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nr albumu: D-3224

Cechy osobowości i preferowane wartości na różnych poziomach ich hierarchicznej struktury a codzienne zachowanie

Personality traits and value preferences at different levels of their hierarchical structure and everyday behavior

Rozprawa doktorska

Doctoral dissertation

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Warszawa 2020

Ewa Skimina uzyskała środki finansowe w ramach finansowania stypendium doktorskiego z Narodowego Centrum Nauki (Numer decyzji: 2018/28/T/HS6/00224).

Ewa Skimina's work on the doctoral dissertation was supported by Grant No 2018/28/T/HS6/00224 from the National Science Centre, Poland.

SPIS TREŚCI / TABLE OF CONTENTS

STRESZCZENIE

Głównym celem psychologii osobowości jest wyjaśnianie ludzkich zachowań. Pomimo tego, zależności między osobowością a zachowaniem są stosunkowo rzadko przedmiotem badań (Furr, 2009). Niniejsza praca doktorska podejmuje ten temat poprzez analizę relacji między podstawowymi zmiennymi osobowościowymi (cechami oraz wartościami) a codziennymi aktywnościami, mierzonymi zarówno retrospekcyjnie, jak i w czasie rzeczywistym. W analizach starano się uwzględnić szeroką gamę aktywności, które mogą być potencjalnie związane z wieloma konstruktami osobowościowymi. Takie podejście umożliwiło porównanie cech osobowości i preferowanych wartości jako predyktorów ogólnych wzorców zachowań podejmowanych w codziennym życiu.

Zależności między konstruktami osobowościowymi a zachowaniem analizowano na różnych poziomach ich hierarchicznej struktury. W odniesieniu do cech osobowości, uwzględniono następujące poziomy: aspekty (*facets*), podwymiary (*aspects*), podstawowe wymiary (*basic traits*) i metacechy (*metatraits*). W odniesieniu do wartości, uwzględniono wartości podstawowe (*basic values*) i wartości wyższego rzędu (*higher-order values*). Ponadto, zaproponowano hierarchiczne ujęcie struktury zachowań, na którą składają się: pojedyncze zachowania, grupy podobnych zachowań oraz czynniki wyższego rzędu.

Na potrzeby analiz zmierzono wartości wyróżnione w kołowym modelu Schwartza (Schwartz i in., 2012), który jest najczęściej wykorzystywanym w badaniach modelem wartości (Brosch, Sander, 2016). W przypadku cech osobowości, do analiz włączono dwa najbardziej popularne obecnie modele, tj. Pięcioczynnikowy Model Osobowości (McCrae, Costa, 2003) i model HEXACO (Ashton, Lee, 2001), a także stosunkowo niedawno zaproponowany przez Strusa, Cieciucha i Rowińskiego (2014) Kołowy Model Metacech Osobowości.

W celu zbadania zależności między konstruktami osobowościowymi zdefiniowanymi w ramach wyżej wymienionych modeli a codziennym zachowaniem, przeprowadzono dwa badania. W badaniu 1 zastosowano tradycyjne pomiary kwestionariuszowe wszystkich

zmiennych, w tym: cech osobowości wyróżnionych w Pięcioczynnikowym Modelu Osobowości (kwestionariusz IPIP-BFAS; DeYoung, Quilty, Peterson, 2007) oraz w modelu HEXACO (kwestionariusz IPIP-HEXACO; Ashton, Lee, Goldberg, 2007), jak również preferencji wartości z modelu Schwartza (*Zrewidowany portretowy kwestionariusz wartości*, PVQ-RR; Schwartz i in., 2012). W badaniu tym wykorzystano także *Oregon Avocational Interest Scales* (IPIP-ORAIS; Goldberg, 2010) do retrospekcyjnego pomiaru częstości podejmowania 209 różnych aktywności. Uczestnicy badania (N = 767; M_{wiek} = 29,72; SD_{wiek} = 12,64; 55,8% kobiet) wypełniali zestaw kwestionariuszy podczas trzech sesji, odbywających się z częstością co około dwa tygodnie. W badaniu 2 do pomiaru zachowania w czasie rzeczywistym zastosowano metodę pobierania próbek doświadczenia (*experience sampling method*, ESM). Osoby badane (N = 374; M_{wiek} = 23,72; SD_{wiek} = 4,67; 79% kobiet) wypełniały kwestionariusze do pomiaru metacech osobowości wyróżnionych w Kołowym Modelu Metacech Osobowości (*Circumplex of Personality Metatraits Questionnaire–Short Form*, CPM-Q-SF; Strus, Cieciuch, 2017) oraz preferencji wartości z kołowego modelu Schwartza (PVQ-RR; Schwartz i in., 2012), a następnie, przez kolejny tydzień, odpowiadały na zestaw pytań wyświetlany na ich urządzeniach mobilnych siedem razy w ciągu dnia. Pytania te dotyczyły aktywności, którą badany wykonywał przez ostatnie 15 minut, kontekstu sytuacyjnego (towarzystwa oraz odczuwanej autonomii), stanów emocjonalnych i wartości, które były dla badanego ważne podczas wykonywania danej aktywności. Analizy przeprowadzone na danych zebranych w tych dwóch badaniach uzupełniają aktualny stan wiedzy na temat relacji między osobowością a zachowaniem w kilku aspektach.

Po pierwsze, porównano cechy osobowości i preferowane wartości jako predyktory codziennych aktywności mierzonych zarówno retrospekcyjnie, jak i w czasie rzeczywistym. Zaletą pomiaru retrospekcyjnego było zagregowanie częstości zachowań podejmowanych w ciągu roku, dzięki czemu możliwe było zidentyfikowanie silniejszych korelacji między osobowością a zachowaniem. Równocześnie, pomiar retrospekcyjny był narażony na błąd

