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Theoretical framework for the RUNO personality typology based on the Circumplex of Personality Metatraits

Abstract: The current literature on personality types—understood as basic configurations of the Big Five's personality traits—provides inconsistent results. The most commonly reported, three-type RUO (Resilient-Undercontrolled-Overcontrolled) solution is not definitive, as other solutions are also" often obtained. The current paper starts from reviewing and discussing the inconsistencies found in the previous results as well as in the RUO typology itself. The prevalence of an exploratory orientation in research on personality type was interpreted as the main cause of these problems. Then, we proposed a solution by using the Two Factor Model of personality and its extension—the Circumplex of Personality Metatraits—as the theoretical foundation for a four-type RUNO typology (Resilient-Undercontrolled-Nonresilient-Overcontrolled). The paper presents the RUNO personality typology and its theoretical consequences – in particular, we argue that the RUNO (a) is the most theoretically justified, and therefore, empirically expected solution, (b) allows us to explain why the three-type RUO solution is so commonly obtained, and (c) helps to solve some other problems that have arisen in the literature (e.g., with "typeness").

Keywords: *Personality types, Big Five, RUO typology, Two Factor Model, Circumplex of Personality Metatraits, RUNO typology*

INTRODUCTION

The Five Factor Model (FFM, also known as the Big Five) consisting of Neuroticism (N) vs. Emotional Stability, Extraversion (E), Openness to experience (or Intellect; O), Agreeableness (A), and Conscientiousness (C), is the predominant model of personality trait structure, and probably also the most recognized personality conceptualization in contemporary psychology. Indeed, the FFM has gained a tremendous amount of empirical support, which led McCrae (2009) to compare this model to the universal physics of personality. However, at the same time it has been met with extensive criticism from several perspectives. One of the main criticisms within the perspective of individual differences has been the lack of assumed orthogonality of the five basic dimensions and this criticism led to the discovery of two personality metatraits. The other main criticism has been about the very concept of a trait (Block, 1995, 2010; McAdams, 1992) and this criticism led to (among others, like focusing on mechanisms) the return of research on personality types. However, current research on personality types has been conducted mainly in an exploratory manner, and despite more than 20 years of such studies the questions of how many and what basic personality types are justified from the structural point of view is still pending. The three-type RUO (Resilient-Undercontrolled-Overcontrolled) typology is the most documented to date (Donnellan & Robins, 2010), nevertheless, there is much evidence in the literature that does not allow RUO typology to be treated as the final solution.

The Circumplex of Personality Metatraits model (CPM; Strus, Cieciuch, & Rowiński, 2014; Strus & Cieciuch, 2017) integrates findings from both the above indicated lines of FFM criticism and offers theoretically based solutions of many problems that have arisen within the empirical research on the FFM, also including the issue of personality types. The paper presents the four-type RUNO (Resilient-Undercontrolled-Nonresilient-Overcontrolled) personality typology as a proposal based on the

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CPM together with their broad consequences for the area of both trait and type research.

THE ATTRIBUTE-CENTERED AND THE PERSON-CENTERED APPROACHES

Two different, very general approaches in personality psychology can be acknowledged (see Asendorpf, 2002; Donnellan & Robins, 2010). There is the predominant *attribute-centered* approach distinguishing variables that differentiate between people and can be quantitatively measured in people. However, this approach has been criticized for focusing only on "isolated" attributes, variables or traits, their structure and relationships between them and behaviors (Asendorpf, 2002; Donnellan & Robins, 2010). This led to the precise description of the interpersonal (between individuals) differences, but neglected the complex description of a person. Within a person, traits always exist in a specific configuration rather than in isolation, so it is also important to focus on the individual and his or her intrapersonal (or intraindividual) organization and compositions of personality traits. For this reason, it can be deemed necessary to complement the attribute-centered approach with the *person-centered* approach, and the latter is the one which has initiated renewed research on personality types (see Alessandri & Vecchione, 2017; Asendorpf, 2002; Donnellan & Robins, 2010)

On the other hand, researchers from the *attribute-centered* approach contra-argue that types do not have any incremental validity over the traits and they are not robust or replicable enough as they don't occur in many personality datasets (Costa, Herbst, McCrae, Samuels, & Ozer, 2002; Ekehammar & Akrami, 2003; McCrae, Terracciano, Costa, & Ozer, 2006; see Donnellan & Robins, 2010). What is more, research on personality types focuses on groups of people and commonly occurring basic profiles or prototypes of personality traits rather than on individuals themselves. The prototype is a way to describe intraindividual variability, but any individual is not likely to be a precise prototype as their configuration of personality traits always differs more or less from the configuration of a given prototype.

Without going too deep into this discussion, there is also some evidence for the external and predictive validity or temporal stability of personality types (e.g., Asendorpf, Borkenau, Ostendorf, & van Aken, 2001; Isler, Liu, Sibley, & Fletcher, 2016; Kinnunen et al., 2012; Meeus, Van de Schoot, Klimstra, & Branje, 2011; Roth & von Collani, 2007; Specht, Luhmann, & Geiser, 2014; Xie, Chen, Lei, Xing, & Zhang, 2016; see Alessandri & Vecchione, 2017; Donnellan & Robins, 2010), and it seems reasonable that shifting focus from personality traits and their structure to their intraindividual organization and their commonly occurring configurations (profiles) is an interesting direction of research. Therefore the analysis of basic personality types may be a valuable complementation to the analysis of trait structure (see Hofstee, 2002; Mervielde & Asendorpf, 2000; Zawadzki & Strelau, 2003a).

FROM THE EMPIRICALLY FOUND RUO TYPES TO THE THEORETICALLY BASED RUNO TYPOLOGY

Individual differences have been recognized in terms of types since antiquity. Interestingly, even nowadays, researchers sometimes draw from the Hippocrates–Galen typology of the four temperaments: melancholic, choleric, phlegmatic, and sanguine (Eysenck & Eysenck, 1985). However, these days personality types are usually understood as configurations of the trait dimensions of personality (Strelau, 2002), and research focuses on identifying the most widespread basic profiles of the Big Five traits.

