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Towards a synthesis of personality, temperament, motivation, emotion and mental health models within the Circumplex of Personality Metatraits

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ABSTRACT

The paper presents empirical verification of the Circumplex of Personality Metatraits (CPM) that overcomes some problems with the Big Five and enables the integration of various constructs and models developed within many sub-disciplines of psychology. Empirical verification of the model was conducted on a group of 1045 participants in two steps: (1) validation of the model (e.g., the circular arrangement of the metatraits, and relations with the Big Five); (2) verification of the synthesizing potential of this model by testing the predicted locations of temperamental traits, interpersonal traits, values, affects, and mental health constructs within the CPM. It has been found that the CPM can be treated as a matrix accommodating constructs described by circumplex, circular, and noncircular models.

1. Introduction

The Five Factor Model (FFM), also known as the Big Five, represents the predominant taxonomy of personality traits. It describes the structure of personality as organized within five broad dimensions: Neuroticism (vs. Emotional Stability; N), Extraversion (E), Openness to Experience or Intellect (O), Agreeableness (A), and Conscientiousness (C) (De Raad & Perugini, 2002; Goldberg, 1990; John, Naumann, & Soto, 2008; McCrae & Costa, 2003). Nowadays, these five personality traits/dimensions are usually interpreted as basic tendencies or dispositions, which form the foundation for characteristic adaptations and other components of personality (McAdams & Pals, 2006; McCrae & Costa, 2003; cf. DeYoung, 2015).

Nevertheless, the FFM is not free from criticism, stemming not only from other personality approaches questioning the usefulness of the very construct of "trait" (Block, 1995, 2010; McAdams, 1992; cf. Digman, 1997), but also from the trait approach. In particular, it seems that the Big Five has not fully satisfied the integrative hopes associated with its fundamental position within personality. The relationship between the Big Five and different dispositions and constructs from other personality components (e.g., characteristic adaptations) takes the form of specific correlations that do not produce a very comprehensive and coherent picture. Also the orthogonality of the five dimensions has been questioned. It has been suggested that they could be reduced, in a hierarchical structure, to higher-order factors (also known as metatraits), giving rise to new proposals for the description of personality structure. One of such proposals is the Circumplex of Personality Metatraits (CPM) developed by Strus, Cieciuch, and Rowiński (2014a). This model overcomes many problems encountered under the FFM, and gives hope for a comprehensive integration of description of the personality trait structure with a number of other models referring to psychological variables, which are narrower, more specific, or dynamic. So far, the CPM and its integrative potential had only the status of theoretical speculations not validated by empirical research. This paper presents the first empirical verification of the CPM model and its integrative capacity.

2. From five traits to two (or one) metatraits

Over the past years, a considerable body of research has provided strong empirical evidence that the Big Five does not constitute the highest level of personality trait structure (cf. Goldberg, 1993). It has been found that two higher-order factors, Alpha/Stability and Beta/Plasticity (DeYoung, 2006; DeYoung, Peterson, & Higgins, 2002; Digman, 1997), or indeed only one General Factor of Personality (GFP; Musek, 2007; Rushton & Irwing, 2011) are

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located above the five basic dimensions and account for systematical intercorrelations between them (e.g., Costa & McCrae, 1992; Digman, 1997; Goldberg, 1992).

Alpha is responsible for the covariance of N, C, and A, being associated with *Stability* in the emotional domain (N-; where "-" means the negative pole of the trait, in this case: emotional stability), the motivational domain (C+; where " + "means the positive pole of the trait), and the social domain (A+) (DeYoung et al., 2002), as well as being interpreted as a general socialization tendency (Digman, 1997; cf. Becker, 1999). Beta is related to the shared variance of E and O, and it reflects behavioral (E+) and cognitive (O+) *Plasticity*, which is revealed in the tendency to explore and voluntarily engage (behaviorally and cognitively) in new experiences (DeYoung et al., 2002); it is also conceptualized as an orientation towards personal growth (Digman, 1997; cf. Becker, 1999). In turn, the GFP is treated by some researchers as the apex of the hierarchically organized structure of personality traits, and is understood to be a fundamental disposition integrating the most general, non-cognitive dimensions of personality (Musek, 2007; Rushton & Irwing, 2011). The positive pole of GFP is related to the optimal configuration of all functional aspects of personality, while its negative pole consists of a set of qualities that are potentially dysfunctional and linked to a tendency towards personality disorders and other psychopathologies (Rushton & Irwing, 2011). Therefore, the GFP is characterized by high (vs. low) Alpha/Stability and Beta/Plasticity (Musek, 2007; Rushton & Irwing, 2011), and on the level of the Big Five by a configuration of N−, E+, O+, A+, C+ (vs. N+, E−, O−, A−, C−).