pomiaru związany z niedoskonałością pamięci, a także wymusił ograniczenie puli aktywności możliwych do zmierzenia. W badaniu 2, częstość zachowań została zagregowana jedynie w ciągu tygodnia, czego konsekwencją były małe siły efektów. Natomiast zaletą pomiaru w czasie rzeczywistym było zredukowanie ryzyka błędu wynikającego z niedoskonałości pamięci oraz umożliwienie zmierzenia teoretycznie nieograniczonej puli codziennych zachowań poprzez zadanie pytania otwartego. Zatem oba badania były wobec siebie komplementarne. Wykazały one, że cechy osobowości i preferowane wartości są porównywalne jako predyktory codziennych aktywności. Wyniki badania 1 sugerują, że pod względem predykcji codziennych zachowań, wartości z modelu Schwartza i in. (2012) mają przewagę nad cechami wyróżnionymi w Pięcioczynnikowym Modelu Osobowości, ale są porównywalne (i komplementarne) z cechami z modelu HEXACO. Wyniki badania 2 sugerują, że wymiar wartości otwartość na zmiany vs. zachowawczość jest lepszym predyktorem codziennych zachowań niż drugi ogólny wymiar wartości, którym jest przekraczanie siebie vs. umacnianie siebie oraz lepszym niż którykolwiek wymiar metacech wyróżniony w Kołowym Modelu Metacech Osobowości (tj. stabilność vs. rozhamowanie, plastyczność vs. pasywność, integracja vs. dysharmonia, powściągliwość vs. poszukiwanie wrażeń; Strus i in., 2014). Niektóre zależności między konstruktami osobowościowymi a częstością zachowań zostały potwierdzone w obu badaniach, np. dodatnie korelacje między plastycznością a aktywnościami kreatywnymi oraz między wartościami przekraczania siebie a obowiązkami domowymi.

Po drugie, zależności między zachowaniem a konstruktami osobowościowymi były analizowane na różnych poziomach ich hierarchicznej struktury. Badania wykazały, że (a) wąskie kategorie zachowań są przewidywane w podobnym stopniu przez ogólne i wąsko zdefiniowane konstrukty osobowościowe (cechy i wartości), natomiast (b) ogólne kategorie zachowań są lepiej przewidywane przez ogólne niż przez wąsko zdefiniowane konstrukty osobowościowe.

Po trzecie, wyniki badania 1 pokazują, że spośród dominujących modeli cech osobowości pod względem predykcji codziennych zachowań, model HEXACO przewyższa Pięcioczynnikowy Model Osobowości. Przewaga jednego modelu nad drugim była największa, kiedy porównywano je na najwyższym poziomie hierarchicznej struktury cech.

Po czwarte, rozwinięto konceptualizację wartości poprzez wprowadzenie rozróżnienia na wartości jako cechy i wartości jako stany. Wartości są jak cechy, kiedy odnoszą się do względnie stałych dyspozycji, definiowanych jako ponadsytuacyjne cele, które oddziałują na zachowanie w dłuższym okresie. Wartości jako stany odnoszą się do chwilowych przejawów wartości-cech (dyspozycji) w postaci ważności celów realizowanych w konkretnym działaniu. Analizy przeprowadzone na danych zebranych w badaniu 2 potwierdziły, że wartości-stany posiadają zarówno wewnątrzjednostkową, jak i międzyjednostkową wariancję, co czyni je konstruktem analogicznym do stanów osobowości, wprowadzonych do psychologii przez Fleesona (2001). Badania wykazały, że wartości-stany aktywowane podczas zachowań wolicjonalnych tworzą strukturę kołową (reprezentującą podobieństwa i konflikty między nimi), co stanowi potwierdzenie głównego postulatu teorii wartości Schwartza (Schwartz i in., 2012). Wyniki badań pokazały także, że typowa hierarchia wartości-stanów znacząco różni się od typowej hierarchii wartości-cech.

Po piąte, w wyniku przeprowadzonych analiz, dla niektórych wartości-cech i wartości-stanów, udało się zidentyfikować charakterystyczne zachowania z puli codziennych aktywności, które nie były z założenia przejawami żadnej konkretnej wartości. Część wykrytych zależności wystąpiła zarówno w przypadku wartości-cech, jak i wartości-stanów, podczas gdy inne okazały się specyficzne tylko dla jednych z nich. Wyniki przeprowadzonych badań sugerują, że korelacje między wartościami-cechami a częstością zachowań zagregowanych w dłuższej jednostce czasu są bardziej prawdopodobne w przypadku zachowań, które odzwierciedlają konkretny rodzaj motywacji. Choć zachowania te są dostępne wielu ludziom, są podejmowane jedynie przez osoby, które wysoko cenią związane z nimi

wartości. Natomiast wartości-stany mogą korelować zarówno z zachowaniami przez te wartości motywowanymi, jak i z zachowaniami, które stwarzają okazję do aktywowania tych wartości. Na przykład modlitwa w kościele może być motywowana przez przypisywanie dużego znaczenia tradycji jako wartości, ale może też aktywować wartość-stan życzliwości-troskliwości (co będzie się przejawiało w modlitwie za osoby najbliższe). W konsekwencji, częstość praktyk religijnych koreluje z ważnością tradycji jako wartości-cechy, ale nie koreluje z ważnością życzliwości-troskliwości jako wartości-cechy. Jednak przy przejściu z międzyjednostkowego poziomu analiz na poziom wewnątrzjednostkowy, życzliwość-troskliwość jako wartość-stan koreluje dodatnio z odbywaniem praktyk religijnych mierzonych w czasie rzeczywistym.

Podsumowując, niniejsza rozprawa doktorska wnosi nowe argumenty do dyskusji na kilka szczegółowych zagadnień związanych z problemem relacji między osobowością a zachowaniem, takich jak: (a) porównanie cech osobowości i preferencji wartości jako predyktorów zachowania, (b) porównanie mocy predykcyjnej konkurencyjnych modeli cech osobowości oraz (c) porównanie mocy predykcyjnej zmiennych osobowościowych z różnych poziomów ich hierarchicznych struktur. Ponadto, opracowania wchodzące w skład rozprawy wnoszą wkład w konceptualizację wartości oraz rozumienie zależności między wartościami a zachowaniem, rejestrowanymi na różnych poziomach analiz (wewnątrzjednostkowym i międzyjednostkowym).

Słowa kluczowe: *cechy osobowości, wartości, codzienne zachowanie, metoda pobierania próbek doświadczenia*

SUMMARY

The main aim of personality psychology is to explain human behavior. However, the links between personality and behavior have not received enough attention from personality researchers (Furr, 2009). The present dissertation addressed this topic by analyzing relationships between core personality constructs (traits and values) and everyday activities, which were measured both retrospectively and in real time. This analysis included a wide range of activities that potentially could be related to many personality constructs. Thus, it was possible to compare personality traits and values as predictors of broader patterns of behaviors in which people engaged on a daily basis.

The associations between personality constructs and behaviors were analyzed at different levels of their hierarchies. For personality traits, the levels were facets, aspects, basic traits, and metatraits. For values, there were basic values and higher-order values. Additionally, various levels of the structure of behaviors were distinguished, including: single behavioral acts, classes of similar behaviors, and higher-order factors.