This line of research originated in the Blocks' (Block, 1971; Block & Block, 1980) pioneering studies and theorizing as well as identification of three personality types—Resilient (R type), Undercontrolled (U type), and Overcontrolled (O type)—by Robins, John, Caspi, Moffitt, and Stouthamer-Loeber (1996). These studies were conducted using the California Child Q-set measure in an adolescent sample, but the many later studies confirmed this RUO typology using FFM measures and in other samples including adults and various cultures (Alessandri et al., 2013; Asendorpf et al., 2001; Barbaranelli, 2002; Schnabel, Asendorph, & Ostendorf, 2002; Zawadzki & Strelau, 2003a; see Alessandri & Vecchione, 2017; Asendorpf, 2002; Caspi, 1998; Donnellan & Robins, 2010; John & Srivastava, 1999). The R type usually consists of low Neuroticism (N-), high Conscientiousness (C+), and elevated Extraversion (E+), the U type comprises low Conscientiousness (C-) and decreased Agreeableness (A-), while the O type consists of high Neuroticism (N+) and low Extraversion (E-). However, four issues should be considered in reference to the above.

The number of traits in the configurations of personality types

Firstly, in some studies the RUO types have been found to have a pattern involving high or low levels of almost all of the FFM basic traits (Alessandri et al., 2013; see Barbaranelli, 2002; Herzberg & Roth, 2006), although this was dependent on the threshold of a trait elevation level adopted by a given author. The R type often exhibits the N-, E+, O+, A+, C+ configuration, the U type: N+, E+, O+, A-, C-, and the O type the configuration of N+, E-, O-, A-, C- (e.g., Alessandri et al., 2013; see Table 1).

Nonresilient rather than Overcontrolled type

Secondly, in light of the above configurations, the label of the Overcontrolled type becomes questionable, as this type often contains low Conscientiousness which is linked to self-control. This problem is often explained in relation to the twofold structure of self-control (see Alessandri et al., 2013) – the reactive (inhibitive and nonvoluntary) control contained in the O type is supposed to be relatively different from a proactive self-regulation related to Conscientiousness. However, Conscientiousness, in fact, contains both proactive (achievement striving, self-discipline or industriousness), and inhibitive

aspects (order, deliberation or organization; see DeYoung, Quilty, & Peterson, 2007) of self-control, and therefore should not be expected to be low in the O type. Moreover, there are some inconsistencies between the O type profile of the Big Five and its theoretical origins in the Blocks' (Block & Block, 1980) concept (see Alessandri & Vecchione, 2017; Alessandri et al., 2013). Additionally, the overall profile of the O type (i.e., elevated Neuroticism and low scores on the remaining Big Five factors) stands in opposition to the R type rather than the U type, and for these reasons the O type has also been termed *Non-desirable* (see Alessandri et al., 2013; Barbaranelli, 2002; Grumm & von Collani, 2009), *Brittle* (Gramzow et al., 2004; Isler, Garth, Fletcher, Liu, & Sibley, 2017; see Avdeyeva & Church, 2005), or *Non-resilient* (Gramzow et al., 2004; Leikas & Salmela-Aro, 2014; Solís-Cámara, Meda Lara, Moreno Jiménez, Palomera Chávez, & Juárez Rodríguez, 2017; Zawadzki & Strelau, 2003b; see Xie et al., 2016), of which the last label seems to be most appropriate. Therefore, below we also use the *Nonresilient* (or the *N type*) label in reference to this personality type.

Overcontrolled as the fourth personality type

Thirdly, the RUO typology assumes that there are three robust personality types, and, indeed, they were found through different measures, analytic procedures and in children and adolescents as well as adults (Asendorph et al., 2001; Boehm, Asendorph & Avia, 2002; De Fruyt, Mervielde, & Van Leeuven, 2002; Robins et al., 1996; Schnabel et al., 2002) showing their validity and stability (e.g., Asendorph et al., 2001; see Donnellan & Robins, 2010). However, the RUO typology does not preclude that there are more than three types. Therefore, the three RUO types are treated as the minimally necessary set (Donnellan & Robins, 2010; Robins et al., 1996), and there is evidence that RUO typology overlooks some prototypes (Gramzow et al., 2004), as some studies indicate the existence of four (Barbaranelli, 2002; Gramzow et al., 2004; Gerlach, Farb, Revelle, & Amaral, 2018; Grumm & von Collani, 2009; Isler et al., 2016, 2017; Leikas & Salmela-Aro, 2014; Specht et al., 2014; Xie et al., 2016) or five basic personality types (Caspi et al., 2003; Grumm & von Collani, 2009; Herzberg & Roth, 2006; Roth & von Collani, 2007; Sava & Popa, 2011; see Block, 1971). Furthermore, when representative samples were analyzed, solutions with more than three clusters were more likely to appear (Herzberg & Roth, 2006; Sava & Popa, 2011; Specht et al., 2014). Table 1 presents the results from over 35 analyses conducted on adult samples within the FFM framework and reported in over 20 articles published from about 20 years of research on personality types. These studies were carried out on adults with diverse ages, sex, cultural context (country), status of mental health, some of the samples being students, twins, and representative samples for a given population. The NEO Personality Inventory Revised (NEO-PI-R) and NEO Five Factor Inventory (NEO-FFI) were used most often in these studies, but not exclusively.

Table 1. Personality types across studies on adult samples

lp.	Authors	Participants number and age	Method of analyses	Measure	Type of data	Number of types	Personality types derived[#]				
							Resilient	Undercon.	Nonresil.	Overcon.	Other
1	Asendorpf et al., 2001	Range: 18-24 M = 21.6 SD = 1.58 N = 730	WHCA	NEO-FFI	Raw	3	N–, E+, C++	E+, C–	N++, E–		
2		Range: 18-24 M = 21.6 SD = 1.70 N = 568		German adjective list	Raw	3	N–, E++, O+, A+, C++	N+, E++, A-, C–	N++, E–, O–, A-		
3	Schnabel et al., 2002)	Range: 20-30 M = 23.9 SD = 2.93 N = 786	WHCA	NEO-PI-R	Raw	3	N–, E+, C++	N+, E++, O++, C–	N++, E–, O–		
4	Boehm et al., 2002	Range: 20-30[s] M = 21.9 SD = 1.8 N = 758	WHCA	NEO-PI	Raw	3*	N–, E+, A+, C++	O+, C–	N++, E–, O-, A–		
5		Range: 20-30 M = 24.0 SD = 2.9 N = 460		NEO-PI		3*	N–, E++, A++, C+	N++, E-, A-, C–	N++, E-, O-, A-, C++		
6	Costa et al., 2002[a]	Range: 38-62 M = 50.3	WHCA	NEO-PI-R	Raw	3*	N–, E+, A++, C++	E++, O++, A-	N++, E–, O-, C–		

