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1 **A meta-structure for DSM-5 and ICD-11 pathological traits and the**
2 **differentiation of personality functioning at different trait levels in**
3 **older adults**

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18 Running title: A pathological trait meta-structure in older adults

19

20 Objectives: Categorical criteria are not well suited to inform personality disorder
21 (PD) diagnoses in older adults. More promising are the ICD-11 and DSM-5
22 alternative models. Both conceptualize PD by level of severity and maladaptive
23 traits. Severity is conditional for making a PD diagnosis. Trait levels portray
24 stylistic differences in PD expression. Yet, in older adults the hierarchical trait

25 structure is unknown. Neither is the differentiation of the severity criterion from
26 maladaptive traits confirmed.

27 Methods: A series of exploratory factor analyses with progressively greater
28 numbers of factors were conducted to examine the hierarchical trait structure in
29 293 community dwelling older adults. The on average differentiation of a single
30 higher order personality functioning factor from trait factors at succeeding levels
31 of the hierarchy was estimated with Cohen q effect size.

32 Results: Six meaningful trait levels were identified. From the fourth trait level on the
33 general personality functioning factor shared less than 15% variance on average with the
34 trait factors. Trait factors at the sixth level corresponded to both DSM-5 and ICD-11
35 pathological traits.

36 Conclusion: A future nosology integrating DSM-5 and ICD-11 trait proposals would be
37 applicable in older adults. Personality functioning can be differentiated from traits, so
38 separate assessment of traits and severity is worthwhile.

39 Keywords: personality disorders, Alternative Model for Personality Disorders
40 (AMPD), ICD-11 model for personality disorders, older adults, pathological
41 traits, personality functioning, meta-structure

42

43 **Introduction**

44 Insufficient attention has been given to the conceptualization of personality disorders
45 (PDs) in later life, while PDs are quite common in older adults with prevalence rates up
46 to 14.5% in community dwelling and even up to 57.8% in nursing home residing older
47 adults (Penders et al., 2020). One of possible reasons for this knowledge gap is that the
48 current standard section II PD criteria of the Diagnostic and statistical manual for
49 mental disorders fifth edition (DSM-5; (American Psychiatric Association, 2013)) are

50 not well suited to inform PD diagnosis in older adults. PD criteria were developed in
51 younger age groups and are not attuned to age-specific changes in older adults in
52 behavior and interpersonal functioning (Rossi et al., 2014; Rossi et al., 2018; van
53 Alphen et al., 2012). However, classification of PDs is currently in a transition from a
54 categorical to a dimensional approach to be more consistent with the quantitative
55 continuity between normal and abnormal personalities, existing heterogeneity within
56 PD diagnoses and comorbidity among PDs (Clark, 2007; Widiger & Samuel, 2005).
57 Both the DSM-5 (APA, 2013) alternative model for PDs (AMPD) and the International
58 statistical classification of diseases and related health problems 11th edition (ICD-11)
59 model for PDs (ICDPD) (World Health Organization, 2019) use a twofold dimensional
60 conceptualization that entails impairments in self and interpersonal functioning to depict
61 severity of PD, and maladaptive personality trait domains to portray stylistic differences
62 in the expression of PD. Given dimensional assessments allow more fine-grained
63 assessment of PD features (Rossi et al., 2018), the AMPD and ICDPD possibly offer
64 new avenues for diagnosing PDs in older adults.

65 The dimensional AMPD and ICDPD approaches share four trait domains (i.e.,
66 Negative Affect, Detachment, Antagonism/Dissociality, Disinhibition) yet differ in the
67 conceptualization of the fifth domain. Unique for AMPD is the Psychoticism domain
68 and unique for ICDPD is the Anankastia domain. AMPD Psychoticism consists of three
69 facets (APA, 2013). Two facets (Cognitive and Perceptual Dysregulation and Unusual
70 Beliefs and Experiences) include psychotic delusions. The third facet, Eccentricity,
71 focuses on unusual and weird behavior, appearance or speech, strange and unpredictable
72 thoughts and saying inappropriate things. The conceptualization of Psychoticism as
73 including delusions has been debated, as some argue that there are important differences
74 between a personality trait and a delusion (Widiger & McCabe, 2020). ICD-11 did not

75 include Psychoticism because it considered this domain part of the schizophrenia
76 spectrum (World Health Organization, 2019). ICD-11 instead considered rigid
77 perfectionism, standards and control relevant PD expressions and therefore incorporated
78 Anankastia as a trait domain. Based on first evidence both ICDPD and AMPD hold
79 promise in older adults. Evidence for the ICDPD is currently limited to one study
80 examining informant and self-report trait measures (Oltmanns & Widiger, 2021). The
81 Personality Inventory for ICD-11 (PiCD; (Oltmanns & Widiger, 2018)) and the
82 Informant Personality Inventory for ICD-11 (IPiC; (Oltmanns & Widiger, 2021))
83 showed moderate self–other agreement, were associated significantly with several
84 important life functioning areas, and had structural validity. There is more evidence for
85 the AMPD model in later life. Age neutrality of the Personality Inventory for DSM-5
86 (PID-5; (Krueger et al., 2012)) was demonstrated with differential item functioning
87 (DIF) analyses (Van den Broeck et al., 2013). An item exhibits DIF if younger and
88 older adults with the same trait level do not have the same probability of endorsing the
89 item. 85% of the PID-5 items did not show DIF, so we can consider the test to be age-
90 neutral given the threshold of 75 % or more DIF free items for the test as a whole
91 (Penfield & Algina, 2006). The original underlying factor structure of five domains of
92 the PID-5 was confirmed in older adults and the PID-5 correlated as expected with other
93 relevant measures, including the Gerontological PD Scale (van Alphen et al., 2006) that
94 was developed specifically to assess old age expressions of PD (Debast et al., 2017,
95 2018).

96 The dimensional paradigm shift also inspired a large consortium of clinical
97 researchers to propose the Hierarchical Taxonomy of Psychopathology (HiTOP)
98 (Conway & Krueger, 2021; Kotov et al., 2017). Based on integrating findings from
99 structural studies of psychopathology, HiTOP considers psychopathological dimensions

100 representative for individual differences of variations in degree of maladaptive
101 characteristics across the entire population. HiTOP postulates these dimensions can be
102 organized in a hierarchy from narrowest (symptoms) to broadest at the top
103 (superspectrum, i.e. general higher order dimension of psychopathology). Bundles of
104 symptoms form symptom components which are positioned at the same HiTOP level as
105 maladaptive personality traits. These symptom components and maladaptive traits are
106 elements of syndromes (i.e. disorders) at the next level, and these syndromes are further
107 combined into subfactors (e.g. distress) and next into spectra (e.g. internalizing), and
108 finally into the apex of the hierarchy (the superspectrum). The conceptualization into
109 different levels provides meaningful information to clinical practice (Kotov et al., 2017;
110 Ruggero et al., 2019; Widiger et al., 2019). Lower levels such as maladaptive traits can
111 help the clinician for formulating personalized profiles of exactly the traits that are
112 present in a patient. They are thus more informative at the individual patient level than
113 the next level of disorders and might improve case conceptualization. Moving up in the
114 hierarchy provides the clinician with information on common and overarching
115 processes, which are the focus of transdiagnostic treatments (for example the Unified
116 Protocol for Transdiagnostic Treatment of Emotional Disorders is an intervention
117 focusing on shared vulnerability processes in the Internalizing spectrum (Barlow et al.,
118 2017)). If such a treatment does not clear up all patients problems, the clinician can
119 cascade down in the hierarchy to lower level components as intervention targets.

