The Self- and Informant-Personality Inventories for ICD-11: Agreement, Structure, and Relations With Health, Social, and Satisfaction Variables in Older Adults

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The International Classification of Diseases-11th Edition (ICD-11) includes a dimensional trait model of personality disorder. The Personality Inventory for ICD-11 (PiCD) was the first self-report measure developed for its assessment. The present study examines the validity of an informant-report version of the PiCD, the Informant-Personality Inventory for ICD-11 (the IPiC), and is the first study to test self–other agreement, ratings from close others, and the criterion validity of both the IPiC and the PiCD for several popular and well-validated measures of life functioning: Life and romantic relationship satisfaction, social support, physical and mental health, depressive symptoms, insomnia symptoms, and cognitive decline. The present study is also the first to examine the IPiC and PiCD in a sample of older adults in the community. Results suggest that the IPiC and the PiCD show moderate self–other agreement, are associated significantly with several important life functioning areas, and have structural validity even at the item level. Further replication and validation are necessary for these instruments, but the IPiC and the PiCD have shown strong validation evidence to date, now including evidence of consensual and criterion validity, in addition to structural validity.

Public Significance Statement
This study provides convergent, criterion, and structural validity for the self-report and informant-report Personality Inventories for ICD-11. It further shows that the ICD-11 personality traits are associated with important life variables.

Keywords: ICD-11, IPiC, PiCD, informant, personality disorder

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A dimensional model of personality disorder has been accepted by the World Health Organization (WHO) for the 11th edition of the International Classification of Diseases (ICD-11) (Reed, 2018; World Health Organization, 2019). This represents a paradigm shift for the classification of personality disorders from a categorical system (including personality disorder syndromal types) to a dimensional system composed of one general personality disorder severity rating, five maladaptive personality trait domains (negative affectivity, detachment, anankastia, dissociality, and disinhibition), and a borderline pattern qualifier (Tyrer et al., 2019). The Personality Inventory for ICD-11 (PiCD; Oltmanns & Widiger, 2018) is a 60-item self-report measure developed specifically to measure the five maladaptive trait domains of the ICD-11 trait model.

There are several primary questions addressed in the present study. The first is to provide a validation of an informant version of the PiCD, the Informant-Personality Inventory for ICD-11 (IPiC). Development and validation of informant measures of personality are imperative for at least three reasons: (a) providing construct validation, that is, providing multimethod support for the validity of the personality constructs under investigation, (b) examining agreement between self- and informant-reports (i.e., consensual validation, McCrae & Costa, 1987) to understand convergence and discrepancies between self- and other-reports of a target's personality, and (c) people are at times unable or unwilling to provide useful information about their own personality, which is evidenced through studies showing that important life outcome measures, such as coronary artery calcification, are predicted by informant-reports

of personality traits, but not self-reports (Smith et al., 2008). The current study examines self–other agreement with respect to the five domains of the PiCD, relation of the IPiC to the PiCD with regard to correlations with important life criteria, and the comparative factor structure of the IPiC and the PiCD.

The present study is also the first to examine the validity of the PiCD and IPiC in a sample of older adults. In the construct validation process, it is important to ensure that results apply to all age groups. Further, in older adulthood, personality traits may have even more significant ramifications for life outcomes, as physical diseases become more prevalent. Prior research indicates that Diagnostic and Statistical Manual of Mental Disorders-IV (DSM-IV) maladaptive traits are present and associated with problematic life outcomes in the current sample obtained from the St. Louis Personality and Aging Network (SPAN; Boudreaux et al., 2019; Cruitt & Oltmanns, 2019; Eldesouky et al., 2018; South et al., 2019). The present study is the first to examine ICD-11 traits in the SPAN sample and uses data from the latest follow-up visit. Thus, another purpose of the current study is to examine criterion validity for the IPiC and the PiCD with measures of important life outcomes.