lp.	Authors	Participants number and age	Method of analyses	Measure	Type of data	Number of types	Personality types derived[#]				
							Resilient	Undercon.	Nonresil.	Overcon.	Other
7		SD = 11.9 N = 486 Range: 39-73 M = 56.4 SD = 17.1 N = 1856		NEO-PI-R		3*	N–, E++, O+, A++, C++	C-	N++, E–, O–, C–		
8		Range: 22-38 M = 30.7 SD = 8.0 N = 274		NEO-PI-R		3*	N–, E++, O++, A+, C++		N++, E-, A-, C–	N-, E-, O–, A+, C+	
9		Range: 46-53 M = 50.2 SD = 3.4 N = 2420		NEO-PI-R		3*	N-, E++, O++, A+		N++, E–, A–, C–	N-, E-, O–, C++	
10	Barbaranelli, 2002	Range: 20-30 M = 23.10 SD = 2.98 N = 421	WHCA	NEO-PI	Raw	3	N–, E+, C++	E+, O++, A++, C–	N++, E–, O-, A–, C-		
						4	N–, E++, O++, A++, C++	N+, E+, O++, A++, C–	N++, E–, O-, A–, C–	E–, O–, A-, C++	
11	Ekehammar & Akrami, 2003	Range: 18-57 M = 23.8 N = 156	WHCA	NEO-PI	Raw	3[c]	N-, E+, O-, C++	N-, E+, O++, A+, C–	N++, E–, A–, C–		
12	Zawadzki & Strelau, 2003a	Range: 16-77 M = 28.28 SD = 13.56 N = 2017	WHCA	NEO-FFI	Raw	3	N–, E+, A+, C++	E++, O++, A–, C–	N++, E–, O-		
13	Gramzow et al., 2004	Range 18-55[s] M = 19.78 SD = 3.59 N=199	WHCA	CAQ BFI	Raw	4	N-, E+, A+	N+, E+, O+, U-, S–	N++, E–, O-, U-, S-	all average	
14	Rammstedt et al., 2004	Range: 18-70[t] M = 34.28 SD = 12.99 N = 515-554	WHCA	NEO-PI-R, NEO-FFI, Behavior ratings		3 Self-ratings	N–, E+, C++	N++, E+, O+, A-, C–	N+, E–,O–		
15						3 Peer reports	N–, E++, O+, A+, C+		N++, E–, A–, C–	E-, O-, C+	
16						3 Behavior ratings	N–, E++, O++, A++, C++	E+	N++, E–, O–, A-, C-		
17	Avdeyeva & Church, 2005	*M* = 18.91[s] *SD* = 1.33 N = 413	WHCA	Filipino trait adjectives (PKP), NEO-PI-R	Raw	3 Male (34%)	N–, O+, A++, C++	N+, A–,C–		N-, A+	
18						3 Female (66%)	N-, E+, O+	N++, A-, C–		N-, E-, A+, C++	
19	Herzberg & Roth, 2006	Range: 18-96[r] M = 47.7 SD = 16.9 N = 1908	WHCA	NEO-FFI	Raw	5	N–, E++, O+, A++, C++	N++, E-, A–, C–	N++, E–, C–	N-, E-, O–, A+, C+	E++, O++, A+, C+ (confident)
20		Range: 25-35[d] M = 29.5		NEO-FFI		5		N++, A–, C–		N-, E–, O–, A++, C-	

lp.	Authors	Participants number and age	Method of analyses	Measure	Type of data	Number of types	Personality types derived[#]				
							Resilient	**Undercon.**	**Nonresil.**	**Overcon.**	**Other**
		SD = 3.1 N = 265					N–, E+, O++, A+, C++				N+, O++, A+, C+ (reserved) N–, E++, O-, A– (confident)
21	Berry et al., 2007	*M* = 40.5[p] SD = 16.7 N = 199	WHCA	NEO-FFI	Raw	3	N–, E++, A++, C++	O+, C-	N++, E–, O–, A–, C-		
22	Grumm & von Collani, 2009	Range: 18-55[s] *M* = 22.8 SD = 5.75 N = 141	WHCA	NEO-FFI	Raw	3[c]	N–, E++		N++, E–, A–, C–	N+, E–, O–, A++, C++	
23	Steca et al., 2010	Range: 65-95 M = 71.90 SD = 5.85 N = 735	WHCA	BFQ	Stand.	3	N–, E+, O++, A++, C++	C–	N++, E–, O–, A–		
24	Sava & Popa, 2011	Range: 16-60[r] N = 1039	WHCA	DECAS-PI	Raw	5	N–, E++, O++, A++, C++	E++, A-, C–	E-, O-, A-, C+	N–, E–, O-, A++, C–	N++, E++, O++, A–, C++ (strain)
						3	N–, E++, O++, A++			N-, E–, O-, C-	N++, E++, A–, C++ (strain)
25	Merz & Roesch, 2011	Range: 17-25[s] M = 20.13 SD = 2.09 N = 371	LPA	IPIP-BFM	Raw	3	N–, E+, O+, A+, C+	N++, E+, O+, A+, C+	N+, E–, O–, A-, C+		
26	Alessandri et al., 2013	Range: 19-36 M = 23.63 SD = 1.99 N = 322	WHCA	BFQ	Raw	3 *Italian*	N–, E+, O++, A+, C++	N++, E++, O+, C-	E–, O–, A–, C–		
27		Range: 17-25 M = 18.99 SD = 1.35 N = 499				3 *U.S.*	N–, E++, O++, A++, C+	N++, E+, O+	N++, E–, O–, A–, C–		
28		Range: 17-31 M = 27.71 SD = 6.22 N = 420				3 *Spanish*	N–, E++, O++, A++, C+	N+, E+, C-	N++, E–, O–, A-, C–		
29		Range: 21-35 M = 26.22 SD = 4.05 N = 235				3 *Polish*	N-, E+, O++, A+, C+	N++, E+, O+, C-	N+, E–, O–, A–, C–		
30	Leikas & Salmela-Aro, 2014	20 & 23[l] N = 493	LPA	BFI	Stand.	4	N–, E++, O+, A++, C++	A-	N++, E–, O-, A–, C–	N++, E–, A+, C++	
31	Specht et al., 2014	Range: 16-82[r] M = 47.21 SD = 16.28),	LPA	BFI-S	Stand.	3 male	N-, E+, O+, C++	E-, A–, C–	E–, O–, A-		
						3		N+, A-, C–		N–, E–,	