Value preferences were measured with the circular model proposed by Schwartz (Schwartz et al., 2012), which is the most widely used value model in psychological research (Brosch & Sander, 2016). Regarding personality traits, the measures included two currently dominant models: the Five Factor Model (McCrae & Costa Jr, 2003) and the HEXACO model (Ashton & Lee, 2001), as well the Circumplex of Personality Metatraits, a relatively new model proposed by Strus, Cieciuch, and Rowiński (2014). In order to analyze the relationships between personality traits, value preferences, and everyday behaviors, two studies were conducted. Study 1 was based on traditional questionnaire measures of personality constructs, including personality traits distinguished within the Five Factor Model (IPIP-BFAS; DeYoung, Quilty, & Peterson, 2007) and within the HEXACO model (IPIP-HEXACO; Ashton, Lee, & Goldberg, 2007), as well as the importance of values from the circular model proposed by Schwartz (the Portrait Value Questionnaire-Revised, PVQ-RR; Schwartz et al., 2012). In this

study, the frequencies of 209 behavioral acts were measured retrospectively by the Oregon Avocational Interest Scales (IPIP-ORAIS) developed by Goldberg (2010). Participants (N = 767, M_{age} = 29.72, SD_{age} = 12.64, 55.8% female) filled out a set of questionnaires in three sessions, each separated by approximately two weeks. In Study 2, an experience sampling method was utilized in order to measure activities in real time. Participants (N = 374, M_{age} = 23.72, SD_{age} = 4.67, 79% female) filled out the questionnaires measuring personality metatraits distinguished within the Circumplex of Personality Metatraits (the Circumplex of Personality Metatraits Questionnaire–Short Form, CPM-Q-SF; Strus & Cieciuch, 2017) and value preferences from the model proposed by Schwartz (PVQ-RR; Schwartz et al., 2012). For the following week, participants were prompted seven times per day to answer a set of questions on their mobile devices. The experience sampling form included questions regarding the activity in which an individual had been engaging for the past 15 minutes, the situational context of this activity (i.e., company and perceived autonomy), emotional states, and value importance in the reported activity. Findings from these two studies contributed to the current knowledge on the relationships between personality constructs (traits and values) and everyday behaviors in at least five ways.

First, personality traits and value preferences were compared as predictors of everyday activities measured both retrospectively and in real time. Retrospective measurement enabled aggregating behaviors over a period of one year, which revealed stronger associations between them and personality constructs. At the same time, retrospective design was subject to recall bias and forced limitation of the pool of measured activities. In the second study, behaviors were aggregated over only one week, which resulted in lower effect sizes. However, measuring behavior in real time enabled reducing recall bias and capturing a theoretically unlimited pool of everyday activities by asking an open-ended question. Thus, the two studies were complementary. Both showed that personality traits and personal values are comparable in terms of the prediction of everyday activities. The results of the first study suggest that, in terms

of the prediction of everyday behaviors, values from the circular model by Schwartz et al. (2012) have an advantage over the traits distinguished within the Five Factor Model and are complementary to the traits from the HEXACO model. The results of the second study suggest that the value dimension Openness to Change versus Conservation is more effective in predicting daily behavior than the value dimension Self-Transcendence versus Self-Enhancement as well as any metatrait dimension distinguished within the Circumplex of Personality Metatraits (i.e., Stability vs. Disinhibition, Plasticity vs. Passiveness, Integration vs. Disharmony, and Self-Restraint vs. Sensation-Seeking; Strus et al., 2014). Some specific relationships between personality constructs and the frequencies of behaviors were confirmed in both studies (e.g., positive correlations between the metatrait Plasticity and creative hobbies and between Self-Transcendence values and household duties).

Second, the associations between personality and behavior were analyzed at different levels of their hierarchical structure. The results suggest that broad personality constructs (a) do not differ substantially from narrow personality constructs as predictors of narrow categories of behaviors, but (b) perform better than them as predictors of broad categories of behaviors.

Third, the results of Study 1 showed that the HEXACO model of personality traits has an advantage over the Five Factor Model in terms of prediction of everyday activities. The largest differences were found at the level of higher-order constructs.

Fourth, the differentiation between value traits and value states was proposed. Values are like traits when they refer to relatively stable dispositions defined as transsituational goals that vary in importance as guides to behavior over time. Values are like states when they refer to momentary manifestations of these dispositions in the form of goals that vary in importance as guides to real-time behaviors. Analyses conducted on the data collected in Study 2 confirmed that value states contain both within-person and between-person variation, and are therefore similar to personality states introduced by Fleeson (2001). The results also showed that value states experienced while engaging in volitional behaviors reproduce the circular structure

(which represents the conflicts and compatibilities among them) and thereby confirmed the central assumption of Schwartz's value theory (Schwartz et al., 2012). Moreover, the findings suggest that the hierarchy of value states substantially differs from the hierarchy of value traits.

Fifth, behavioral signatures were identified for some value traits and value states distinguished within the circular model by Schwartz et al. (2012). Part of the behavioral signatures were the same for value traits and value states, whereas others were limited either to traits or states. The findings suggest that correlations between value traits and the frequencies of behaviors aggregated over a long period of time are most likely for value-expressive behaviors that can be performed by many people. Only people for whom the relevant values are important engage in these behaviors, however. In contrast, value states correlate with real-time behaviors that can be motivated by these values or with behaviors that activate these value states. For example, Tradition values may motivate an individual to pray at church, but praying at church may activate the value Benevolence-Caring (what is further reflected in praying for loved ones). As a consequence, the frequency of religious practices is related to the importance of the Tradition value trait, but not to the importance of Benevolence-Caring value trait (between-person level of analysis). However, the importance of Benevolence-Caring value state is correlated with religious practices reported in real time (within-person level of analysis).

In sum, the present dissertation is concerned with the prediction of everyday behavior, comparing (a) personality traits and values, (b) various models of personality traits, and (c) personality variables from different levels of their hierarchical structures. It also contributes to the conceptualization of values and to the understanding of associations between values and behaviors observed at different levels of analysis (i.e., within-person and between-person).

Keywords: *personality traits, values, everyday behavior, experience sampling method*

INTRODUCTION

The present doctoral dissertation is comprised of a series of four articles that have been published in journals included in the Journal Citation Report. I am the first author of all these papers. Below, I list the articles together with their Impact Factors.