The metatraits are sometimes interpreted as a vehicle for overcoming the essentially descriptive and atheoretical nature of the five-factor taxonomy of personality (cf. Block, 1995, 2001, 2010; Digman, 1997; McAdams, 1992). This is possible because of their three important characteristics pointed out in the literature: (1) their biological (i.e., temperamental, neurobiological, genetic, and evolutionary) foundations (DeYoung, 2006; DeYoung et al., 2002; Jang et al., 2006; McCrae et al., 2008; Musek, 2007; Rushton & Irwing, 2011; Zawadzki & Strelau, 2010); (2) the theoretical explanatory mechanisms underlying the metatraits (DeYoung, 2006, 2015; DeYoung et al., 2002; cf. Olson, 2005), and (3) the possibility to integrate metatraits with many other constructs that have been developed within various theories of personality, emotion, and motivation (DeYoung, 2010a; Digman, 1997; Musek, 2007; Olson, 2005; Rushton & Irwing, 2011). Given the above, metatraits are considered special traits constituting the highest level of personality structure, which could provide a convenient platform for a coherent and precise linkage of descriptive structural models with dynamic, explanatory theories (Digman, 1997; Musek, 2007). Moreover, metatraits can contribute a new quality to the description of personality, its understanding, and explanation as they refer to some very general patterns of behavior and experience (DeYoung, 2006, 2010a; cf. e.g., DeYoung, Hasher, Djikic, Criger, & Peterson, 2007; DeYoung, Peterson, Seguin, & Tremblay, 2008; Hirsh, DeYoung, & Peterson, 2009; Musek, 2007; Rushton & Irwing, 2011; Silvia, Nusbaum, Berg, Martin, & O'Connor, 2009; Simsek, 2014; Vecchione, Alessandri, Barbaranelli, & Caprara, 2010). As a result, the higher-order factors discovered above the Big Five exhibit some additional psychological meaning, irreducible to the meaning of combinations of given Big Five traits.

Despite the fact that metatraits have a substantial theoretical potential, they are not free from problems, of which two seem particularly daunting, as they hinder the realization of the integrative hopes. First, while empirical relationships have been reported between metatraits and other broad constructs, those constructs are often rather isolated and have different theoretical statuses (e.g., circadian rhythm and creativity; see DeYoung et al., 2007, and Silvia et al., 2009, respectively), and thus it is difficult to determine the mutual theoretical relations between them. Therefore, despite providing some interesting results, such reports do not offer a sufficient foundation for coherent integration of different constructs and models into a comprehensive, synthetic picture. Second, while in the literature there is widespread agreement as to the existence of two metatraits, i.e., Alpha/Stability and Beta/Plasticity (cf. Anusic, Schimmack, Pinkus, & Lockwood, 2009; Chang, Connelly, & Geeza, 2012; DeYoung, 2010a, 2015; McCrae et al., 2008; Vecchione & Alessandri, 2013), the substantive status of the GFP has been questioned (Just, 2011; Revelle & Wilt, 2013; cf. Anusic et al., 2009; Chang et al., 2012; Danay & Ziegler, 2011; DeYoung, 2006, 2015; Rushton & Irwing, 2011; Zawadzki & Strelau, 2010). Importantly, this problem concerns not only structural analysis, but also the theoretical meaning and integrative potential of the construct. On the one hand, the theoretically postulated and empirically found relations between Alpha/Stability and Beta/Plasticity with other constructs often involve both metatraits at the same time (e.g., Rushton & Irwing, 2011; Simsek, 2014; Van der Linden, te Nijenhuis, & Bakker, 2010), which would imply the theoretical and integrative usefulness of the GFP. On the other hand, the correlations of the two metatraits with other constructs have often an opposite sign (e.g., DeYoung et al., 2002, 2008), which undermines the legitimacy of the GFP. The above problems have been overcome by the CPM of Strus et al. (2014a).

3. The Circumplex of Personality Metatraits

The main claims of the CPM (Strus et al., 2014a) can be formulated as follows:

(1) The metatraits Alpha/Stability and Beta/Plasticity are orthogonal. The observed correlations between them (e.g., Bäckström, 2007; De Young et al., 2002; Musek, 2007) are artifacts resulting from evaluative bias or other method factors (cf. Anusic et al., 2009; Chang et al., 2012; DeYoung, 2006; McCrae et al., 2008; Simsek, Koydemir, & Schütz, 2012; cf. Danay & Ziegler, 2011; Simsek, 2012, 2014).

(2) Alpha/Stability and Beta/Plasticity are the basis of the circumplex structure. Although the vast majority of personality trait models assume that traits are hierarchically organized, some circumplex models have also been proposed (cf. Eysenck & Eysenck, 1985; Hofstee, De Raad, & Goldberg, 1992; Strus, Cieciuch, & Rowiński, 2014b; Wiggins, 1995), and the CPM goes along these lines treating Alpha/Stability and Beta/Plasticity as orthogonal axes (cf. Becker, 1998, 1999; De Raad, 2009).

(3) The orthogonal dimensions Alpha/Stability and Beta/Plasticity constitute a matrix which can accommodate the GFP. In the CPM model, the GFP is reinterpreted as a metatrait located at the same level in the circumplex structure as Alpha and Beta (cf. Revelle & Wilt, 2013), rather than above them in a hierarchical structure (thus eliminating the main objection to the GFP), and is termed *Gamma/Integration*.

(4) The logic of the circumplex structure incorporating Alpha, Beta, and Gamma predicts a fourth metatrait (Revelle & Wilt, 2013), which is also suggested by research indicating different-sign relations of Alpha/Stability and Beta/Plasticity with other variables (e.g., DeYoung et al., 2002, 2008), as well as other studies on higher-order factors of personality (Becker, 1998, 1999). Strus et al. (2014a) termed it *Delta/Self-Restraint* since its psychological meaning results from a combination of high Stability and low Plasticity or (on the Big Five level) N−, E−, O−, A+, C+ (vs. N+, E+, O+, A−, C−).