lp.	Authors	Participants number and age	Method of analyses	Measure	Type of data	Number of types	Personality types derived[#]				
							Resilient	Undercon.	Nonresil.	Overcon.	Other
32		N = 14.718		Short adjective list (Goldberg, 1992)		female	E+, O+, A+, C++			O–, A+	
		Range: 15-79[r] M = 43.74 SD = 16.45 N = 8.315				4 male	N–, E+, A++, C++	N++, E-, O++	N++, E–, A–, C–		A- (average)
						4 female	N–, E++, A++, C++	N++, O+	N++, E–, A–, C–		E-, O–, C- (average)
33	Solís-Cámara et al., 2017	Range: 14-25 M = 19.9 SD = 2.43 N = 541	WHCA	NEO-FFI	Raw	3[z]	N–, E++, O++, A++, C++		N++, E–, O–, A–, C–	C++	
34		Range: 26-63 M = 41.2 SD = 9.42 N = 453				3[z]	N–, E++, O++, A++, C++		N++, E–, O–, A–, C–	C++	
35	Gerlach et al., 2018	N = 145,338	GMM	IPIP-NEO-300	Stand.	4	N–, E++, A++, C++	E++, O–, A–, C- (self-centred)		N–, O–	N++, E++, O– (average)
36		N = 410,376		IPIP-NEO-120		4	N–, E++, O+, A++, C++	N-, E++, O–, A–, C– (self-centred)		N–, O–	N+, E+, O-, A++, C++ (average)
37		N = 575,380		IPIP-BFM-100		3	N–, E++, O++, A++, C++			N–, O–, C++	N++, E++, O–, C- (average)
38		N = 386,375		BFI		3	N–, E++, O++, A++, C++	N–, E++, O–, C– (self-centred)		N–, E–, O–, C+;	

Notes: Standardized Z values in the range of -.25 to .25 are not reported. Standardized Z values over .50 or below -.50 are marked with double signs (++ or –). Standardized Z values in the range of .25 to .50 or -.25 to -.50 are marked with single signs (+ or -). Traits with unexpected signs were underlined.

WHCA = Ward's hierarchical cluster analysis + *k*-means (cross-validation); LPA – latent profile analysis or latent class analysis; GMM = Gaussian mixture models.

[#] In some studies the types labels were different than in the table, in particular the Nonresilient type was labeled Overcontrolled in most of the studies;

*Authors did not compare different cluster solutions

NEO-FFI = NEO Five Factor Inventory (Costa & McCrae, 1992); NEO-PI = NEO Personality Inventory (Costa & McCrae, 1992); NEO-PI-R = NEO Personality Inventory - Revised (Costa & McCrae, 1992); BFI = Big Five Inventory (John & Srivastava, 1999); BFI-S = Big Five Inventory – Short (Gerlitz & Schupp, 2005); BFQ = Big Five Questionnaire (Caprara, Barbaranelli, Borgogni, & Perugini, 1993); CAQ = California Adult Q-Sort; DECAS-PI - DECAS Personality Inventory (Sava & Popa, 2011).

IPIP = International Personality Item Pool Big Five Markers (Goldberg, 1999); IPIP-BFM = IPIP Big Five Markers (Goldberg, 1999); IPIP-BFM-100 = 100 item version of IPIP-BFM; IPIP-NEO-300 = 300 item IPIP version of the NEO-PI-R (Goldberg, 1999); IPIP-NEO-120 = 120 item IPIP version of the NEO-PI-R (Johnson, 2014); Mini-IPIP = 20 item IPIP measure of the Big Five (Donnellan et al., 2006).

a = study without internal cross-validation, prototypes cross-validated with types from Asendorpf et al. (2001) and Schnabel et al. (2002) resulting Cohen's kappa ranged from $\kappa = .18$ to $\kappa = .58$; c = other cluster solutions were examined, however no data on their replicability was given and only a three-cluster solution was considered; d = all cluster solutions showed replicability below a .60 cut-off point; s = student sample; t = twins sample; r = representative sample; p = spinal cord injury patients; l - two measurement points, longitudinal study; z = standardized Z values in the range of .25 to .50 or -.25 to -.50 were not reported in the paper.

Most, but not all studies reported a three-type RUO solution (e.g., Boehm et al., 2002; Costa et al., 2002; Rammstedt, Riemann, Angleitner, & Borkenau, 2004), and in many the procedures were focused on the replication or confirmation of the RUO typology (see Costa et al., 2002), rather than on searching for new types. Moreover, the classic studies by Block (1971) as well as Robins et al., (1996) reveal more than three types. Especially the four-type solution (with fourth type added to the RUO types) seems to be interesting for many empirical and theoretical reasons. This fourth type typically has a configuration more or less close to N-, E-, O-, A+, C+ (see Avdeyeva & Church, 2005; Barbaranelli, 2002; Costa et al., 2002; Gramzow et al., 2004; Grumm & von Collani, 2009; Herzberg & Roth, 2006; Isler et al., 2016, 2017; Kinnunen et al., 2012; Rammstedt et al., 2004; Solís-Cámara et al., 2017). Due to this configuration, the fourth type stands in opposition to the U type and it represents a conscientious, agreeable, and emotionally stable person, that is however, introverted and low in openness to experiences. This description of the fourth type fully corresponds with the meaning of self-overcontrolling (also in terms of high conscientiousness), therefore below we use the *Over-controlled* (or the *O type*) label in reference to this personality type.

This O type is sometimes revealed in research as a distinct fourth type (Barbaranelli, 2002; Gramzow et al., 2004; Isler et al., 2017; Leikas & Salmela-Aro, 2014; see Isler et al., 2017; Zawadzki & Strelau, 2003b), other times as the third Overcontrolled or reserved type in three-type solutions or as one of the types within a five-type solutions (Avdeyeva & Church, 2005; Caspi et al., 2003; Costa et al., 2002; Grumm & von Collani, 2009; Herzberg & Roth, 2006; Isler et al., 2016, 2017; Kinnunen et al., 2012; Rammstedt et al., 2004; Roth & von Collani, 2007; Sava & Popa, 2011; Solís-Cámara et al., 2017; see Table 1), and sometimes as a communal, well-adjusted or reserved (Herzberg & Roth, 2006) subtype of the R type. Indeed, as noticed by Gramzow et al., (2004), the R type typically represents more than 50% of the sample, so it is plausible that there is an additional, meaningful distinction among such a large proportion of people. Moreover, the four-type solution seems to have better predictive validity than the three-type solution (Isler et al., 2016; Sava & Popa, 2011). However, the question remains as to why this fourth, Overcontrolled type is observed less frequently than other three.