1. **Skimina, E.**, Cieciuch, J., & Strus, W. (2018). Traits and values as predictors of the frequency of everyday behavior: Comparison between models and levels. *Current Psychology*. Advance online publication. doi:10.1007/s12144-018-9892-9 (Impact Factor = 1.468)

2. **Skimina, E.**, & Cieciuch, J. (2020). Explaining everyday behaviours and situational context by personality metatraits and higher-order values. *European Journal of Personality*. Advance online publication. doi:10.1002/per.2230 (Impact Factor = 3.494)

3. **Skimina, E.**, Cieciuch, J., Schwartz, S. H., Davidov, E., & Algesheimer, R. (2018). Testing the circular structure and importance hierarchy of value states in real-time behaviors. *Journal of Research in Personality*, *74*, 42–49. doi:10.1016/j.jrp.2018.02.001 (Impact Factor = 2.569)

4. **Skimina, E.**, Cieciuch, J., Schwartz, S. H., Davidov, E., & Algesheimer, R. (2019). Behavioral signatures of values in everyday behaviors in retrospective and real-time self-reports. *Frontiers in Psychology*, *10*:281. doi:10.3389/fpsyg.2019.00281 (Impact Factor = 2.129)

The aim of this dissertation was to analyze the relationships between personality dispositions—namely, personality traits and value preferences—and everyday behaviors. The links between personality and behavior is one of the crucial topics in personality research. This is because personality, by definition, is related to behavior. One of the most common ways to define personality is as a system of individual differences (or mechanisms responsible for these differences) in characteristic behaviors, emotions, and thoughts (e.g., Allport, 1961; McCrae & Costa Jr, 2008). Many theories assume that personality is a system of psychological

structures and processes that directly or indirectly influence behavior (Fajkowska & Kreitler, 2018). This assertion implies that personality constructs should not only describe patterns of behavior, but also explain them (DeYoung, 2015; Funder, 1991).

Although personality research usually focuses on the concept of traits, this is not the only domain of individual differences conceptually and empirically linked to behavior. Some researchers argue that personal values deserve more attention from personality psychologists and that they should be considered to be predictors of behavior together with personality traits (e.g., Bilsky & Schwartz, 1994; Parks & Guay, 2009; Pozzebon & Ashton, 2009).

Most authors agree that traits and values differ in nature and play different roles in the functioning of the personality system (e.g., Parks & Guay, 2009; Pozzebon & Ashton, 2009; Roccas, Sagiv, Schwartz, & Knafo, 2002; Vecchione, Alessandri, Roccas, & Caprara, 2019). For instance, Roccas et al. (2002) suggest that traits refer to dispositional proclivities to behave in certain ways, even automatically, whereas values refer to desirable goals to accomplish and are, therefore, motivational in nature. Parks and Guay (2009) present another view, suggesting that both traits and values are motivational constructs, but their roles in motivational processes are different. McAdams (1995) and McCrae et al. (2000) locate traits and values at different levels of the personality structure: Traits are biologically based and unconditional dispositions, whereas values are characteristic adaptations formed on the basis of dispositions and the social environment. However, there is some evidence that values also may be affected by genetic factors (Uzefovsky, Döring, & Knafo-Noam, 2016). The differences between traits and values in terms of their associations with behavior are still an open question. Some authors formulated hypothetical answers to this question (e.g., Parks & Guay, 2009; Pozzebon & Ashton, 2009), but they have not been verified empirically. The present dissertation provides some arguments for discussion on this topic.

Personality researchers typically analyze the associations between narrow personality traits and relevant, narrow classes of behavior, which represents a case of the circularity

problem: A specific behavior is predicted by a trait inferred from this behavior, but the trait has no explanatory power (Funder, 1991). For the purpose of explanation, it is more important to find associations between broader personality dispositions and behaviors which are not a priori related to them (Funder, 1991). However, this approach has been applied in only few studies (Chapman & Goldberg, 2017; Elleman, Condon, & Revelle, 2017; Hirsh, DeYoung, & Peterson, 2009). This dissertation aimed to identify links between personality traits, value preferences, and everyday behaviors conducted on a daily basis. Also, broad personality constructs (including personality metatraits and higher-order values) were given special attention. This way, the risk of the circularity problem was minimized.

The first two articles from the dissertation series focused on the comparison between personality traits and values as predictors of everyday behaviors. Traits, values, and behaviors were considered to have hierarchical structure, and relations between them were analyzed at different levels of their hierarchies. In the first step (Article 1), traits and values were compared as predictors of the frequencies of various activities (reported retrospectively). The strength of this study was in its aggregation of behaviors over a period of one year. A single behavioral act is very difficult to predict since it depends on the context (Funder, 1991). By aggregating acts over occasions and situations, one can reduce the act's ambiguity and, therefore, find stronger links between personality constructs and behavior (Funder, 1991, 2009; Kenrick & Funder, 1988). However, evaluating the frequency of behavioral acts over a long period of time is subject to recall bias. Also, a retrospective study design imposes a limitation to the number of behavioral acts considered. These limitations of the first study were overcame by the second study (Article 2) by (a) replacing retrospective reports of behaviors with the reports collected in real time via an experience sampling method (ESM) and (b) asking an open-ended question about participants' recent activity, which allowed for a theoretically unlimited pool of behaviors. Both studies contribute to the current knowledge on associations between personality dispositions (traits and values) and daily activities. The results of these studies

provide some evidence concerning the differences between traits and values in terms of their relationships to behavior.

Articles 3 and 4 further examined associations between value preferences and everyday behavior. As noted above, values have received less literary attention than personality traits in recent years. Inspired by Fleeson (2001), who proposed differentiation between personality traits and states, we suggested the differentiation between value traits and states (Article 3). Value traits are defined as decontextualized life goals that vary in importance as guides to perception and behavior over time and situations (Schwartz, 1992). Value states, on the contrary, are understood as goals that vary in importance as guides of real-time behavioral acts, and fluctuate from moment to moment, depending on the situational context (Article 3). In Article 4, we discussed the difference between value traits and value states in terms of their associations with everyday behaviors. In other words, Articles 3 and 4 apply values to new theoretical and empirical approaches, which were previously successfully applied to personality traits. As a result, they provide new insights into the conceptualization of value preferences and the understanding of the relationship between values and behavior.

The dissertation series can be described as comprised of four steps which refer to the four articles: (1) the comparison between personality traits and value preferences as predictors of the retrospective self-reports of behaviors at various levels of the hierarchies of traits, values, and behavior; (2) the comparison between personality traits and value preferences as predictors of everyday behaviors reported in real time; (3) the introduction of the concepts of value traits and value states; (4) the in-depth analysis of relationships between value traits, value states, and everyday behaviors. The four steps are summarized below.