120 The structure of maladaptive personality traits contributed to the formulation of
121 the HiTOP model (Kotov et al., 2017; Widiger et al., 2019). The AMPD and ICDPD
122 domains align with HiTOP spectra: Negative Affectivity with HiTOP Internalizing,
123 Psychoticism with HiTOP Thought Disorder, Disinhibition and Anankastia (inversely)
124 with HiTOP Disinhibited Externalizing, Antagonism/Dissociality with Antagonistic

125 Externalizing and Detachment with HiTOP Detachment. Knowledge was used from
126 factor analyses on PD diagnoses, research on the structure of maladaptive personality
127 traits (e.g. Personality Psychopathology-5 model), and studies on the joint structure of
128 symptoms and traits (for a complete overview see Kotov et al., 2017, pp. 460-462). Of
129 those studies only one examined the hierarchical structure of the AMPD (no studies are
130 available on the hierarchical structure of the ICDPD). More specifically Wright and
131 colleagues (2012) examined the hierarchical structure of the PID-5 facets in a sample of
132 2,961 undergraduates. Exploratory factor analyses (EFA) for one up to five factors
133 resulted in meaningful structures for all levels of the hierarchy. At the second level
134 internalizing and externalizing dimensions common to psychopathology (e.g. (Krueger
135 & Markon, 2006)) emerged from the general personality pathology factor. The third
136 level corresponded to the temperament “Big Three” (e.g. (Clark & Watson, 2008)). The
137 fourth level was highly similar to pathological variants of the consensus “Big Four”
138 (Widiger & Simonsen, 2005) and the fifth level corresponded to the AMPD domains.

139 Up-to-date the meta-structure of AMPD and ICDPD traits remains unexplored
140 in older adults and despite evidence for the original five factor structure of the PID-5 in
141 older adults (Debast et al., 2017) this is likely not the optimal structural organization for
142 AMPD and ICDPD traits in older adults. The AMPD study (Debast et al., 2017) seeking
143 to corroborate the original PID-5 factor structure in older adults found that Disinhibition
144 facets blended with other factors. Also, it is uncertain into which trait domains the
145 hierarchical structure will unfold. In the ICDPD study (Oltmanns & Widiger, 2021)
146 EFA factor solutions with Geomin rotation were extracted from the items of the PiCD
147 (Oltmanns & Widiger, 2018) and IPiC (Oltmanns & Oltmanns, 2021). Although both
148 four and five factor solutions fitted to the data, the four-factor solution was preferred
149 because of parsimony, and for being consistent with prior theory and research. This

150 four-factor structure corresponds to Negative Affect, Detachment, Dissocial, and a
151 bipolar factor defined by the opposing poles of Anankastia and Disinhibition. One could
152 consequently pose the question if a separate Anankastia factor is needed. On the other
153 hand, an AMPD study (Van den Broeck et al., 2014) performing a joint hierarchical
154 factor analysis of the PID-5 and Dimensional Assessment of Personality Pathology–
155 Basic Questionnaire (DAPP-BQ; (Livesley & Jackson, 2009)) found that Compulsivity
156 and Disinhibition formed separate factors, so a separate Compulsivity-Anankastia factor
157 seems plausible.

158 Having knowledge of the meaningful AMPD and ICDPD trait levels in older
159 adults will provide clinicians with the necessary knowledge to provide a nuanced
160 description of the patient’s personality (using a level with more narrow factors), yet at
161 the same time shed light on shared underpinnings and common processes (by
162 knowledge of broader overarching factors). Yet, in order to make a PD diagnosis, both
163 AMPD and ICDPD rely on the severity criterion which is the core of personality
164 pathology (and independent of the specific traits being present). Common to all
165 maladaptive trait manifestations of personality pathology is the general adaptive failure
166 in personality functioning (Sharp & Wall, 2021). This intrapsychic system of
167 functioning was operationalized in the Level of Personality Functioning Scale (LPFS;
168 APA, 2013, pp. 775-778) in terms of self (identity and self-direction) and interpersonal
169 (empathy and intimacy) components, yet to capture PD it was defined a unidimensional
170 severity criterion (Morey et al., 2011). With the LPFS being rated on a scale from 0 to 4
171 (little or no to extreme impairment) level of personality functioning is applicable in both
172 healthy and disordered populations (Morey et al., 2015) and considered maladaptive
173 from a score ≥ 2 (i.e. moderate impairment is conditional for a PD diagnosis). However,
174 an AMPD review study (Zimmermann et al., 2019) came to the striking conclusion that

175 most studies (84.8%) focused only on pathological traits (i.e., AMPD criterion B) and
176 studies on personality functioning (i.e., AMPD criterion A) were much more scarce
177 with 7.6% of publications focusing only on criterion A, and also 7.6% focusing on both
178 criteria. Conceptually it is logical to capture the degree of PD severity and then describe
179 the content or expression of the PD with maladaptive traits, as both AMPD and ICDPD
180 propose, but can these be empirically disentangled? Available studies (Zimmermann et
181 al., 2019) found high intercorrelations between criterion A and B measures and one can
182 argue there is no need for separately measuring personality functioning since
183 maladaptivity is sufficiently captured by the maladaptive traits. On the other hand,
184 studies (e.g.; (Bach & Hutsebaut, 2018; Cruitt et al., 2019; Roche, 2018)) also found
185 evidence for the incremental value of the concepts, and as Zimmerman et al. (2019)
186 pointed out incremental validity of maladaptive traits above personality functioning
187 seemed to be more robust compared to the incremental validity of personality
188 functioning above pathological traits which mostly resulted in small effects.