The reasons for less frequent occurrence of the fourth, Overcontrolled type

It seems that there may be at least three underlying causes of problems with the occurrence, replication or robustness of the fourth, Overcontrolled personality type. The first reason could be the age of its members. Based on the correlations of the FFM traits with age (increasing Agreeableness and Conscientiousness, decreasing Neuroticism, Extraversion, and Openness to experience; e.g., McCrae & Costa, 2003), one would expect that the O type is more common in older people (see Gramzow et al., 2004; Herzberg & Roth, 2006; cf. Steca, Alessandri, & Caprara, 2010), while research on personality types is mainly conducted on adolescents students or young adults. There is some evidence that solutions with more than three clusters are more likely to occur when representative samples are analyzed (Herzberg & Roth, 2006; Sava & Popa, 2011; Specht et al., 2014). It could be expected that samples with a more representative age distribution, will be more likely to reveal the fourth, Overcontrolled type.

Secondly, the personality trait profile of the O type is the least salient and distinguishable (Zawadzki & Strelau, 2003b). More specifically, it can be assumed that introverted individuals who are rather closed to new experiences, but are emotionally stable, agreeable, and conscientious, may be the least conspicuous and unequivocally manifesting themselves compared to the other personality profiles. Accordingly, the O type individuals may be the most difficult to identify, as they provide very few unequivocal diagnostic symptoms, especially in peer-rating studies (Zawadzki & Strelau, 2003b).

Thirdly, the analytic procedures used to search for personality types are somewhat arbitrary and additionally, in many studies the focus was on replicating the three types (see Costa et al., 2002). Some of the studies even did not compare different cluster solutions, testing only the three-type solution (e.g., Boehm et al., 2002; Costa et al., 2002), or did not report the replicability of other solutions (Ekehammar & Akrami, 2003; Grumm & von Collani, 2009). What is more, there is some evidence that personality questionnaires with smaller number of items (compared with more expanded ones) are more likely to produce lower numbers of types due to discretization of respondents′ scores related to a low resolution of the measurement of individuals traits (Gerlach et al., 2018).

Additionally, worth noting here are also recent findings by Gerlach and collaborators (2018), which were based on so-called big data – four large datasets comprising more than 1.5 million participants. Although the authors found robust evidence for four personality types, these types were substantially different from both RUNO and RUO/RUN typologies (see Table 1). Actually, there is only one type obtained in Gerlach et al.,'s (2018) study that is fully analogous to the type from RUO/RUNO typology – the so-called *Role model* type can be deemed a counterpart of the Resilient type. One could also notice some similarities between the *Reserved* and Overcontrolled type from RUNO typology, although incomplete, and in the other two cases there are essential discrepancies in profiles observed by Gerlach et al., (2018) in comparison with RUO/RUNO types. However, there are a few elements which place this study largely outside the tradition of contemporary research on personality types. Of crucial importance is the employment of a completely different statistical approach than is commonly utilized for the identification of personality types, namely a method based on Gaussian mixture models. Although this methodology is innovative and seems to be interesting, it has not been used and tested in other studies. Therefore, there is a possibility that the obtained differences in results are derivatives of a specific statistical approach, as Gerlach

et al.,'s (2018) results are basically not supported by any of the studies conducted to date. Moreover, the majority of personality measures used in this study were quite specific, as three out of four of them highly overlapped, being based on the International Personality Item Pool (Goldberg, 1999) counterpart of the NEO-PI-R (Costa & McCrae, 1992; the fourth measure was the Big Five Inventory; John et al., 2008). Finally, it is also worth noting that data for this study were derived entirely via the Internet (from questionnaires available from the website) and the whole sample was strongly unbalanced regarding sex (clear predominance of female participants) and age, which are also neither typical nor optimal conditions for research on personality types. Therefore, Gerlach et al.,'s (2018) study has its specificities and limitations which could essentially affect the obtained results (see also Freudenstein, Strauch, Mussel, & Ziegler, 2019) and make it difficult to interpret them in reference to the previous studies.

The theoretical basis for the personality typology

The final issue is of key importance as it is related to the origin and justification of the RUO three-type typology. Although the typology is empirically derived, the *ego-resiliency* and *ego-control constructs* from the self-regulatory theory of ego properties by the Blocks (Block & Block, 1980) are used as the theoretical basis of the RUO typology. These two constructs are deemed to be core dimensions of personality that combine with each other to produce three common personality types (see Alessandri et al., 2013). In the Blocks' theory, ego-resiliency is related to the ability to flexibly respond to situational demands (stress, conflicts or uncertainty) and with an appropriate level of control. According to the Blocks' (Block & Block, 1980) suggestion that remains predominant in the current studies on personality types, in the case of high ego-resiliency (R type) the individual level of ego-control is not established or is on the moderate level. The individual level of ego-control – which is a tendency to constrain motivational and emotional impulses – becomes fixed in the case of low level of ego-resiliency. In this case, the individuals are characterized by a high level of ego-control (O type) when they constrain their impulses independently of the situations, or by a low level of ego-control (U type), when they are impulsive independently of the situational demands. In other words, a nonresilient ego will have either an extremely high or extremely low level of control property (see Alessandri et al., 2013; Isler et al., 2016). Therefore, due to the curvilinear relation between ego-resiliency and ego-control, there are exactly three personality types predicted on the basis of this theory (see Asendorpf et al., 2001).

The problem with the reasoning presented above is that it is conducted outside the FFM framework. As mentioned above, the RUO typology is empirically derived from traits data, and there are in fact no theoretical premises for predicting the exactly three personality types as configurations of traits based on the FFM model. On the contrary, there are good reasons to treat the ego-resiliency and ego-control dynamic as one that operates within another layer of personality than that of the FFM dispositional dimensions (John & Srivastava, 1999; McCrae & Costa, 2003). For instance, ego-resiliency and ego-control could be self-regulatory properties of personality functioning that operate within the characteristic adaptation layer of personality in McAdams' model (McAdams & Pals, 2006) or Five Factor Theory (McCrae & Costa, 2003), while the FFM dimensions constitute the other, more basic trait-dispositional layer. There are some dynamic processes between these layers, however they move from the traits to the properties of ego, rather than in the inverse direction. Moreover, empirical research on the common FFM configurations typically indicates a Non-resilient type rather than an Overcontrolled type to be the third personality type, in contradiction to the interpretation presented above and based on the Blocks' theory. Finally, according to the later and more relevant suggestion by the Blocks (Block & Block, 1980), variations in ego resiliency and ego control could be formed to some extent independently, while the interrelations between these two ego properties could lead to establishing four (i.e., 2 x 2), rather than three, basic personality types (Gramzow et al., 2004; Isler et al., 2016). Nevertheless, a theoretical basis for predicting both the number and the content of personality types seems to be still needed, and the best option is to derive this from a model or theory built within the FFM or traits theory paradigm.