The PiCD was developed to provide the first self-report assessment of the ICD-11 trait model, through an iterative process of item construction and factor analysis across three data collections (described in Oltmanns & Widiger, 2018). Items were written on the basis of descriptions of the ICD-11 trait model provided by members of the ICD-11's Working Group for the Revision of Personality Disorders (Tyrer et al., 2015). The final instrument contains 60 items for five 12-item scales assessing the five broad ICD-11 maladaptive trait domains. In the initial validation study, the PiCD scales demonstrated good convergent and discriminant validity with adaptive personality trait domains (akin to the five domains of the Five-Factor Model [FFM]) assessed by the Eysenck Personality Questionnaire-Revised (Eysenck et al., 1985) and the five-Dimensional Personality Test (van Kampen, 2012). The PiCD also demonstrated good convergent and discriminant validity with the five maladaptive trait domains of Criterion B of the DSM-5 Alternative Model of Personality Disorder (American Psychiatric Association, 2013) assessed by the Personality Inventory for DSM-5 (PID-5; Krueger et al., 2012), as well as the trait domains of the Computerized-Adaptive Test for Personality Disorders (CAT-PD; Simms et al., 2011). Joint factor analysis of the PiCD with the PID-5 and CAT-PD yielded the expected four-factor structure, with one of the factors defined in a bipolar fashion with PiCD Anankastia at one pole and PiCD, PID-5, and CAT-PD Disinhibition (i.e., Disconstraint) at the other pole. This bipolarity is consistent with how the ICD-11 trait model is described by its authors (Mulder et al., 2016) as well as how the compulsivity and disinhibition domains were described by the authors of the initial version of the DSM-5 trait model (Krueger et al., 2012; Skodol, 2012). The results of a factor analysis of the 60 PiCD items also yielded the expected four-factor structure. Since the initial validation study, there have been further investigations of its construct validity. Oltmanns and Widiger (2019) found support for the expected relationships of the ICD-11 trait domains with the domains of the FFM, and also again confirmed the four-factor structure (the other components of the ICD-11 personality disorder model were explored as well, including the level of severity and borderline pattern qualifier).

Gutiérrez et al. (2020) validated the Spanish version of the PiCD in samples of 2,522 community participants and 797 clinical outpatients. Exploratory four- and five-factor solutions both exhibited good model fit at the item level, but a four-factor solution was accepted because anankastia and disinhibition were not found to be separate domains in the five-factor solution. That is, the four-factor solution consisted of three negative affectivity, detachment, and dissociality factors, as well as one bipolar anankastia versus disinhibition factor, and the five-factor solution consisted of three negative affectivity, detachment, and dissociality factors, as well as two bipolar anankastia versus disinhibition factors.

Crego and Widiger (2020) explored the relationship of the PiCD with two historically influential precedents for the DSM-5 and ICD-11 trait models: (a) the three-domain trait model (negative temperament, positive temperament, and disinhibition) assessed by the Schedule for Nonadaptive and Adaptive Personality (SNAP; Clark, 1993) and (b) the four-domain trait model (emotional dysregulation, social avoidance, dissocial behavior, and compulsiveness) assessed by the Dimensional Assessment of Personality Pathology-Basic Questionnaire (DAPP-BQ; Livesley & Jackson, 2009). The DAPP-BQ is noteworthy as it includes the domain of compulsiveness that would align with ICD-11 anankastia. Crego and Widiger reported good convergent and discriminant validity of the PiCD with the respective scales from the SNAP and DAPP-BQ. They also indicated that PiCD Anankastia, DAPP-BQ Compulsivity, SNAP Propriety and Workaholism, and FFM conscientiousness loaded on the same factor but in the opposite direction to PiCD Disinhibition and SNAP Impulsivity (the results for PID-5 Disinhibition were inconsistent).

Somma et al. (2020) explored within the Italian population the relationship of the ICD-11 trait model, assessed by the PiCD, with the DSM-5 trait model, assessed by the PID-5, and the FFM, assessed by the Five-Factor Model Rating Form (Mullins-Sweatt et al., 2006). Somma et al. reported that PiCD Anankastia correlated positively with FFM Conscientiousness, whereas PiCD Disinhibition correlated negatively with FFM Conscientiousness. In a joint factor analysis of the PID-5, FFMRF, and PiCD, they reported that anankastia and conscientiousness loaded positively whereas PID-5 and PiCD Disinhibition loaded negatively on the same factor.