189 A first main objective of the current study is to examine the meta-structures of
190 pathological traits in older adults top-down, starting from a broad general factor up to
191 the narrowest meaningful level of factors. The PID-5 facets provide opportunities to
192 explore the structure of both AMPD and ICDPD traits. A separate Compulsivity
193 domain, conceptually similar to ICD-11 Anankastia was originally proposed for the
194 AMPD, yet ultimately omitted (Krueger et al., 2012). In favor of parsimony, AMPD
195 defines features of Anankastia/Compulsivity in terms of low Disinhibition. However,
196 the “cross-walk” between DSM-5 trait facets and ICD-11 trait domains constructed by
197 EFA of PID-5 facet scores, suggested that the ICD-11 trait domain Anankastia can be
198 captured by the DSM-5 trait facets Rigid Perfectionism and Perseveration (Bach et al.,

199 2017). The meta-structure for pathological traits will consequently be examined using
200 the PID-5 facets.

201 A second main objective addresses the need for studies integrating both
202 measures of pathological traits and personality functioning and tackles the open
203 question if these concepts are overlapping or can be differentiated from each other.
204 Therefore, we will examine the differentiation of personality functioning from
205 pathological traits at succeeding levels of the trait hierarchy found in older adults, to
206 demonstrate measuring severity is not redundant and cannot be fully accounted by
207 maladaptive traits. This way, we aim to determine if personality functioning can be
208 differentiated from the AMPD and ICDPD trait domains at the different levels of the
209 trait hierarchy. If the personality functioning factor has no substantive meaning above
210 traits and purely emerges from lower-order traits, it will not have an increment of on
211 average differentiation from trait factors at succeeding levels of the trait hierarchy, and
212 thus can be considered as too overlapping with the general personality pathology factor
213 (i.e. first one-factor level of the trait structure).

214 **Materials and Methods**

215 *Participants*

216 We used data from 293 Dutch-speaking community-dwelling older adults that were
217 originally collected in Belgium to corroborate the original PID-5 structure (Debast et
218 al., 2017) to newly explore the hierarchical trait structure in older adults and its
219 differentiation from personality functioning. Age ranged from 65 till 99 years old, with
220 a mean age of 73.57 ($SD = 6.50$). There were more females (60,4%), which is in line
221 with the Belgian population, as in 2021 55,7% of the older adults aged 65 or more were
222 females (Statbel, 2021). The majority of the sample was retired (95,6%). For most

223 participants education was limited to primary or secondary education (74,3%) and
224 22,3% received a college education (3.4% were missing). Most were in a relationship
225 (65,2%). For those that were currently not in a relationship, this was mostly due to
226 widowhood (27,5%).

227 *Instruments*

228 *PID-5*. The Dutch translation of Personality Inventory for DSM-5 (*PID-5*; (van der
229 Heijden et al., 2014)) was used to measure DSM-5 pathological traits. The measure was
230 specifically developed to assess AMPD criterion B (Krueger et al., 2012) and has been
231 validated in older adults (Debast et al., 2017). The *PID-5* self-report version consists of
232 220 items answered on four point-Likert scales and has 25 primary facets loading onto
233 five higher-order personality pathology dimensions. In the current sample, the *PID-5*
234 domain scores were internally consistent (Cronbach alpha values were Negative
235 Affectivity .91, Detachment .88, Antagonism .92, Disinhibition .88, and Psychoticism
236 .94).

237 *SIPP-SF*. The Severity Indices of Personality problems – Short Form (derived from the
238 *SIPP-118* (Verheul et al., 2008); available online at [Questionnaires - GGZ De](#)
239 [Viersprong](#)) was used to measure personality functioning. Although developed before
240 the launch of DSM-5 AMPD in 2013, it is a strong choice to measure personality
241 functioning given its high content correspondence with existing criterion A AMPD
242 measures (Waugh et al., 2021), and the instrument has been validated in older adults
243 (Rossi et al., 2017; van Reijswoud et al., 2021). The *SIPP-SF* 60-item self-report
244 questionnaire with four-point Likert scales was developed to measure the severity
245 components of PDs and follow-up treatment improvement by means of five domains of
246 (mal)adaptive personality functioning. Lower scores indicate more maladaptive

247 functioning. In the current sample, the SIPP-SF domains were internally consistent
248 (Cronbach alpha values were Self-Control .88, Social Concordance .81, Identity
249 Integration .87, Relational Functioning .81 and Responsibility .83).

250 *Statistical analyses*

251 The bass-ackwards method (Bastiaansen et al., 2016; Goldberg, 2006; Wright et al.,
252 2012) was applied to examine the unfolding hierarchical structure of the PID-5 facets
253 (in analogy to the study of Wright et al. (2012) in students, PID-5 facets scores were
254 used). A series of EFA with increasing number of factors was extracted, beginning with
255 only one, and continuing until a factor came forth, on which none of the included facets
256 showed its highest loading with an absolute value over .40. Parallel analysis (Horn,
257 1965; O'Connor, 2000) was applied to cross-validate the number of factors. We used
258 1000 permutations of the original raw dataset, and a factor in the real dataset was only
259 considered meaningful to be retained if its eigenvalue was larger than the mean
260 eigenvalue for the corresponding factor derived from the random datasets. Orthogonal
261 varimax rotation was used because unrelated factors provide the cleanest solution of
262 relations between cross-level paths (oblique rotations would not only capture the factors
263 that originate from a higher level factor but also capture within-level covariation). Path
264 coefficients were estimated by correlating regression-based factor scores from adjoining
265 levels.

266 Next, a single higher order personality functioning factor was extracted, using
267 maximum likelihood estimation and equamax rotation, from the SIPP-SF scales that are
268 conceptually related to AMPD criterion A (self-control, identity integration, relational
269 capacities, social concordance). EFA was thus done on the 4 SIPP-SF scales, followed
270 by another EFA on the resulting factor score estimates, and so on until only one higher-

271 order factor remained. The differentiation of this general personality functioning factor
272 versus the trait factors at succeeding levels of the PID-5 trait hierarchy was evaluated.
273 The correlations at each level between the general personality functioning factor and
274 trait factors were averaged to obtain an index of overall overlap versus differentiation of
275 the trait components and the personality functioning factor. When moving down the
276 hierarchy, we expect the average correlation to decrease, implying higher overall
277 differentiation at lower levels. To estimate the effect size of the decrease in correlation
278 across levels *r*-to-*z* transformations of each level's average correlation coefficient were
279 done, and Cohen's *q* (1988) between succeeding levels was calculated. The level after
280 which the improvement in differentiation stagnates ($q < .10$), can be considered as the
281 level after which the differentiation of the interpersonal functioning factor from trait
282 factors does no longer increase (or in other words remains stable).

283 **Results**

284 *The trait meta-structure*

285 The hierarchy subsisted of 6 levels (at the 7th level, a factor appeared on which none of
286 the variables had its highest loading and parallel analysis confirmed to retain 6 factors).
287 A visual representation of the unfolding six-level hierarchy, including the correlation of
288 the factor with factors of the higher level (i.e., path coefficients higher than .30) is
289 shown in Figure 1.