Summing up, there are both empirical and theoretical justifications for the following: (a) to re-label the Over-controlled type (with the configuration N+, E-, O-, U-, S-) to the Nonresilient type; (b) to assume the existence of a fourth type with a configuration of N-, E-, O-, U+, S+ and the label Overcontrolled fitting well to this profile content; and (c) to treat each personality type as profile containing generally all of the FFM basic dimensions. This four-type typology could be named the RUNO (Resilient, Undercontrolled, Nonresilient, Overcontrolled), and has been more or less directly supported by previous empirical research (Barbaranelli, 2002; Gramzow et al., 2004; Isler et al., 2016, 2017; Leikas & Salmela-Aro, 2014). Moreover such a typology corresponds to the Hippocrates–Galen typology (Resilient-sanguine, Undercontrolled-choleric, Nonresilient-melancholic, Overcontrolled-phlegmatic) and even more importantly, it can be theoretically derived from the CPM synthesizing model (Strus et al., 2014; see Zawadzki, 2016, 2017), which originates directly from the FFM model of personality traits. Taking all of the above into consideration, it seems that the RUNO typology may be superior to the RUO/RUN typology in terms of its informative value, validity as well as its theoretical interpretation (Isler et al., 2016; see Sava & Popa, 2011; Xie et al., 2016).

THE CPM MODEL AND THE RUNO TYPOLOGY

Over the past 20 years – parallel to research on personality types based on the FFM model – a considerable body of evidence has been gathered to indicate that the Big

Five dimensions do not constitute the highest level of personality trait structure, but that two higher-order factors, *Alpha/Stability* and *Beta/Plasticity* (DeYoung, 2006; DeYoung, Peterson, & Higgins, 2002; Digman, 1997), are located above the Big Five and account for the systematic intercorrelations between them (e.g., Costa & McCrae, 1992; Digman, 1997; Goldberg, 1992). Alpha is related to the shared variance of N, C and A traits, being connected to *Stability* in the emotional (N-), motivational (C+), and social domains (A+). Beta is responsible for the covariance of E and O, and it reflects behavioral (E+) and cognitive (O+) *Plasticity*, related to the tendency to engage (behaviorally and cognitively) in new experiences (DeYoung, 2006; DeYoung et al., 2002). These two higher-order factors of the Big Five have constituted the Two Factor Model of personality, also known as the *Big Two* (Cieciuch & Strus, 2017).

The CPM model adopted these Big Two factors, Alpha/Stability and Beta/Plasticity, treating them as orthogonal dimensions (see Anusic, Schimmack, Pinkus, & Lockwood, 2009; Chang, Connelly, & Geeza, 2012; DeYoung, 2006; McCrae et al., 2008; Simsek, Koydemir, & Schütz, 2012) of the circumplex space, and complementing them with two other metatraits *Gamma/Integration* and *Delta/Self-Restraint,* which have also been found in research on personality structure (Becker, 1999; Strus & Cieciuch, 2017, 2019; see Musek, 2007; Rushton & Irwing, 2011; Strus et al., 2014). Due to the opposite poles of these four bipolar metatraits having a meaning that exceeds that of a simple opposition, the CPM also separately defines the positive and negative poles of each metatrait (Strus et al., 2014). Therefore, the CPM model assumes an octant structure of personality metatraits consisting of four bipolar or eight unipolar metatraits, with each of them related to a specific configuration of the FFM traits (see Figure 1).

According to Strus et al., (2014), the main advantage of the CPM model is that it can be deemed both a description of the crucial level of personality structure and a foundation for a comprehensive, wide-ranging theoretical integration. The CPM has empirically demonstrated that it can be treated as a kind of matrix that accommodates the constructs described by other models and theories (Strus & Cieciuch, 2017). One of the possibilities of this integrative potential includes the personality types (Strus et al., 2014), as both the personality metatraits and the personality types are constituted by configurations of the FFM traits.

It was DeYoung (2005) who first proposed a personality typology based on the axes of the metatraits Alpha/Stability and Beta/Plasticity, and noted the correspondence of these types to the ancient Greek humoral typology. Within this framework, the RUNO types result from a combination of these two metatraits, for instance the Resilient type is a combination of Alpha+ and Beta+ while the Undercontrolled type is a combination of Alpha- and Beta+. However, DeYoung (2005) did not link his typology to the contemporary research on personality types that originates from the Blocks' concept. In contrast, the CPM model includes metatraits that through their FFM

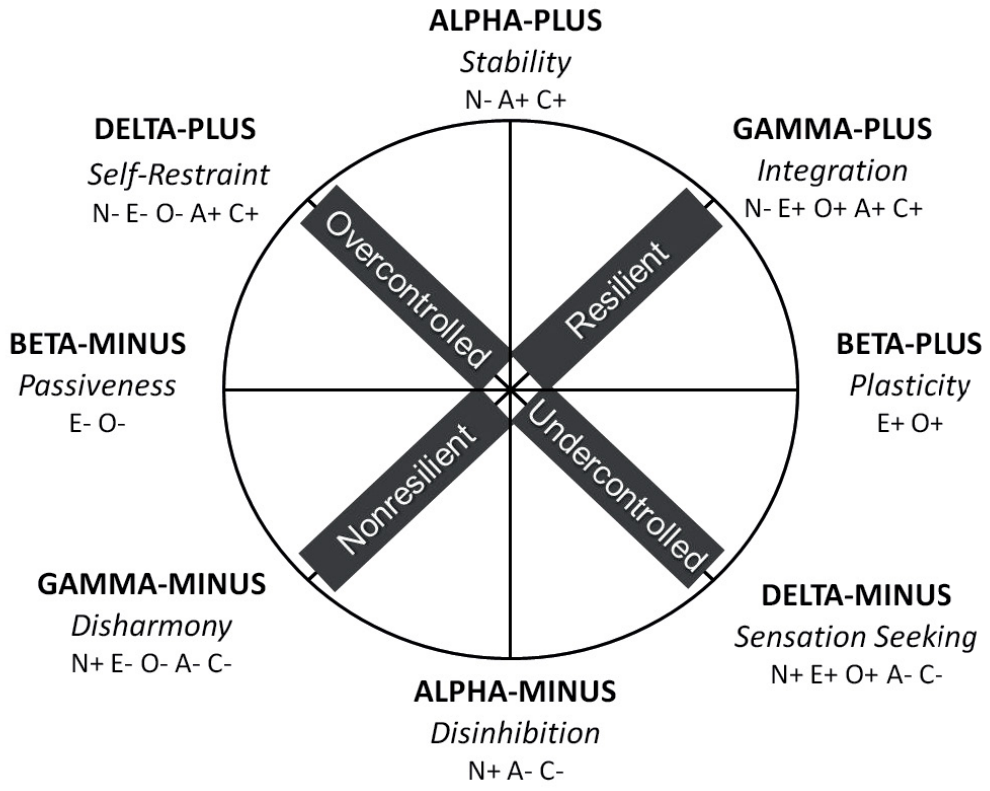

Figure 1. Resilient, Undercontrolled, Nonresilient and Overcontrolled personality types (RUNO typology) within the Circumplex of Personality Metatraits model.

configurations precisely correspond to the RUNO types. These metatraits are Gamma/Integration and Delta/Self-Restraint (see Zawadzki, 2016, 2017).