1. The comparison between personality traits and value preferences as predictors of the retrospective self-reports of behaviors at various levels of their hierarchies

Article 1. Skimina, E., Cieciuch, J., & Strus, W. (2018). Traits and values as predictors of the frequency of everyday behavior: Comparison between models and levels. *Current Psychology*. Advance online publication. doi:10.1007/s12144-018-9892-9

In the first step, personality traits and value preferences were compared as predictors of the retrospective self-reports of the frequencies of various everyday activities. In this comparison, two dominant models of personality traits and one dominant model of value preferences were included. Regarding personality traits, the models were the Five Factor Model (FFM; McCrae & Costa Jr, 2003) and the HEXACO (Ashton & Lee, 2001), while regarding values, it was the circular model of values proposed by Schwartz (1992; Schwartz et al., 2012).

We analyzed the relationships between personality traits, personal values, and a broad range of everyday activities, representing various life domains, not a priori related to any specific personality construct. This approach has been less popular than two other approaches, in which personality was used to predict (a) only construct-expressive behaviors (the act frequency approach, AFA; Buss & Craik, 1983) or (b) behaviors of some social or cultural importance (Paunonen, 2003). In our approach, we tried to answer the question, which personality model is more effective in predicting everyday free-time activities, which potentially could be related to various traits and values at the same time.

In Article 1, we describe in detail the hierarchical structures of personality traits, value preferences, and behaviors. They can be summarized as follows. In the FFM, one can

distinguish four levels of hierarchical organization[1]. The highest level is constituted by personality metatraits, which represent the shared variance of the five basic dimensions: The Alpha/Stability metatrait represents the shared variance of Agreeableness, Conscientiousness, and Emotional Stability, and the Beta/Plasticity metatrait represents the shared variance of Extraversion and Openness to Experience/Intellect (Cieciuch & Strus 2017; DeYoung, Peterson, & Higgins, 2002; Digman, 1997). Each of the five basic dimensions can be divided into two aspects, which results in 10 narrower traits in total (DeYoung, Quilty, & Peterson, 2007). At the lowest level of this hierarchy, there are personality facets. According to Costa and McCrae (1995), there are 30 facets of the five factors of personality in total.

In the structure of the HEXACO model of personality traits, there are two levels which are distinguished: the six basic traits (Honesty-Humility, Emotionality, Extraversion, Agreeableness, Conscientiousness, and Openness to Experience) and their 24 facets (Ashton & Lee, 2007). What is more, some findings suggest that the six basic factors can be grouped into higher-order factors similar to the metatraits built on the FFM (Strus & Cieciuch, 2019; cf. Ashton, Lee, & Boies, 2015; Saucier & Srivastava, 2015; Saucier et al., 2014). The Alpha/Stability metatrait is represented by the shared variance of Honesty-Humility, Agreeableness, and Conscientiousness, whereas the Beta/Plasticity metatrait is represented by the shared variance of Emotionality (reversed), Extraversion, and Openness to Experience.

In the refined model of values by Schwartz et al. (2012) there are 19 basic values distinguished. There are: Self-Direction-Thought, Self-Direction-Action, Stimulation, Hedonism, Achievement, Power-Dominance, Power-Resources, Face, Security-Personal, Security-Societal, Conformity-Rules, Conformity-Interpersonal, Tradition, Humility, Benevolence-Dependability, Benevolence-Caring, Universalism-Concern, Universalism-

[1] There are arguments for distinguishing another level in the personality hierarchy—even more specific than facets, namely, personality nuances (Mõttus, Kandler, Bleidorn, Riemann, & McCrae, 2017). They were not considered in the present manuscript.

Nature, and Universalism-Tolerance. The basic values constitute four higher-order ones, which are organized in two dimensions: Conservation versus Openness to Change and Self-Transcendence versus Self-Enhancement.

In Article 1, we suggest that behaviors also can be perceived as hierarchically organized. Based on the empirical analysis conducted on the pool of behavioral acts measured by the Oregon Avocational Interest Scales (ORAIS; Goldberg, 2010), we propose a three-level hierarchy of everyday behaviors. The lowest level is constituted by 131 single behavioral acts, which are clustered into 20 categories: Using the internet, Physical activity, Fashion, Watching TV, Drinking and Partying, Reading, Music, Housekeeping, Traveling, Child-related, Religious practices, Gardening, Vehicles, Collecting, Game-playing, Pets, Lotteries, Creativity, Internet Dating, and Understanding. The 20 clusters can be further grouped into two higher-order categories: Active leisure and Home activities.

In our analyses, we distinguished four levels of the hierarchical structure of personality traits: metatraits (FFM and HEXACO), basic traits (FFM and HEXACO), aspects (FFM), and facets (HEXACO); two levels of the hierarchical structure of values: 4 higher-order values and 19 basic values; as well as three levels of the hierarchical structure of behaviors: two higher-order factors, 20 components, and 131 single behavioral acts.

Participants (N = 532, M_{age} = 29.55, SD_{age} = 12.82, 45% male) filled out paper-and-pencil questionnaires in separate sessions. In the first session, they completed the IPIP-HEXACO (Ashton, Lee, & Goldberg, 2007); after approximately two weeks, the IPIP-ORAIS (Goldberg, 2010), which measured the frequencies of everyday activities; and after another two weeks, the IPIP-BFAS (DeYoung et al., 2007), which measured personality traits in the FFM, and the PVQ-RR (Schwartz et al., 2012), which measured value preferences. Correlation and regression analyses revealed that:

1) the frequencies of everyday behaviors at each level of their hierarchy (including single behavioral acts) were related to different personality traits and values at the same time;

2) narrow and broad personality constructs did not differ substantially as predictors of the frequencies of behavioral acts and components, but at the level of higher-order behavioral factors, broad personality constructs (personality metatraits and higher-order values) were better predictors than narrow ones;
3) personality traits and personal values were comparable as predictors of everyday behaviors and contributed to each other; personality traits dominated among the highest correlates of more individualistic behaviors, whereas value preferences dominated among the highest correlates of behaviors related to functioning in society, which is consistent with a hypothesis formulated by Pozzebon and Ashton (2009);
4) the HEXACO model performed better than the FFM in terms of prediction of everyday activities (the effects were small to moderate).