290 [insert figure 1 near here]

291 A general factor of Personality Pathology was on top of the hierarchy and except
292 Risk Taking (.17) all PID-5 facets had loadings $\geq .40$. At the second level, an
293 Internalizing factor (highest loadings on this factor $\geq .40$ from Anhedonia, Anxiousness,

294 Depressivity, Emotional Lability, Perseveration, Rigid Perfectionism, Separation
295 Insecurity, Submissiveness, Suspiciousness, Withdrawal, Intimacy Avoidance,
296 Distractability, Perceptual Dysregulation, Unusual Beliefs and Experiences and
297 Impulsivity) and an Externalizing factor (highest loadings on this factor $\geq .40$ from
298 Hostility, Attention Seeking, Callousness, Deceitfulness, Grandiosity,
299 Manipulativeness, Restricted Affectivity, Eccentricity and Irresponsibility) emerged. At
300 the third level the Internalizing factor was differentiated into Negative Affect (highest
301 loadings on this factor $\geq .40$ from Anxiousness, Emotional Lability, Perseveration,
302 Rigid Perfectionism, Separation Insecurity, Suspiciousness, and Distractibility) and
303 Detachment (highest loadings on this factor $\geq .40$ from Anhedonia, Depressivity,
304 Withdrawal, Callousness, Intimacy Avoidance and Perceptual Dysregulation). At the
305 fourth level Negative Affect (highest loadings on this factor $\geq .40$ from Anxiousness,
306 Emotional Lability, Perseveration, Separation Insecurity, Suspiciousness,
307 Distractability, Perceptual Dysregulation, Unusual Beliefs and Experiences and
308 Impulsivity) and Rigid Perfectionism (only loading $\geq .40$ from Rigid Perfectionism)
309 split up. At the fifth level Externalizing separated into an Antagonism factor (highest
310 loadings on this factor $\geq .40$ from Hostility, Attention Seeking, Deceitfulness,
311 Grandiosity, Manipulativeness and Irresponsibility) and a mixed
312 Disinhibition/Psychoticism factor (highest loadings on this factor $\geq .40$ from
313 Eccentricity and Risk Taking). At the sixth level Psychoticism (highest loading on this
314 factor $\geq .40$ from Unusual Beliefs and Experiences) and Disinhibition (highest loading
315 on this factor $\geq .40$ from Risk Taking) became separate factors. Given Risk Taking was
316 the only loading above .40 on this latter factor we labelled it specifically Risk Taking.
317 Of note is that the facet Perceptual Dysregulation had its highest loading on the factor
318 Negative Affect (.55), but also loaded in the same range on the factor Psychoticism.

319 This factor thus had loadings above .40 from both Perceptual Dysregulation (.53) and
320 Unusual Beliefs and Experiences (.52), which we therefore continued to label as
321 Psychoticism. So, over the apex, the general Personality Pathology factor decomposed
322 into six factors, explaining about 71% of the variance: Negative Affect (45%),
323 Antagonism (8%), Detachment (6%), Rigid Perfectionism (5%), Psychoticism (4%) and
324 Risk Taking (3%).

325 *Differentiation of personality functioning from pathological trait factors at*
326 *succeeding levels of the trait hierarchy*

327 The differentiation of the SIPP-SF general personality functioning factor from the trait
328 factors at succeeding levels of the PID-5 trait hierarchy was evaluated (see table 1).

329 [insert table 1 near here]

330 At the first level the correlation between the SIPP-SF general personality
331 functioning factor and the Personality Pathology factor was -.73. When moving down
332 the hierarchy, the average correlation between the SIPP-SF general personality
333 functioning factor and the trait factors decreased, implying higher overall differentiation
334 at lower levels. Up to the fourth level this differentiation improved (and then remained
335 stable across following levels), as evidenced by a significant difference with the
336 preceding level (i.e., Cohen's $q > .10$). From the fifth level on Cohen's q was smaller
337 than .10.

338

339 **Discussion**340 *The trait meta-structure*

341 By exploring the unfolding hierarchical structure of pathological traits in a sample of
342 community-dwelling older adults we could provide support for both the ICDPD and
343 AMPD models holding promise in older adults. The trait domains at the sixth level of
344 the meta-structure corresponded to both DSM-5 and ICD-11 pathological traits. We
345 found the shared ICDPD and AMPD factors Negative Affect, Detachment,
346 Antagonism/Dissocial, Disinhibition represented by Risk taking, but also the AMPD
347 unique factor of Psychoticism, mainly represented by Unusual Beliefs and Experiences,
348 and the ICDPD Anankastia Factor, represented by Rigid Perfectionism. These results
349 imply that a future nosology integrating the ICD-11 and DSM-5 trait proposals would
350 be applicable in older adults. This coincides with the recent plea for harmonization of
351 ICD-11 and DSM-5 traits in younger adults samples (Bach et al., 2020; Kerber et al.,
352 2020). These studies also proposed a short AMPD and ICDPD model compatible
353 measurement possibility for pathological traits, namely the Personality Inventory for
354 *DSM-5*, Brief Form Plus (PID-5BF+). Such a short instrument can be an interesting tool
355 to collect clinical evidence in later life, if age-neutrality and psychometric properties
356 can be corroborated in older adult samples.

357 Although the study results seem supportive for an integration of the ICDPD and
358 AMPD trait models, a few issues should be mentioned. First, the Psychoticism factor
359 was represented solely by the facet Unusual Beliefs and Experiences having its highest
360 loading on the factor. The facets of Eccentricity and Perceptual Dysregulation loaded
361 higher on the factor Negative Affect (respectively .48 and .55), than on the
362 Psychoticism factor (respectively .23 and .53). Possibly the Eccentricity facet is thus

363 more measuring stress aspects than PD components in older adults. The Perceptual
364 Dysregulation factor seems to cross-load on Psychoticism and Negative Affect. This is
365 not illogical since PID-5 Perceptual Dysregulation includes features of dissociative
366 disorders (Bach et al., 2020). Also, recent frameworks for psychopathology, like the
367 HiTOP (Kotov et al., 2017) places stress components and dissociation in the
368 Internalizing spectrum.