The CPM counterpart of the R type is Gamma-Plus termed *Integration*, as it encompasses all adaptive qualities of personality, and means well-being, both intra- and interpersonal harmony, an openness to the world in all its richness, prosocial attitudes and effectiveness in attaining important goals (Strus & Cieciuch, 2017; Strus et al., 2014). These characteristics correspond to the R type description including self-confidence, emotional stability, and positive orientations towards others (Donnellan & Robins, 2010). The CPM counterpart of the N (Nonresilient) type is Gamma-Minus labeled *Disharmony,* as it contains the most dysfunctional configuration of personality traits referring to depressiveness, pessimism, a proneness to suffer from psychological (internalizing) problems as well as distrust and coldness in interpersonal relationships (Strus & Cieciuch, 2017; Strus et al., 2014; see Becker, 1999; Musek, 2007), which corresponds to the N type (or O type before relabeling) description including emotional brittleness, introversion, and tension (Donnellan & Robins, 2010). In turn, the CPM counterpart of the O (Overcontrolled in relabeling presented above) type is Delta-Plus termed *Self-Restraint*, which reflects high behavior and emotional control, low emotionality (both negative and positive), conventionality, conformism and a tendency to adjust oneself (see Becker, 1999; DeYoung et al., 2002). These qualities correspond to the description of the O type (with high reservedness and self-discipline; e.g., Gramzow et al., 2004; Herzberg & Roth, 2006; Isler et al., 2016; Kinnunen et al., 2012; Solís-Cámara et al., 2017). Finally, the CPM counterpart of the U type is Delta-Minus labeled *Sensation Seeking* and defined as impulsiveness, stimulation-seeking, high emotional lability, as well as provocativeness and expansiveness in interpersonal relations (Strus & Cieciuch, 2017; Strus et al., 2014; see Becker, 1999; DeYoung, Peterson, Seguin, & Tremblay, 2008), which corresponds to the description of the U type (e.g., Gramzow et al., 2004; Herzberg & Roth, 2006) including disagreeableness and a lack of self-control (Donnellan & Robins, 2010). The location of the four personality types within the CPM model as described above is presented in Figure 1.

Therefore, the CPM metatraits fully correspond to the RUNO (and the RUO) typology both in terms of the FFM configurations (see Zawadzki, 2016, 2017) and in terms of content or meaning. Strictly speaking, the RUNO typology is primarily derived from the TFM model as Alpha and Beta orthogonal dimensions determine the whole spectrum of four configurations of FFM traits. However, the RUNO typology is theoretically driven from the CPM model, as the latter—with its bipolarity and circumplex form—gives the RUNO types a specific psychological content which could lead one to even rename them as Resilient-Integrated, Undercontrolled-Sensation seeker, Nonresilient-Disharmonized and Overcontrolled-Restrained. At the same time, the CPM's ability to accommodate both personality traits and personality types enables a cohesive integration of the findings from trait and type research.

RUNO TYPOLOGY BASED ON THE CPM – COMING BACK TO THE BLOCKS' THEORY AND OTHER THEORETICAL CONSEQUENCES

In contrast to the Blocks' (Block & Block, 1980) theory, the CPM model (Strus et al., 2014; Strus & Cieciuch, 2017) is built directly on the basis of the FFM and predicts four RUNO types because the poles of CPM's Gamma and Delta metatraits correspond accurately with the FFM configurations of the RUNO (including also RUO/RUN) personality types. Thus, the question is whether the four-type RUNO typology can be also related to the Blocks' theory of ego properties or whether the ego operates on a different personality layer than the traits and their configurations.

First of all, one should note that the basis for the RUO/RUN typology can be found in the Blocks' theorizing assuming the curvilinear relationships between ego-resiliency and ego-control (see Asendorpf et al., 2001). This is currently the most popular interpretation, however, taking the later suggestions by the Blocks (Block & Block, 1980; pp. 88-89) into account (see Gramzow et al., 2004; Isler et al., 2016) it seems that there are at least two ways to reconcile the RUNO typology with the Blocks' self-regulatory theory.

The first way is based on a theoretical reinterpretation of the interrelationships between the two ego properties. Namely, it seems reasonable to assume that the level of ego-control becomes fixed – or in other words, ego-control becomes a stable property of the ego – within an individual with moderate rather than low ego-resiliency. This is due to the fact that a nonresilient (brittle) ego is probably able to neither restrain internal impulses nor resist external stimuli, making it vulnerable to the individual's urges and desires as well as to the situational demands and determinants. As a consequence, the nonresilient, brittle ego causes (or it cannot manage) a disharmony in personality functioning and permanent motivational conflicts. Therefore, Nonresilient individuals are not able to be (constantly) either Overcontrolled or Undercontrolled, as they on the one hand oversensitively respond to situational demands (i.e., sometimes they are inhibitive and overcontrolled) and on the other hand they cannot constrain their motivational and emotional impulses (i.e., other times they are impulsive and undercontrolled) – they are "at the mercy" of both internal needs and situational demands. In contrast, and consistent with the predominant interpretation, a highly resilient ego is so strong and flexible that it does not need (fixed) control properties – it regulates expression of internal impulses both elastically and adaptively to a given situation.

Therefore, a moderate level of ego-resiliency is necessary to control property of the ego could and need to be established (on stable high or low level). In this light

one could claim, that out of the two fundamental ego properties, ego-resiliency is the primal and ego-control the compensative, as the ego forms control property in situation of its own insufficient resiliency, however, with resiliency strong enough to be able to form this compensative property of control. Taking this interpretation but changing our perspective from dynamic-vertical to structural-horizontal, ego-resiliency and ego-control become orthogonal dimensions resulting from interrelated dynamism which combine to produce four RUNO personality types (see Isler et al., 2016): the Resilient type (with a high level of ego-resiliency and a moderate level of ego-control), the Nonresilient type (with a low level of ego-resiliency and a moderate level of ego-control), the Undercontrolled type (with a low level of ego-control and a moderate level of ego-resiliency) and the Overcontrolled type (with a high level of ego-control and a moderate level of ego-resiliency). The study by Gramzow et al., (2004) on types deriving from the ego-resiliency and ego-control dimensions led to the emergence of four personality types with FFM configurations perfectly fit to the RUNO typology (see Isler et al., 2016, 2017).