2. The comparison between personality traits and value preferences as predictors of everyday behaviors reported in real time

Article 2. Skimina, E., & Cieciuch, J. (2020). Explaining everyday behaviours and situational context by personality metatraits and higher-order values. *European Journal of Personality*. Advance online publication. doi:10.1002/per.2230

As a continuation of the work presented in Article 1, we conducted another study that overcame some limitations of the previous one. First, retrospective measures of the frequencies of behavior were replaced with the real-time measures. In this study, we used an experience sampling method (ESM), which asks individuals about their current behavior and states (Hektner, Schmidt, & Csikszentmihalyi, 2007). Therefore, recall bias is substantially reduced. Participants in this study (N = 374, M_{age} = 23.72, SD_{age} = 4.67, 79% female) downloaded a mobile app (RealLife Exp) on their electronic devices and answered a set of 16 questions

seven times per day for seven consecutive days. The first question referred to the activity in which they had been engaging for the past 15 minutes. Because the question was open-ended, the pool of activities measured in this study was theoretically unlimited. In total, we collected 13,873 responses (from 19 to 49 per person with a mean of 37.1), which were then empirically categorized. This approached allowed us to overcome another limitation of the previous study and develop a hierarchical system of behavioral categories that was more comprehensive than the one used in Article 1. The new system of behavioral categories included activities related to life domains omitted by the IPIP-ORAIS (used in the study described in Article 1), such as working and studying.

Besides the question about activity, the experience sampling form contained questions about situational context, namely, perceived autonomy and company. Behavioral and situational variables were predicted by the questionnaire measures of higher-order personality constructs: personality metatraits from the Circumplex of Personality Metatraits (the Circumplex of Personality Metatraits Questionnaire–Short Form; Strus & Cieciuch, 2017) and higher-order values distinguished by Schwartz (PVQ-RR; Schwartz et al., 2012). Similar research has been conducted on the FFM (Rohrer & Lucas, 2018; Wilt & Revelle, 2017; Wrzus, Wagner, & Riediger, 2016). We expanded on the previous studies not only by focusing on the higher-order personality constructs, but also by (a) including values as predictors, (b) measuring a theoretically unlimited pool of activities (instead of a short list of activities), and (c) predicting perceived autonomy (previous studies included only one situational variable, i.e., company).

The Circumplex of Personality Metatraits (Strus, Cieciuch, & Rowiński, 2014) is based on the orthogonal dimensions Alpha/Stability versus Disinhibition and Beta/Plasticity versus Passiveness, but it also proposes another pair of orthogonal dimensions that organize the structure of personality and are rotations of Alpha and Beta. These two are Gamma/Integration versus Disharmony (which represents the General Factor of Personality, GFP; Musek, 2007) and Delta/Self-Restraint versus Sensation-Seeking (which is a new metatrait, inferred from the

circumplex model). The Circumplex of Personality Metatraits has been empirically verified, also as a matrix that accommodates many models and constructs from key psychological domains, such as the BIS/BAS dimensions, interpersonal traits, value preferences, and affect (Strus & Cieciuch, 2017).

A series of multilevel logistic regressions showed that both personality metatraits and higher-order values significantly contributed to prediction of the frequencies of a large pool of everyday activities, as well as time spent in various types of company and perceived autonomy. The Openness to Change versus Conservation value dimension was a better predictor of activities and context than the Self-Transcendence versus Self-Enhancement value dimension and the metatraits distinguished within the Circumplex of Personality Metatraits. Most of the revealed associations can be explained by referring to the theoretical meaning of personality constructs.

To a large degree, findings from this study overlapped with findings from the study described in Article 1. The metatrait Alpha/Stability correlated highest with the retrospective reports of the frequencies of household activities, gardening, childcare, and religious practices. The Alpha dimension from the Circumplex of Personality Metatraits correlated with real-time reports of cooking, spending time with family, and also religious practices. The metatrait Beta/Plasticity correlated with both retrospective and real-time measures of traveling, creative hobbies, and listening to music. Similarly, Openness to Change values correlated with retrospective measures of traveling, listening to music, and fashion (including buying clothes), and with real-time measures of traveling, listening to music, and shopping. In both studies, Conservation and Self-Transcendence values correlated positively, whereas Self-Enhancement values correlated negatively with household duties and religious practices.

3. The introduction of the concepts of value traits and value states

Article 3. Skimina, E., Cieciuch, J., Schwartz, S. H., Davidov, E., & Algesheimer, R. (2018). Testing the circular structure and importance hierarchy of value states in real-time behaviors. *Journal of Research in Personality, 74*, 42–49. doi:10.1016/j.jrp.2018.02.001

In Steps 1 and 2, the relationships between personality constructs and behavior were analyzed at the level of dispositions. This means that both personality traits and personal values were measured as relatively stable individual differences, which are related to patterns of behavior observable over time.

Fleeson (2001) suggested that personality also can be measured in action and introduced differentiation between personality traits (dispositions) and personality states (momentary manifestations of traits in behavior). He showed that within-person variation in trait manifestation is larger than between-person variation. Thus, individuals frequently and widely deviate from their trait standings in their everyday behavior (Fleeson & Gallagher, 2009).

Inspired by Fleeson's work, in Article 3 we proposed the differentiation between value traits and value states. Value traits, similarly to personality traits, are relatively stable dispositions. They are defined after Schwartz (1992) as decontextualized life goals that vary in importance as guides to perception and behavior over time and situations. Value states are momentary manifestations of value traits and they are defined as goals that vary in importance as guides to real-time behaviors. Value states are dependent on situational context.

Based on the data collected in the study described in Article 2, we conducted statistical analyses, which revealed that similarly to personality states, value states also vary within persons more than between persons. What is more, our study design enabled verification of the central assumption of Schwartz's value theory: that a major source of the circular structure of values is the conflict or compatibility between values manifested in real-time behaviors. Value

states reported during volitional acts reproduced the circular structure postulated by the theory, but value states reported during non-volitional acts did not (Schwartz, 1992; Schwartz et al., 2012). We also showed that the importance hierarchy of value states substantially differed from the importance hierarchy of value traits.

4. The in-depth analysis of relationships between value traits, value states, and everyday behaviors

Article 4. Skimina, E., Cieciuch, J., Schwartz, S. H., Davidov, E., & Algesheimer, R. (2019). Behavioral signatures of values in everyday behaviors in retrospective and real-time self-reports. *Frontiers in Psychology*, *10*:281. doi:10.3389/fpsyg.2019.00281

In Article 4, we further developed the conceptualization of value states, suggesting that the Trait Activation Theory (Tett & Guterman, 2000) can be applied also to values. This means that momentary manifestations of values (value states) can be activated only in a relevant context. If the level of a given value trait is high, an individual is more sensitive to the situational triggers of this value state. For instance, a person who greatly values benevolence activates benevolence value states more frequently and more strongly than a person to whom this value is less important (as a trait).