369 Furthermore, Anankastia/Compulsivity was only represented by Rigid
370 Perfectionism and on contrary to the crosswalk of Bach and colleagues (2017) not by
371 Perseveration. Perseveration loaded higher on Negative Affect. However, this is in line
372 with results in younger adults (Kerber et al., 2020), and also corresponds to the HiTOP
373 placement in the Internalizing spectrum (Kotov et al., 2017). Also, although HiTOP
374 (Kotov et al., 2017) places Rigid Perfectionism in the Externalizing spectrum, Rigid
375 Perfectionism originated from Negative Affect at the fourth level, coming from an
376 overarching Internalizing factor. On the one hand, these results possibly indicate a more
377 prominent presence of internalizing than externalizing pathology in our sample of older
378 adults. This corresponds to earlier findings evaluating which PD features are more fluid
379 across the life span (Gutiérrez et al., 2012; Segal et al., 1996; Videler et al., 2019).
380 Generally, there is a decrease of externalizing PD symptoms in older age (compared to
381 younger adults) whereas internalizing PD symptoms do not decline. On the other hand,
382 results in younger adult participants also support the association with internalizing
383 pathology (Naragon-Gainey & Simms, 2017). In their sample receiving psychiatric
384 treatment in the past two years PID-5 Rigid Perfectionism had stronger correlations
385 with distress and fear disorders than with externalizing disorders.

386 Knowledge of the meaningful hierarchical levels of the trait structure is also
387 clinically important (Ruggero et al., 2019; Widiger et al., 2019). It provides clinicians

388 information on what overarching factors are and can thus help explain shared
389 underpinnings of AMPD and ICDPD trait domains. In older adults for example
390 Negative Affect, Compulsivity (i.e. Rigid Perfectionism) and Detachment originate
391 from an Internalizing dimension, whereas Antagonism, Psychoticism and Disinhibition
392 (i.e. Risk Taking) originate from an Externalizing dimension. Furthermore it gives
393 clinicians the flexibility to focus on the most appropriate trait level for assessment or
394 interventions. The second level can for example guide the decision for a transdiagnostic
395 treatment aimed at internalizing versus one aimed at externalizing pathology. Like
396 mentioned before, if such a treatment does not clear up all patient's problems, the
397 clinician can cascade down in the hierarchy to lower level components as intervention
398 targets. Also it gives clinicians the flexibility to work from different paradigms and
399 associated theories and knowledge. If one wants to focus on temperament-based theory
400 of personality traits, for example the third level can be used, given its correspondence to
401 the temperament "Big Three" (Clark & Watson, 2008): Negative Affectivity aligns with
402 Negative Temperament, Detachment with Positive Temperament reversed scored, and
403 Externalizing with temperament Constraint reversed scored. On the other hand, for
404 example focusing on the sixth trait level allows working from recent dimensional
405 paradigms and to describe stylistic differences in PD expression with the AMPD and
406 ICDPD traits.

407 ***Differentiation of personality functioning from pathological trait factors at***
408 ***succeeding levels of the trait hierarchy***

409 Like mentioned before, if the personality functioning factor has no substantive
410 meaning above traits levels, the on average correlation between the personality
411 functioning factor and the trait factors would not decrease at succeeding levels of
412 the trait hierarchy. The differentiation between the personality functioning factor

413 and the trait factors incremented even up to the fourth trait level (as demonstrated
414 by a lower on average correlation at succeeding trait levels). Although the
415 possible inclusion of personality functioning within the HiTOP-framework has
416 been suggested (Widiger et al., 2019), HiTOP does not yet include personality
417 functioning. The current results seem to support personality functioning deserving
418 its own position within the HiTOP model, given the unique variance captured by
419 our general personality functioning factor. At the fourth trait level the mean r with
420 the general personality functioning factor was $-.36$, which corresponds to only
421 13% of shared variance. Future studies will have to further fine-tune the
422 positioning of PDs within HiTOP.

423 The optimal differentiation between traits and general personality functioning
424 was reached at the moment the levels corresponded to established trait models, namely
425 at the fourth up to the sixth level. The fourth level corresponds to pathological variants
426 of the consensus “Big Four” (Widiger & Simonsen, 2005). The fifth level comprised the
427 AMPD and IDCPD trait domains, yet Disinhibition and Psychoticism were still
428 blended. Therefore we conclude that for personalized case conceptualisation the sixth
429 level provides the most fine-grained assessment possibilities. At this level all AMPD
430 and OCDPD trait domains are represented as separate factors and differentiation from
431 personality functioning (i.e. severity criterion) is maximized.

432 ***Limitations and conclusion***

433 This study does not come without limitations. Given a unidimensional severity criterion
434 suffices for diagnosing a PD, we limited our evidence for the differentiation of this
435 severity criterion from traits to a general factor of personality functioning. Future
436 research in clinical samples is needed to evaluate if the operationalization of severity

437 into subfactors can be useful. It at least appears to be the case for treatment purposes.
438 For example in a study of Weekers and colleagues (2019) the self-functioning domain
439 ($d = 1.22$) appeared to be more sensitive to change after 3 months of inpatient treatment
440 than the interpersonal domain ($d = 0.51$). Further, the current study measures were all
441 self-report, and shared method variance can inflate correlations and result in
442 underestimation of the differentiation of personality functioning from pathological
443 traits. Also, data in clinical samples will result in more variance of scores than the
444 current community-dwelling sample, which could also influence the size of correlations
445 being found (Goodwin & Leech, 2006). Notwithstanding, we could corroborate the
446 AMPD and ICDPD trait domains in older adults and provide a trait hierarchy with all
447 levels having substantive meaning and demonstrated personality functioning can be
448 differentiated from maladaptive traits. It thus seems feasible to establish a PD diagnosis
449 based on severity (i.e. level of personality functioning), and then focus on the most
450 appropriate trait level, for example the level AMPD and ICDPD trait facets for
451 personalized case conceptualization, or the level of internalizing and externalizing
452 dimensions to implement a transdiagnostic treatment focusing on common processes
453 shared among internalizing versus externalizing disorders. Given the majority of data
454 used to develop the HiTOP model was collected from age groups from 15 till 65 years
455 old (Kotov et al., 2021) the current findings are also a first step towards knowledge how
456 pathological traits and personality functioning in older adults can probably be
457 positioned within this HiTOP model. More studies in older adults are sorely needed,
458 especially clinical studies covering a comprehensive coverage of various symptoms of
459 pathology to further map the joint structure of personality (disorders) and other mental
460 disorders.

461 **Declaration of interest statement**

462 The authors declare no conflict of interest

463 **Ethical declarations**

464 Informed consent was obtained from all individual participants included in the study.

465 Data collection was originally done for the Debast et al. (2017) study. At the time the

466 study was conducted research in community samples did not require ethical approval

467 under Belgian Law, yet the study followed the principles of the Declaration of Helsinki.