McCabe and Widiger (2020) compared the entire ICD-11 personality disorder section with the Criterion A and B components of DSM-5 Section III. Joint factor analysis of the PID-5 with the PiCD again yielded a four-factor structure, with PiCD Anankastia and PID-5 Rigid Perfectionism defining one pole of the fourth factor and PiCD Disinhibition and PID-5 Impulsivity, Risk Taking, and Irresponsibility defining the opposite pole.

Carnovale et al. (2020) examined the structural and external validity of the PiCD. With respect to structural validity, they considered competing factor models in an exploratory structural equation modeling of the 60 PiCD items. Their factor analysis of the 60 items yielded comparably acceptable fit for both the four-factor and five-factor models, although the authors suggested that the four-factor model was considerably more interpretable and meaningful. They also reported the relationship of the PiCD with the Negative Emotionality, Positive Emotionality, Aggressiveness, Disconstraint, and Psychoticism domain scales of the Psychopathology Five (Harkness et al., 2014). Results supported the validity for the PiCD Negative Affectivity, Detachment, and Dissociality scales. PiCD Anankastia though did not correlate with any PSY-5 scale,

including Disconstraint, which the authors suggested may reflect the relatively low levels of compulsivity with the MMPI-2-RF (Ben-Porath & Tellegen, 2011).

Oltmanns and Widiger (2020) developed and validated potential facet level scales for the ICD-11 trait model, using items from the existing Five Factor Model Personality Disorder scales (Bagby & Widiger, 2018; Widiger et al., 2012). They reported that the 121-item, 20-scale, Five Factor Personality Inventory for ICD-11 (FFiCD) obtained good convergent and discriminant validity when related to the PiCD and PID-5. Factor analysis of the 20 scales of the FFiCD as well as the scales of the PiCD and PID-5 obtained the expected four-factor structure, with the three anankastia scales loading in an opposite direction but on the same factor as the four disinhibition scales.

The IPiC was developed for the present study. The IPiC consists of the same 60 items of the PiCD that measure the ICD-11 dimensional trait model. Pronouns were changed from "I" or "Me," to "He/She" or "Him/Her." Two items were edited to obtain the perspective of the target, as rated by the informant, rather than the perspective of the informant. For example, item #24 was changed from "Some people deserve to be homeless" to "She [or he] believes some people deserve to be homeless." Although the IPiC was developed for the present study, Bach et al. (2020) first published on the IPiC as rated by 133 clinicians describing 238 patients (Dr. Bach requested a copy of the IPiC from the current authors to use in their study). They submitted the items to a factor analysis, yielding a four-factor solution that again included a bipolar factor defined by the anankastia and disinhibition. They also reported a five-factor solution which they suggested supported separate, independent anankastia and disinhibition factors. However, each of the two factors were actually defined by both anankastia and disinhibition items, as has been found previously (Carnovale et al., 2020; Gutiérrez et al., 2020; Oltmanns & Widiger, 2018). The findings though were limited with respect to a validation of the IPiC—confined simply to its factor structure. Of note is that Bach and colleagues referred to the IPiC as the PiCD-Informant Report Form. These are, however, the same measure.

The purpose of the current study was to provide a further and more extensive validation of the IPiC, as well as to provide criterion validation of both the IPiC and the PiCD as well. For example, no studies have examined self–other agreement for the IPiC with the PiCD. Examining multimethod convergence on ratings of the PiCD trait domains is imperative for construct validation of the ICD-11 personality trait domains. Examining self–other agreement can also address questions about agreement between the self and others with respect to the perceptions of maladaptive personality traits. Comparable research has been conducted with respect to an informant version of the PID-5 (Markon et al., 2013). The current study also compares the criterion validity of the IPiC with the PiCD. Indeed, no studies have yet examined the criterion validity of the PiCD for important life outcomes. Finally, the current study compares the factor structure of the IPiC with the PiCD.