In this paper we used data collected in the two studies described above to find the strongest behavioral correlates of certain value traits and value states, respectively. In Study 1, we analyzed responses provided by 703 participants (M_{age} = 29.72, SD_{age} = 12.64, 55.8% female) to the PVQ-RR (measuring 19 value traits) and to 209 items of the Oregon Avocational Interest Scales (measuring the frequencies of single behavioral acts over a period of one year). In Study 2, we analyzed responses provided by 374 participants (M_{age} = 23.72, SD_{age} = 4.67, 79% female) to an open-ended question about activity and 9 questions measuring the following

value states: Self-Direction-Thought, Stimulation, Hedonism, Achievement, Power-Resources, Security-Personal, Conformity-Interpersonal, Universalism-Concern, and Benevolence-Caring.

In Study 1, we found clear behavioral signatures for four values: Self-Direction-Thought, Stimulation, Tradition, and Universalism-Nature. Six other values exhibited weak behavioral signatures, primarily in negative correlations. Some findings from this study provide new insight into relationships between values and behaviors. For example, Self-Direction-Action correlated negatively with a set of behaviors that imply a motivation to resist specific conventional expectations. The results of Study 1 also provided evidence for Schwartz et al.'s (2017) assertion that behaviors are products of value trade-offs.

In Study 2 we found clear real-time behavioral signatures of some value states. For example, Security-Personal was associated with traveling in a vehicle, Achievement was associated with learning, and Hedonism with leisure activities. Moreover, the design of Study 2 enabled us to confirm Lönnqvist, Verkasalo, Wichardt, and Walkowitz's (2013) suggestion that some behaviors may be value-ambivalent, which means that they may express opposing values.

Some value-behavior relations emerged for both value traits and value states, for instance, Self-Direction-Thought and participating in lectures or Universalism-Concern and religious practices. Some other associations between values and behaviors were limited to either traits or states. For example, religious practices were related to Benevolence-Caring state, but not to Benevolence-Caring trait. In the General Discussion section of Article 4, we highlight differences between value traits and value states in terms of their relationships with behavior.

References

Allport, G. W. (1961). *Pattern and growth in personality*. New York, NY: Holt.

Ashton, M. C., & Lee, K. (2001). A theoretical basis for the major dimensions of personality. *European Journal of Personality, 15*, 327–353. doi:10.1002/per.417

Ashton, M. C., & Lee, K. (2007). Empirical, theoretical, and practical advantages of the HEXACO model of personality structure. *Personality and Social Psychology Review*, *11*, 150–166. doi:10.1177/1088868306294907

Ashton, M. C., Lee, K., & Boies, K. (2015). One- through six-component solutions from ratings on familiar English personality-descriptive adjectives. *Journal of Individual Differences, 36*, 183–189. doi:10.1027/1614-0001/a000176

Ashton, M. C., Lee, K., & Goldberg, L. R. (2007). The IPIP-HEXACO scales: An alternative, public-domain measure of the personality constructs in the HEXACO model. *Personality and Individual Differences, 42*, 1515–1526. doi:10.1016/j.paid.2006.10.027

Bilsky, W., & Schwartz, S. H. (1994). Values and personality. *European Journal of Personality, 8*, 163–181. doi:10.1002/per.2410080303

Buss, D. M., & Craik, K. H. (1983). The act frequency approach to personality. *Psychological Review, 90*, 105–126.

Chapman, B. P., & Goldberg, L. R. (2017). Act-frequency signatures of the Big Five. *Personality and Individual Differences, 116*, 201–205. doi:10.1016/j.paid.2017.04.049

Cieciuch, J., & Strus, W. (2017). Two-Factor Model of personality. In V. Zeigler & T. Shackelford (Eds.), *Encyclopedia of Personality and Individual Differences* (pp. 1–17). doi:10.1007/978-3-319-28099-8_2129-1

Costa, P. T., Jr., & McCrae, R. R. (1995). Domains and facets: Hierarchical personality assessment using the revised NEO personality inventory. *Journal of Personality Assessment, 29*, 21–50. doi:10.1207/s15327752jpa6401_2

DeYoung, C. G. (2015). Cybernetic Big Five Theory. *Journal of Research in Personality*, *56*, 33–58. doi:10.1016/j.jrp.2014.07.004

DeYoung, C. G., Peterson, J. B., & Higgins, D. M. (2002). Higher-order factors of the Big Five predict conformity: Are there neuroses of health? *Personality and Individual Differences*, *33*, 533–552. doi:10.1016/S0191-8869(01)00171-4

DeYoung, C. G., Quilty, L. C., & Peterson, J. B. (2007). Between facets and domains: 10 aspects of the big five. *Journal of Personality and Social Psychology*, *93*, 888–896. doi:10.1037/0022-3514.93.5.880

Digman, J. M. (1997). Higher-order factor of the big five. *Journal of Personality and Social Psychology*, *73*, 1246–1256.

Elleman, L. G., Condon, D. M., & Revelle, W. (2017). *Behaviors predict outcomes better than the Big Five*. Poster at the 5th biennial Conference for the Association for Research in Personality, Sacramento, CA.

Fajkowska, M., & Kreitler, S. (2018). Status of the trait concept in contemporary personality psychology: Are the old questions still the burning questions? *Journal of Personality*, *86*, 5–11. doi:10.1111/jopy.12335

Fleeson, W. (2001). Toward a structure- and process-integrated view of personality: Traits as density distributions of states. *Journal of Personality and Social Psychology*, *80*, 1011–1027. doi:10.1037/0022-3514.80.6.1011

Fleeson, W., & Gallagher, P. (2009). The implications of Big Five standing for the distribution of trait manifestation in behavior: Fifteen experience sampling studies and a meta-analysis. *Journal of Personality and Social Psychology*, *97*, 1097–1114. doi:10.1037/a0016786

Funder, D. C. (1991). Global traits: A neo-Allportian approach to personality. *Psychological Science*, *2*, 31–39. doi:10.1111/j.1467-9280.1991.tb00093.x

Funder, D. C. (2009). Persons, behaviors and situations: An agenda for personality psychology in the postwar era. *Journal of Research in Personality, 43,* 120–126. doi:10.1016/j.jrp.2008.12.041

Goldberg, L. R. (2010). Personality, demographics, and self-reported behavioral acts: The development of Avocational Interest Scales from estimates of the amount of time spent in interest-related activities. In C. R. Agnew, D. E. Carlston, W. G. Graziano, & J. R. Kelly (Eds.), *Then a miracle occurs: Focusing on behavior in social psychological theory and research* (pp. 205–226). New York: Oxford University Press.

Hektner, J. M., Schmidt, J. A., & Csikszentmihalyi, M. (2007). *Experience sampling method: Measuring the quality of everyday life*. Thousand Oaks, CA: Sage.