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470 **References**

- 471 American Psychiatric Association. (2013). *Diagnostic and Statistical Manual of Mental*
472 *Disorders (5th ed.)*. American Psychiatric Association.
- 473 Bach, B., & Hutsebaut, J. (2018). Level of Personality Functioning Scale–Brief Form
474 2.0: Utility in Capturing Personality Problems in Psychiatric Outpatients and
475 Incarcerated Addicts. *Journal of Personality Assessment*, *100*(6), 660-670.
476 <https://doi.org/10.1080/00223891.2018.1428984>
- 477 Bach, B., Kerber, A., Aluja, A., Bastiaens, T., Keeley, J. W., Claes, L., . . .
478 Zimmermann, J. (2020). International Assessment of DSM-5 and ICD-11
479 Personality Disorder Traits: Toward a Common Nosology in DSM-5.1.
480 *Psychopathology*, *53*(3-4), 179-188. <https://doi.org/10.1159/000507589>
- 481 Bach, B., Sellbom, M., Kongerslev, M., Simonsen, E., Krueger, R. F., & Mulder, R.
482 (2017). Deriving ICD-11 personality disorder domains from dsm-5 traits: initial
483 attempt to harmonize two diagnostic systems. *Acta Psychiatrica Scandinavica*,
484 *136*(1), 108-117. <https://doi.org/https://doi.org/10.1111/acps.12748>
- 485 Barlow, D. H., Farchione, T. J., Bullis, J. R., Gallagher, M. W., Murray-Latin, H.,
486 Sauer-Zavala, S., . . . Cassiello-Robbins, C. (2017). The Unified Protocol for
487 Transdiagnostic Treatment of Emotional Disorders Compared With Diagnosis-
488 Specific Protocols for Anxiety Disorders: A Randomized Clinical Trial. *JAMA*
489 *Psychiatry*, *74*(9), 875-884. <https://doi.org/10.1001/jamapsychiatry.2017.2164>
- 490 Bastiaansen, L., Hopwood, C. J., Van den Broeck, J., Rossi, G., Schotte, C., & De
491 Fruyt, F. (2016). The twofold diagnosis of personality disorder: How do
492 personality dysfunction and pathological traits increment each other at
493 successive levels of the trait hierarchy? *Personality Disorders: Theory,*
494 *Research, and Treatment*, *7*(3), 280-292. <https://doi.org/10.1037/per0000149>

- 495 Clark, L. A. (2007). Assessment and diagnosis of personality disorder: perennial issues
496 and an emerging reconceptualization. *Annual Review of Psychology*, *58*, 227-
497 257. <https://doi.org/10.1146/annurev.psych.57.102904.190200>
- 498 Clark, L. A., & Watson, D. (2008). Temperament: An organizing paradigm for trait
499 psychology. In O. P. John, R. W. Robins, & L. A. Pervin (Eds.), *Handbook of*
500 *personality: Theory and Research (3rd ed.)* (pp. 265–286). Guilford Press.
- 501 Conway, C. C., & Krueger, R. F. (2021). Rethinking the Diagnosis of Mental Disorders:
502 Data-Driven Psychological Dimensions, Not Categories, as a Framework for
503 Mental-Health Research, Treatment, and Training. *Current Directions in*
504 *Psychological Science*, *30*(2), 151-158.
505 <https://doi.org/10.1177/0963721421990353>
- 506 Cruitt, P. J., Boudreaux, M. J., King, H. R., Oltmanns, J. R., & Oltmanns, T. F. (2019).
507 Examining criterion a: DSM–5 level of personality functioning as assessed
508 through life story interviews. *Personality Disorders: Theory, Research, and*
509 *Treatment*, *10*(3), 224-234. <https://doi.org/10.1037/per0000321>
- 510 Debast, I., Rossi, G., & van Alphen, S. P. J. (2017). Construct validity of the DSM-5
511 section III maladaptive trait domains in older adults. *Journal of Personality*
512 *Disorders*, *31*(5), 671-688.
- 513 Debast, I., Rossi, G., & van Alphen, S. P. J. (2018). Age-neutrality of a brief assessment
514 of the section III alternative model for personality disorders in older adults.
515 *Assessment*, 1-14. <https://doi.org/10.1177/1073191118754706>
- 516 Goldberg, L. R. (2006). Doing it all Bass-Ackwards: The development of hierarchical
517 factor structures from the top down. *Journal of Research in Personality*, *40*(4),
518 347-358. <https://doi.org/https://doi.org/10.1016/j.jrp.2006.01.001>

- 519 Goodwin, L. D., & Leech, N. L. (2006). Understanding Correlation: Factors That Affect
520 the Size of r . *The Journal of Experimental Education*, 74(3), 249-266.
521 <https://doi.org/10.3200/JEXE.74.3.249-266>
- 522 Gutiérrez, F., Vall, G., Peri, J., Baillés, E., Ferraz, L., Gárriz, M., & Caseras, X. (2012).
523 Personality disorder features through the life course. *Journal of Personality*
524 *Disorders*, 26(5), 763-774.
- 525 Horn, J. L. (1965). A rationale and test for the number of factors in factor analysis.
526 *Psychometrika*, 30(2), 179-185. <https://doi.org/10.1007/BF02289447>
- 527 Kerber, A., Schultze, M., Müller, S., Rühling, R. M., Wright, A. G. C., Spitzer, C., . . .
528 Zimmermann, J. (2020). Development of a Short and ICD-11 Compatible
529 Measure for DSM-5 Maladaptive Personality Traits Using Ant Colony
530 Optimization Algorithms. *Assessment*.
531 <https://doi.org/10.1177/1073191120971848>
- 532 Kotov, R., Krueger, R. F., Watson, D., Achenbach, T. M., Althoff, R. R., Bagby, R. M.,
533 . . . Zimmerman, M. (2017). The Hierarchical Taxonomy of Psychopathology
534 (HiTOP): A Dimensional Alternative to Traditional Nosologies. *Journal of*
535 *Abnormal Psychology*, 126(4), 454-477.
- 536 Kotov, R., Krueger, R. F., Watson, D., Cicero, D. C., Conway, C. C., DeYoung, C. G., .
537 . . Wright, A. G. C. (2021). The Hierarchical Taxonomy of Psychopathology
538 (HiTOP): A Quantitative Nosology Based on Consensus of Evidence. *Annual*
539 *Review of Clinical Psychology*, 17(1), 83-108. [https://doi.org/10.1146/annurev-](https://doi.org/10.1146/annurev-clinpsy-081219-093304)
540 [clinpsy-081219-093304](https://doi.org/10.1146/annurev-clinpsy-081219-093304)
- 541 Krueger, R. F., Derringer, J., Markon, K. E., Watson, D., & Skodol, A. E. (2012). Initial
542 construction of a maladaptive personality trait model and inventory for DSM-5.