Study design and hypotheses were preregistered on AsPredicted.org (included in Supplemental Materials). Primary hypotheses were related to self–other agreement: It was hypothesized that detachment and disinhibition (and anankastia, which is conceptually opposite to disinhibition) would have higher agreement (moderately high; $r = ~.50$) and antagonism and negative affectivity would have

relatively lower agreement (low moderate; $r = ~.40$)—agreement effect sizes that have been found on the corresponding trait domains of the PID-5 (Oltmanns & Oltmanns, 2020). Thirty hypothesized relationships between the IPiC and PiCD scales and the outcome measures of health, social, and satisfaction variables based on prior literature were included in the preregistration, but not listed here; however, they are considered in the Results and Discussion. Finally, it was expected that, as in the prior literature, a four-factor solution would be optimal for describing the correlations of the PiCD items from both self- and informant-reports. Besides these expectations, analyses were exploratory.

Method

Procedure

Target participants were recruited using listed phone numbers and identified using the Kish method (Kish, 1949) for a longitudinal study on personality and health. Full details on the recruitment of the sample can be found in Oltmanns et al. (2014). Data for the present study were collected at the 13th follow-up of the larger study, approximately 11–12 years after baseline. Target participants came in person to the laboratory and completed personality and criteria measures. Participants nominated someone who knew them well (i.e., an informant) to also complete questionnaires about them. Informants completed questionnaires through the mail or online. The measures were completed by targets and informants 72 days apart, on average. The study was approved by the local university IRB.

Participants

Questionnaires were completed by $n = 714$ target participants (M age = 69.8 years, $SD = 2.8$). Targets were 54% women, 77% White, and 22% Black, and 1% other. Questionnaires were completed by $n = 569$ informants. Informants identified their relationships to the targets as 52% spouses/partners, 22% other family members, 23% friends, and 3% other. Informants stated that they had known the targets for 41 years, on average ($SD = 16$ years). On a five-point scale (1 = better than anyone else to 5 = not well) informants stated that they knew the targets 1.5 ($SD = 0.63$) out of 5, on average. On a five-point scale(1 = more than anyone else and 5 = not at all) informants stated that they liked the targets 1.5 ($SD = 0.59$) out of 5, on average.

Measures

Personality

The self-report PiCD was completed by target participants and the informant-report IPiC was completed by the informants about the target participants' personalities. The IPiC is freely available and included in the supplemental materials. The PiCD is freely available and included in the supplemental materials for Oltmanns and Widiger (2018). On both the self and informant versions, five scales containing twelve items each are rated on a Likert-type scale from 1 (strongly disagree) to 5 (strongly agree) to assess five maladaptive trait domains: negative affectivity, detachment, anankastia, dissociality, and disinhibition. Prior validation evidence of the measure was reviewed in the introduction.

Outcomes

Self-Report Criteria Variables. The Beck Depression Inventory-II (BDI-II; Beck et al., 1996) was used to assess self-reported depressive symptoms. The BDI-II contains 21 items rated on a four-point scale and has extensive validation evidence (Erford et al., 2016). The Dyadic Adjustment Scale (DAS; Sabourin et al., 2005) was administered to assess self-reported relationship satisfaction. Five DAS items were rated on a six-point scale. An example item is "In general, how often do you think things between you and your partner are going well?" with response options ranging from 0 (*never*) to 5 (*all the time*). The Insomnia Severity Index (ISI; Bastien et al., 2001) contains seven items and was administered to assess insomnia symptoms over the past 2 weeks. The Social Adjustment Scale (Weissman & Bothwell, 1976), specifically the Social and Leisure section, assessed social functioning. Items assess how frequently target participants saw, spoke to, and argued with friends, specifically, over the past 2 weeks. The Social Network Questionnaire (SNQ; Pierce et al., 1991) assessed social support from people other than a spouse or partner (i.e., friends, family members, etc.). It consists of seven items that are rated on a scale from 1 (*not at all*) to 4 (*very much*). An example item is, "To what extent could you turn to at least one of these people for advice about problems?" The Satisfaction With Life Scale (SWLS; Diener et al., 1985) assessed life satisfaction. The SWLS includes five items rated on a seven-point Likert scale from *strongly disagree* to *strongly agree*. The Health Status Inventory (Hays et al., 1998) is a 36-item self-report questionnaire used to measure physical and emotion health. It includes eight subscales: Physical Functioning (e.g., how much participants were limited in activities like exercise, household chores, and walking), Role Limitations due to Physical Problems (e.g., was limited in/accomplished less due to physical health problems), Role Limitations due to Emotional Problems (e.g., was limited in/accomplished less due to emotional health problems), Pain (e.g., "How much bodily pain have you had during the past 4 weeks?"), General Health Perceptions (e.g., "My health is excellent"), Emotional Well-Being (e.g., "Have you felt calm and peaceful?"), Social Functioning (e.g., did problems interfere with social activities?), and Energy/Fatigue (e.g., "Did you feel worn out?"). The subscales are combined to create composite physical and emotional health scores that are used in the present study.