Hirsh, J. B., DeYoung, C. G., & Peterson, J. B. (2009). Metatraits of the Big Five differentially predict engagement and restraint of behavior. *Journal of Personality, 77,* 1085–1102. doi:10.1111/j.1467-6494.2009.00575.x

Kenrick, D. T., & Funder, D. C. (1988). Profiting from controversy: Lessons from the person-situation debate. *American Psychologist, 43,* 23–34. doi:10.1037/0003-066X.43.1.23

Lönnqvist, J-E., Verkasalo, M., Wichardt, P. C., & Walkowitz, G. (2013). Personal values and prosocial behaviour in strategic interactions: Distinguishing value-expressive from value-ambivalent behaviors. *European Journal of Social Psychology*, *43*, 554–569. doi:10.1002/ejsp.1976

McAdams, D. P. (1995). What do we know when we know a person? *Journal of Personality, 63,* 365–396. doi:10.1111/j.1467-6494.1995.tb00500.x

McCrae, R. R., & Costa, P. T., Jr. (2003). *Personality in adulthood: A Five-Factor Theory perspective*. New York, NY: The Guilford Press.

McCrae, R. R., & Costa, P. T., Jr. (2008). The five-factor theory of personality. In O. P. John, R. W. Robins, & L. A. Pervin (Eds.), *Handbook of personality: Theory and research* (pp. 159–181). New York, NY: The Guilford Press.

McCrae, R. R., Costa, P. T., Jr., Ostendorf, F., Angleitner, A., Hrebickova, M., Avia, M. D., … Smith, P. B. (2000). Nature over nurture: Temperament, personality, and life span development. *Journal of Personality and Social Psychology*, *78*, 173–186. doi:10.1037/0022-3514.78.1.173

Mõttus, R., Kandler, C., Bleidorn, W., Riemann, R., & McCrae, R. R. (2017). Personality traits below facets: The consensual validity, longitudinal stability, heritability, and utility of personality nuances. *Journal of Personality and Social Psychology*, *112*, 474–490. doi:10.1037/pspp0000100

Musek, J. (2007). A general factor of personality: Evidence for the Big One in the Five-Factor Model. *Journal of Research in Personality*, *41*, 1213–1233. doi:10.1016/j.jrp.2007.02.003

Parks, L., & Guay, R. P. (2009). Personality, values, and motivation. *Personality and Individual Differences, 47*, 675–684. doi:10.1016/j.paid.2009.06.002

Paunonen, S. V. (2003). Big five factors of personality and replicated predictions of behavior. *Journal of Personality and Social Psychology*, *84*, 411–424. doi:10.1037/0022-3514.84.2.411

Pozzebon, J., & Ashton, M. (2009). Personality and values as predictors of self- and peer-reported behavior. *Journal of Individual Differences*, *30*, 122–129. doi:10.1027/1614-0001.30.3.122

Roccas, S., Sagiv, L., Schwartz, S. H., & Knafo, A. (2002). The big five personality factors and personal values. *Personality and Social Psychology Bulletin*, *28*, 789–801. doi:10.1177/0146167202289008

Rohrer, J. M., & Lucas, R. E. (2018). Only so many hours: Correlations between personality and daily time use in a representative German panel. *Collabra: Psychology, 4*(1), 1–10. doi:10.1525/collabra.112

Saucier, G., & Srivastava, S. (2015). What makes a good structural model of personality? Evaluating the Big Five and alternatives. In M. Mikulincer & P. R. Shaver (Eds.), *APA Handbook of Personality and Social Psychology: Vol. 4. Personality processes and individual differences* (pp. 283–305). doi:10.1037/14343-013

Saucier, G., Thalmayer, A. G., Payne, D. L., Carlson, R., Sanogo, L., Ole-Kotikash, L., Church, A. T., Katigbak, M. S., Somer, O., Szarota, P., Szirmák, Z., & Zhou, X. (2014). A basic bivariate structure of personality attributes evident across nine languages. *Journal of Personality*, *82*, 1–14. doi:10.1111/jopy.12028

Schwartz, S. H. (1992). Universals in the content and structure of values: Theory and empirical tests in 20 countries. In M. Zanna (Ed.), *Advances in experimental social psychology* (Vol. 25, pp. 1–65). New York, NY: Academic Press.

Schwartz, S. H., Cieciuch, J., Vecchione, M., Davidov, E., Fischer, R., Beierlein, C., ... Konty, M. (2012). Refining the theory of basic individual values. *Journal of Personality and Social Psychology*, *103*, 663–688. doi:10.1037/a0029393

Schwartz, S. H., Cieciuch, J., Vecchione, M., Torres, C., Dirilem-Gumus, O., & Butenko, T. (2017). Value tradeoffs propel and inhibit behavior: validating the 19 refined values in four countries. *European Journal of Social Psychology*, *47*, 241–258. doi:10.1002/ejsp.2228

Strus, W., & Cieciuch, J. (2017). Towards a synthesis of personality, temperament, motivation, emotion and mental health models within the Circumplex of Personality Metatraits. *Journal of Research in Personality*, *66*, 70–95. doi:10.1016/j.jrp.2016.12.002

Strus, W., Cieciuch, J., & Rowiński, T. (2014). The Circumplex of Personality Metatraits: A synthesizing model of personality based on the Big Five. *Review of General Psychology*, *18*, 273–286. doi:10.1037/gpr0000017

Tett, R. P., & Guterman, H. A. (2000). Situation trait relevance, trait expression, and cross-situational consistency: Testing a principle of trait activation. *Journal of Research in Personality, 34*, 397–423. doi:10.1006/jrpe.2000.2292

Uzefovsky, F., Döring, A. K., & Knafo-Noam, A. (2016). Values in middle childhood: Social and genetic contributions. *Social Development, 25*, 482–502. doi:10.1111/sode.12155

Vecchione, M., Alessandri, G., Roccas, S., & Caprara, G. V. (2019). A look into the relationship between personality traits and basic values: A longitudinal investigation. *Journal of Personality, 87*, 413–427. doi:10.1111/jopy.12399

Wilt, J., & Revelle, W. (2017). The Big Five, everyday context and activities, and affective experience. *Personality and Individual Differences*. doi:10.1016/j.paid.2017.12.032

Wrzus, C., Wagner, G. G., & Riediger, M. (2016). Personality-situation transactions from adolescence to old age. *Journal of Personality and Social Psychology, 110*, 782–799. doi:10.1037/pspp0000054

LINKS TO ARTICLES 1–4

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