- 543 *Psychological Medicine*, 42(9), 1879-1890.
544 <https://doi.org/10.1017/S0033291711002674>
- 545 Krueger, R. F., & Markon, K. E. (2006). Reinterpreting Comorbidity: A Model-Based
546 Approach to Understanding and Classifying Psychopathology. *Annual Review of*
547 *Clinical Psychology*, 2(1), 111-133.
548 <https://doi.org/10.1146/annurev.clinpsy.2.022305.095213>
- 549 Livesley, W. J., & Jackson, D. N. (2009). *DAPP-BQ: Dimensional Assessment of*
550 *Personality Pathology–Basic Questionnaire Technical manual*. Sigma
551 Assessment Systems.
- 552 Morey, L. C., Benson, K. T., Busch, A. J., & Skodol, A. E. (2015). Personality
553 disorders in DSM-5: emerging research on the alternative model. *Curr*
554 *Psychiatry Rep*, 17(4), 558. <https://doi.org/10.1007/s11920-015-0558-0>
- 555 Morey, L. C., Berghuis, H., Bender, D. S., Verheul, R., Krueger, R. F., & Skodol, A. E.
556 (2011). Toward a model for assessing level of personality functioning in DSM-
557 5, part II: empirical articulation of a core dimension of personality pathology.
558 *Journal of Personality Assessment*, 93(4), 347-353.
559 <https://doi.org/10.1080/00223891.2011.577853>
- 560 Naragon-Gainey, K., & Simms, L. J. (2017). Clarifying the Links of Conscientiousness
561 With Internalizing and Externalizing Psychopathology. *Journal of Personality*,
562 85(6), 880-892. <https://doi.org/https://doi.org/10.1111/jopy.12295>
- 563 O'Connor, B. P. (2000). SPSS and SAS programs for determining the number of
564 components using parallel analysis and velicer's MAP test. *Behavior Research*
565 *Methods, Instruments and Computers*, 32(3), 396-402.
566 <https://doi.org/10.3758/bf03200807>

- 567 Oltmanns, J. R., & Oltmanns, T. F. (2021). Self-Other Agreement on Ratings of
568 Personality Disorder Symptoms and Traits: Three Meta-Analyses. In T. D.
569 Letzring & J. S. Spain (Eds.), *The Handbook of Accurate Personality Judgment:
570 Theory and Empirical Findings* (pp. 276-293). Oxford Press University.
- 571 Oltmanns, J. R., & Widiger, T. A. (2018). A self-report measure for the ICD-11
572 dimensional trait model proposal: The personality inventory for ICD-11.
573 *Psychological Assessment*, 30(2), 154-169. <https://doi.org/10.1037/pas0000459>
- 574 Oltmanns, J. R., & Widiger, T. A. (2021). The self- and informant-personality
575 inventories for ICD-11: Agreement, structure, and relations with health, social,
576 and satisfaction variables in older adults. *Psychological Assessment*, 33(4), 300-
577 310. <https://doi.org/10.1037/pas0000982>
- 578 Penders, K. A. P., Peeters, I. G. P., Metsemakers, J. F. M., & van Alphen, S. P. J.
579 (2020). Personality disorders in older adults: a Review of epidemiology,
580 assessment, and treatment. *Current Psychiatry Reports*, 22, 1-14.
581 <https://doi.org/10.1007/s11920-020-1133-x>
- 582 Penfield, R. D., & Algina, J. (2006). A Generalized DIF Effect Variance Estimator for
583 Measuring Unsigned Differential Test Functioning in Mixed Format Tests.
584 *Journal of Educational Measurement*, 43(4), 295-312.
585 <https://doi.org/https://doi.org/10.1111/j.1745-3984.2006.00018.x>
- 586 Roche, M. J. (2018). Examining the alternative model for personality disorder in daily
587 life: Evidence for incremental validity. *Personality Disorders: Theory,
588 Research, and Treatment*, 9(6), 574-583. <https://doi.org/10.1037/per0000295>
- 589 Rossi, G., Debast, I., & van Alphen, S. P. J. (2017). Measuring personality functioning
590 in older adults: construct validity of the Severity Indices of Personality

- 591 Functioning – Short Form (SIPP-SF). *Aging & Mental Health*, 21(7), 703-711.
592 <https://doi.org/10.1080/13607863.2016.1154012>
- 593 Rossi, G., Van den Broeck, J., Dierckx, E., Segal, D., & Van Alphen, S. J. P. (2014).
594 Personality assessment among older adults: The value of personality
595 questionnaires unraveled. *Aging & Mental Health*, 18(8), 936-940.
- 596 Rossi, G., Videler, A. C., & van Alphen, S. P. J. (2018). Challenges and Developments
597 in the Assessment of (Mal)adaptive Personality and Pathological States in Older
598 Adults. *Assessment*, 25(3), 279-284.
- 599 Ruggero, C. J., Kotov, R., Hopwood, C. J., First, M., Clark, L. A., Skodol, A. E., . . .
600 Zimmermann, J. (2019). Integrating the Hierarchical Taxonomy of
601 Psychopathology (HiTOP) into clinical practice. *Journal of Consulting and*
602 *Clinical Psychology*, 87(12), 1069-1084. <https://doi.org/10.1037/ccp0000452>
- 603 Segal, D., Hersen, M., Van Hasselt, V., Silberman, C. S., & Roth, L. (1996). Diagnosis
604 and assessment of personality disorders in older adults: A critical review [V].
605 *Journal of Personality Disorders*, 10(4), 384-399.
- 606 Sharp, C., & Wall, K. (2021). DSM-5 Level of Personality Functioning: Refocusing
607 Personality Disorder on What It Means to Be Human. *Annual Review of Clinical*
608 *Psychology*, 17, 313-337. [https://doi.org/10.1146/annurev-clinpsy-081219-
609 105402](https://doi.org/10.1146/annurev-clinpsy-081219-105402)
- 610 Statbel. (2021). *Statistics Belgium* www.bestat.statbel.fgov.be
- 611 van Alphen, S. P. J., Bolwerk, N., Videler, A. C., Tummers, J. H. A., van Royen, R. J.
612 J., Barendse, H., . . . Rosowsky, E. (2012). Age-related aspects and clinical
613 implications of diagnosis and treatment of personality disorders in older adults.
614 *Clinical Gerontologist*, 35(1), 27-41.
615 <https://doi.org/10.1080/07317115.2011.628368>

