 5–28.

Hoekstra, H.A., Ormel, J., & De Fruyt, F. (1996). *Handleiding NEO persoonlijkheids-vragenlijsten NEO-PI-R en NEO-FFI*. Lisse, The Netherlands: Swets Test Services.

Ilies, R., Scott, B.A., & Judge, T.A. (2006). The interactive effects of personal traits and experienced states on intra-individual patterns of citizenship behavior. *Academy of Management Journal*, *49*, 561–575.

Jensen, J.M., & Patel, P.C. (2011). Predicting counterproductive work behavior from the interaction of personality traits. *Personality and Individual Differences*, *51*, 466–471.

Judge, T.A., Kammeyer-Mueller, J., & Bretz, R.D. (2004). A longitudinal model of sponsorship and career success: A study of industrial-organizational psychologists. *Personnel Psychology*, *57*(2), 271–303.

Kruyen, P.M., Emons, W.H.M., & Sijtsma, K. (2012). Test length and decision quality in personnel selection: When is short too short? *International Journal of Testing*, *12*(4), 321–344.

Leikas, S., & Salmela-Aro, K. (2014). Personality types during transition to young adulthood: How are they related to life situation and well-being? *Journal of Adolescence*, *37*(5), 753–762.

McCrae, R.R., & Costa, P.T. (1985). Updating Norman's "adequacy taxonomy": Intelligence and personality dimensions in natural language and in questionnaires. *Journal of Personality and Social Psychology*, *49*, 710–721.

Merz, E.L., & Roesch, S.C. (2011). A latent profile analysis of the Five Factor Model of personality: Modeling trait interactions. *Personality & Individual Differences*, *51*, 915–919.

Muthén, L.K., & Muthén, B.O. (1998–2012). *Mplus user's guide*, 7th edition. Los Angeles, CA: Muthén & Muthén.

Ng, T.W.H., Eby, L.T., Sorensen, K.L., & Feldman, D.C. (2005). Predictors of objective and subjective career success: A meta-analysis. *Personnel Psychology*, *58*, 367–408.

Ng, T.W., & Feldman, D.C. (2014). Subjective career success: A meta-analytic review. *Journal of Vocational Behavior*, *85*(2), 169–179.

Oberski, D.L. (2016). Mixture models: Latent profile and latent class analysis. In J. Robertson and M. Kaptein (Eds.), *Modern statistical methods for HCI: A modern look at data analysis for HCI research* (pp. 275–287). Switzerland: Springer Cham.

Penney, L.M., David, E., & Witt, L.A. (2011). A review of personality and performance: Identifying boundaries, contingencies, and future research directions. *Human Resource Management Review*, *21*, 297–310.

Podsakoff, P., MacKenzie, S., Lee, J.-Y., & Podsakoff, N. (2012). Sources of method bias in social science research and recommendations on how to control it. *Annual Review of Psychology*, *63*, 539–569.

Podsakoff, P.M., & Organ, D.W. (1986). Self-reports in organizational research: Problems and prospects. *Journal of Management*, *12*(4), 531–544.

Roth, M., & Von Collani, G. (2007). A head-to-head comparison of big-five types and traits in the prediction of social attitudes: Further evidence for a five-cluster typology. *Journal of Individual Differences*, *28*(3), 138–149.

Seibert, S.E., & Kraimer, M.L. (2001). The five-factor model of personality and career success. *Journal of Vocational Behavior*, *58*, 1–21.

Sutin, A., Costa, P. Jr, Miech, R., & Eaton, W. (2009). Personality and career success: Concurrent and longitudinal relations. *European Journal of Personality*, *23*, 71–84.

Tett, R.P., & Burnett, D.D. (2003). A personality trait-based interactionist model of job performance. *Journal of Applied Psychology*, *88*(3), 500.

Van der Wal, R.A.B., Bucx, M.J.L., Hendriks, J.C.M., Scheffer, G., & Prins, J.B. (2016). Work stress and satisfaction in relation to personality profiles in a sample of Dutch anaesthesiologists: A questionnaire survey. *European Journal of Anaesthesiology*, *33*(11), 800–806.

Vermeren, P. (2013). The unwanted popularity of typologies [in Dutch: De ongewenste populariteit van typologieën]. *Gedrag & Organisatie*, *26*(4), 405–430.

Wille, B., De Fruyt, F., & Feys, M. (2013). Big five traits and intrinsic success in the new career era: A 15-year longitudinal study on employability and work-family conflict. *Applied Psychology: An International Review*, *62*(1), 124–156.

Zhang, J., Bray, B.C., Zhang, M., & Lanza, S.T. (2015). Personality profiles and frequent heavy drinking in young adulthood. *Personality and Individual Differences*, *80*, 18–21.

SUPPORTING INFORMATION

Additional supporting information may be found in the online version of this article at the publisher's web site:

Sample 1. Statistical Model Comparisons to Derive Cluster Solutions for Sample 1 and Sample 2