However, there is also the second possibility to reconcile the RUNO typology with the Blocks' theory. As pointed out by Gramzow et al., (2004), Block and Block (1980) provided some theoretical space to distinguish two Resilient types: Overcontrolled and Undercontrolled, analogous to the commonly recognized two Nonresilient types. Therefore, on the basis of the Blocks' theoretical perspective one could claim that some ego-resilient individuals tend towards a high level of ego-control, whereas other ego-resilient persons tend towards a low level of ego-control (Gramzow et al., 2004). Hence, the cognitive, emotional, and behavioral patterns reflecting high and low ego-control should be distinguishable among resilient individuals, almost just as they are among persons with a brittle (nonresilient) ego (Gramzow et al., 2004). Similarly, some findings suggest the existence of two resilient subtypes: agentic/assertive and communal/well-adjusted (Robins et al., 1996, Schnabel et al., 2002; see also Boehm et. al. 2002; Herzberg & Roth, 2006). It is worth noting that these subtypes correspond to CPM's Beta-Plus (Plasticity) and Alpha-Plus (Stability) metatraits, respectively. Accordingly, the CPM predicts another two Nonresilient subtypes, namely the passive/avoidant (Beta-Minus) and disinhibited/aggressive (Alpha-Minus). In light of the CPM model, these four subtypes could be deemed both the subtypes of the Resilient and Nonresilient types, as well as (in another combination) the adaptive and dysfunctional subtypes of the Overcontrolled type (communal/well-adjusted and passive/avoidant subtypes, respectively) and the Undercontrolled type (agentic/assertive and disinhibited/aggressive, respectively).

In sum, the RUNO four-type typology can be reconciled with both self-regulatory theory of ego properties by the Blocks (Block & Block, 1980), as well as with the CPM model of the highest-order personality dimensions. Nevertheless, the CPM model, with its Gamma and Delta metatraits could be deemed a "natural" and optimal theoretical basis for this typology. To be precise, the CPM is consistent with both the RUO/RUN and RUNO typologies, although more with the latter as it predicts four rather than three personality types (Strus et al., 2014; Zawadzki, 2016, 2017). Moreover, on the basis of the CPM another four types could be predicted either as RUNO subtypes, or as different personality types related to the CPM Alpha and Beta metatraits. Therefore, although the CPM predicts essentially four Gamma-Delta RUNO types, within this model it is also possible to think about four Alpha-Beta types or even eight types corresponding with the eight unipolar CPM octants as each of them can be defined as specific configuration of the FFM traits. Interestingly, the simulation provided by Costa et al., (2002) led to the emergence of exactly eight types with FFM configurations perfectly fit to the eight CPM metatraits. A similar conclusion regarding the existence of eight personality types strongly corresponding with the CPM metatraits was formulated within Becker's (1998, 1999) model.

Future research could investigate the RUNO personality subtypes as well as the eight personality type models. However, these studies would test hypotheses based on a theoretical model rather than conduct the empirical explorations which has been the main practice to date. Also, research on cross-cultural generalizability of personality types (see Alessandri & Vecchione, 2017), as well as personality dynamisms or intrapsychic processes associated with them can be conducted using the CPM as a basic framework. At any rate, the renewed focus on theoretical basis of personality typology seems to be necessary to further advance this field of research, and the CPM model can support both the understanding of theoretical mechanisms underlying basic personality types as well as the development of a new conceptualization and definition of personality type itself.

TOWARDS THE NEW CONCEPTUALIZATION OF PERSONALITY TYPE

It seems reasonable that the *person-centered* approach, with its focus on the intrapersonal configurations or the intraindividual organization of personality traits, may be a valuable complementation to the *attribute-centered* approach, with its focus on the basic dimensions of personality and their structure. Research on personality types may be crucial for understanding personality dynamics and the intrapsychic processes which could underlie or result from the basic configurations of traits. However, there is a problem related to the very notion of a type and its nature. A type is a nominal, dichotomous variable – an individual is a member of the given type or not – and it seems obvious that members of the same type differ from each other. Hence, personality types are not entirely discrete, as the boundaries between them are not rigid but fuzzy (Asendorpf, 2006; Asendorpf et al., 2001). Therefore, among members of a given personality type, one individual can be more typical (i.e., standard or characteristic)

representative of the type, while another can be less typical representative. As a result, there is the notion of "typeness" by the given personality type or "prototypicality", which is understood in the literature as the individual's degree of resemblance between his or her personality profile and the specific profile included in typology (Asendorpf, 2006; Isler et al., 2016). Furthermore, there is a need in the research on personality types for such an approach that acknowledges non-discrete borders between types and the variability within them and as a result converts personality profiles into continuous-level variables which can be measured in terms of degree or intensity (Asendorpf, 2006; Isler et al., 2016; see Alessandri & Vecchione, 2017; Asendorpf et al., 2001). In this context, the metatrait becomes particularly useful, as it is a continuous-level variable and within CPM framework it includes the same configurations of traits as the basic personality types.

Therefore, the CPM may also be the basis for the revision of the notion of a "type" in some sense replacing it with the term"metatrait". In accordance to the contemporary understanding of "types", dating back to Wundt (Strelau, 2002) and used by Eysenck (Eysenck & Eysenck, 1985), within the CPM a type would no longer be a classifying, nominal variable, but instead, a dimension. However, these dimensions are so broad that they allow for the quantitative specification (or characterization) of individuals in reference to the most typical (widespread) comprehensive configurations of personality traits. In other words, the metatraits, in contrast to types, can be used not only for categorical distinctions among individuals (through their extreme intensities), but also for quantitative and multi-dimensional assessments. Maybe such an approach extends the predictive power (or external validity) of the personality types (see Alessandri & Vecchione, 2017; Asendorpf, 2006; Isler et al., 2016), which to date has been found to be lower than in the case of single traits (e.g., Costa et al., 2002; see Donnellan & Robins, 2010). Finally, this approach could allow for a more detailed or thorough inspection of personality dynamism which could underlie or result from the personality types/metatraits. In this context, it is worthwhile to note that there are instruments for (quantitative and direct) measuring the CPM metatraits (see Strus & Cieciuch, 2017, 2019). At any rate, the metatrait framework together with the CPM model seem to make it possible to fully integrate the concepts of trait and type, as well as the attribute-centered and the person-centered approaches.

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