- 616 van Alphen, S. P. J., Engelen, G. J. J. A., Kuin, Y., Hoijtink, H. J. A., & Derksen, J. J.
617 L. (2006). A preliminary study of the diagnostic accuracy of the Gerontological
618 Personality disorders Scale (GPS). *International Journal of Geriatric*
619 *Psychiatry*, 21(9), 862-868. <https://doi.org/https://doi.org/10.1002/gps.1572>
- 620 Van den Broeck, J., Bastiaansen, L., Rossi, G., Dierckx, E., & De Clercq, B. (2013).
621 Age-Neutrality of the Trait Facets Proposed for Personality Disorders in DSM-
622 5: A DIFAS Analysis of the PID-5. *Journal of Psychopathology and Behavioral*
623 *Assessment*, 35(4), 487-494. <https://doi.org/10.1007/s10862-013-9364-3>
- 624 Van den Broeck, J., Bastiaansen, L., Rossi, G., Dierckx, E., De Clercq, B., & Hofmans,
625 J. (2014). Hierarchical structure of maladaptive personality traits in older adults:
626 Joint factor analysis of the PID-5 and the DAPP-BQ. *Journal of Personality*
627 *Disorders*, 28(2), 198-211.
- 628 van der Heijden, P., Ingenhoven, T., Berghuis, H., & Rossi, G. (2014). *DSM-5*
629 *persoonlijkheidsvragenlijst [DSM-5 personality inventory]: PID-5-NL. Dutch*
630 *translation of The Personality Inventory for DSM-5® (PID-5) Adult, 2011*
631 *(American Psychiatric Association)*. Boom. [http://www.dsm-5-](http://www.dsm-5-nl.org/documenten/pid-5_volledig_zelfbeoordeling.pdf)
632 [nl.org/documenten/pid-5_volledig_zelfbeoordeling.pdf](http://www.dsm-5-nl.org/documenten/pid-5_volledig_zelfbeoordeling.pdf)
- 633 van Reijswoud, B. E., Debast, I., Videler, A. C., Rossi, G., Lobbestael, J., Segal, D. L.,
634 & van Alphen, S. P. J. (2021). Severity Indices of Personality Problems—Short
635 Form in Old-Age Psychiatry: Reliability and Validity. *Journal of Personality*
636 *Assessment*, 103(2), 174-182. <https://doi.org/10.1080/00223891.2020.1743710>
- 637 Verheul, R., Andrea, H., Berghout, C. C., Dolan, C., Busschbach, J. J. V., van der Kroft,
638 P. J. A., . . . Fonagy, P. (2008). Severity Indices of Personality Problems (SIPP-
639 118): Development, factor structure, reliability, and validity. *Psychological*
640 *Assessment*, 20(1), 23-34. <https://doi.org/10.1037/1040-3590.20.1.23>

- 641 Videler, A. C., Hutsebaut, J., Schulken, J. E. M., Sobczak, S., & van Alphen, S. P. J.
642 (2019). A Life Span Perspective on Borderline Personality Disorder. *Current*
643 *Psychiatry Reports*, 21(7), 51. <https://doi.org/10.1007/s11920-019-1040-1>
- 644 Waugh, M. H., McClain, C. M., Mariotti, E. C., Mulay, A. L., DeVore, E. N., Lenger,
645 K. A., . . . Beevers, L. G. (2021). Comparative Content Analysis of Self-Report
646 Scales for Level of Personality Functioning. *Journal of Personality Assessment*,
647 103(2), 161-173. <https://doi.org/10.1080/00223891.2019.1705464>
- 648 Weekers, L. C., Hutsebaut, J., & Kamphuis, J. H. (2019). The Level of Personality
649 Functioning Scale-Brief Form 2.0: Update of a brief instrument for assessing
650 level of personality functioning. *Personality and Mental Health*, 13(1), 3-14.
651 <https://doi.org/10.1002/pmh.1434>
- 652 Widiger, T. A., & McCabe, G. A. (2020). The Alternative Model of Personality
653 Disorders (AMPD) from the Perspective of the Five-Factor Model.
654 *Psychopathology*, 53(3), 149-156. <https://doi.org/10.1159/000507378>
- 655 Widiger, T. A., & Samuel, D. B. (2005). Diagnostic categories or dimensions? A
656 question for the Diagnostic and statistical manual of mental disorders--fifth
657 edition. *Journal of Abnormal Psychology*, 114(4), 494-504.
658 <https://doi.org/10.1037/0021-843X.114.4.494>
- 659 Widiger, T. A., Sellbom, M., Chmielewski, M., Clark, L. A., DeYoung, C. G., Kotov,
660 R., . . . Wright, A. G. C. (2019). Personality in a Hierarchical Model of
661 Psychopathology. *Clinical Psychological Science*, 7(1), 77-92.
662 <https://doi.org/10.1177/2167702618797105>
- 663 Widiger, T. A., & Simonsen, E. (2005). Alternative dimensional models of personality
664 disorder: finding a common ground. *Journal of Personality Disorders*, 19(2),
665 110-130. <https://doi.org/10.1521/pedi.19.2.110.62628>

- 666 World Health Organization. (2019). *International statistical classification of diseases*
667 *and related health problems (11th ed.)*. <https://icd.who.int/>.
- 668 Wright, A. G., Thomas, K. M., Hopwood, C. J., Markon, K. E., Pincus, A. L., &
669 Krueger, R. F. (2012). The hierarchical structure of DSM-5 pathological
670 personality traits. *Journal of Abnormal Psychology, 121*(4), 951-957.
671 <https://doi.org/10.1037/a0027669>
- 672 Zimmermann, J., Kerber, A., Rek, K., Hopwood, C. J., & Krueger, R. F. (2019). A Brief
673 but Comprehensive Review of Research on the Alternative DSM-5 Model for
674 Personality Disorders. *Current Psychiatry Reports, 21*(9), 92.
675 <https://doi.org/10.1007/s11920-019-1079-z>
- 676
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678 **Tables**

679 *Table 1 Pearson correlations between PID-5 factors and SIPP-SF general personality*
 680 *functioning factor*

Level	<i>r</i> with SIPP-SF factor	Average <i>r</i> (Fisher <i>z</i>)
I.	F1 Personality Pathology (-.731 ^{**})	-.731 (-.929)
II.	F1 Internalizing (-.682 ^{**}), F2 Externalizing (-.371 ^{**})	-.527 (-.590) ⁺
III.	F1 Negative Affect (-.500 ^{**}), F2 Detachment (-.280 ^{**}), F3 Externalizing (-.582)	-.454 (-.485) ⁺
IV.	F1 Negative Affect (-.546 ^{**}), F2 Externalizing (-.292 ^{**}), F3 Detachment (-.532 ^{**}), F4 Rigid Perfectionism (.074)	-.361 (-.377) ⁺
V.	F1 Negative Affect (-.537 ^{**}), F2 Antagonism (-.271 ^{**}), F3 Detachment (.532), F4 Disinhibition/Psychoticism (-.176 ^{**}), F5 Rigid Perfectionism (.104)	-.324 (-.332)
VI.	F1 Negative Affect (-.530 ^{**}), F2 Antagonism (-.275 ^{**}), F3 Detachment (-.534 ^{**}), F4 Rigid Perfectionism (-.136 [*]), F5 Psychoticism (-.186 ^{**}), F6 Risk Taking (-.052)	-.286 (-.299)

681 Note. ^{**}*p* < .01; ^{*}*p* < .05; ⁺ significant difference with preceding level as evidenced by
 682 Cohen's *q* > .10.

Figures

Figure 1: The trait meta-structure.