Informant-Report Criteria Variables. Informants completed an abbreviated version of the HSI, with 10 items about general emotional and physical health functioning. Informants completed the Washington University Dementia Screening Test (AD8; Galvin et al., 2005), which is a eight-item informant-report questionnaire about changes in functioning due to cognitive decline. Items are rated either, "Yes, a change," "No, no change," or "I don't know." An example item is, "Forgets correct month or year." Finally, informants also completed the five-item Dyadic Adjustment Scale about romantic relationship satisfaction, and it was completed regarding the informant's own satisfaction with their romantic relationship with the target participant. That is, this criterion variable was different than other informant-reported criteria because it concerned a variable about the informant rather than the target participant. It was completed only by informants who were in a romantic relationship with the target participant.

Statistical Analyses

To manage missing data, scaled scores will be used if one or two items on a scale were missing, with the exception of the Insomnia Severity Index, on which a missing response could indicate no symptoms in that area. Thus, a total score was used for the Insomnia Severity Index.

Analyses were preregistered (see Supplemental Materials). Correlations were used to examine relations between variables. Item-level EFA will be used to examine separately the self and informant structures of the PiCD. Parallel analysis will be used to obtain a suggestion of the number of factors. Fit indices RMSEA and RMSR (absolute indices of fit) and factor interpretability will be used to compare structures. In interpreting the results, attention was paid to effect size rather than to statistical significance. However, statistical significance is presented for descriptive purposes and was a priori set to $p < .01$.

Results

Descriptive Statistics

The descriptive statistics for the scales are provided in Table 1. All IPiC scales showed internal consistency greater than .78, with a median of .84, and all PiCD scales showed internal consistency greater than $\alpha = .72$, with a median of .76. Mean interitem correlations indicated that IPiC Negative Affectivity, Disinhibition, and Detachment were more homogeneous than IPiC Dissociality and

Table 1
Descriptive Statistics for Scales

Scale	α	MIC	M	SD
PiCD NA	.86	.33	26.05	6.58
PiCD DN	.76	.22	23.21	5.38
PiCD DT	.85	.32	26.44	6.69
PiCD DL	.76	.21	22.87	5.19
PiCD AK	.72	.18	38.94	5.35
IPiC NA	.90	.42	26.79	7.77
IPiC DN	.87	.35	23.50	7.12
IPiC DT	.84	.31	25.43	6.55
IPiC DL	.80	.25	25.33	6.30
IPiC AK	.78	.23	39.83	6.22
BDI-II	.90	.32	5.28	6.04
DAS	.84	.58	16.70	2.93
IDAS	.78	.48	16.49	2.80
ISI	.88	.52	5.57	4.70
SAS	.71	.32	1.62	0.63
SNQ	.92	.63	22.62	4.81
SWLS	.89	.64	25.29	6.67
HSI P	.83	.50	59.48	9.71
HSI M	.79	.40	59.85	9.95
IHSI	.87	.39	20.53	6.54
IAD8	.80	.37	0.08	0.17

Note. PiCD = Personality Inventory for ICD-11; IPiC = informant-Personality Inventory for ICD-11; MIC = mean inter-item correlation; NA = Negative Affectivity; DN = Disinhibition; DT = Detachment; DL = Dissociality; AK = Anankastia; I = informant; BDI-II = Beck Depression inventory II; DAS = Dyadic Adjustment Scale; ISI = Insomnia Severity Index; SAS = Social Adjustment Scale; SNQ = Social Network Questionnaire; SWLS = Satisfaction With Life Scale;, HSI = Health Status Inventory; HSI P = HSI physical health composite; HSI M = HSI mental health composite; IAD8 = Washington University Dementia Screening Test.

Table 2
Correlations Between the PiCD and IPiC Scales

Scale	PiCD NA	PiCD DN	PiCD DT	PiCD DL	PiCD AK	IPiC NA	IPiC DN	IPiC DT	IPiC DL
PiCD NA									
PiCD DN	**.54**								
PiCD DT	**.39**	**.32**							
PiCD DL	.26	**.38**	.24						
PiCD AK	.09	**−.30**	.16	−.07					
IPiC NA	**.30**	.13	.07	.02	.06				
IPiC DN	.14	.28	.02	.14	−.14	**.58**			
IPiC DT	.19	.12	**.44**	.13	.04	**.44**	**.31**		
IPiC DL	.05	.08	.00	**.30**	−.07	**.52**	**.49**	.29	
IPiC AK	−.03	−.21	.02	−.06	.28	−.14	**−.58**	.04	−.22

Note. Moderate effect sizes in bold, large effect sizes underlined (Cohen, 1992). Correlations at ~.13 significant at $p < .01$. PiCD = Personality Inventory for ICD-11; IPiC = Informant-Personality Inventory for ICD-11; NA = Negative Affectivity; DN = Disinhibition; DT = Detachment; DL = Dissociality; AK = Anankastia.

Anankastia, and PiCD Negative Affectivity and Detachment were more homogeneous than PiCD Disinhibition, Dissociality, and Anankastia. Paired samples *t*-tests revealed that informant reports of Dissociality and Anankastia were higher than self-reports of Dissociality and Anankastia, $t(517) = −7.32$, $p < .001$, $d = 0.32$, and $t(520) = −2.74$, $p = .006$, $d = 0.12$, respectively. Self-reports of detachment were significantly higher than informant reports of detachment, $t(517) = 3.98$, $p < .001$, $d = 0.18$. Effect sizes were small (Cohen, 1992). IPiC and PiCD Negative Affectivity and Disinhibition were not significantly different, $t(521) = −1.23$, $p = .218$, $d = 0.05$, and $t(489) = −0.13$, $p = .900$, $d = 0.01$, respectively.

Self–Other Agreement

Correlations among the IPiC and PiCD scales are reported in Table 2. Self–other agreement on the domains ranged from $r = .28$ (disinhibition and anankastia) to $r = .44$ (detachment), with a median of $r = .30$ (negative affectivity and dissociality). All other self–informant correlations were small. The expected convergent correlation within the IPiC between Disinhibition and Anankastia was large: $r = −.58$. Two discriminant correlations were large within the IPiC: IPiC Negative Affectivity correlated $r = .58$ and $r = .52$ with IPiC Disinhibition and IPiC Dissociality, respectively. The self-report PiCD displayed discriminant validity within its scales, in that all discriminant correlations were small to moderate, with one exception: PiCD Negative Affectivity correlated with PiCD Disinhibition, $r = .54$. The expected convergent correlation within the PiCD between Disinhibition and Anankastia was moderate: $r = −.30$.

Relations With Criteria Variables

Relations of the IPiC and PiCD with the self- and informant-report criteria measures are presented in Table 3, with the exact correlations listed in Supplemental Materials Table S1. All 30 hypothesized associations except one were statistically significant.[1] In addition were 38 other statistically significant associations, also presented in Table 3. Providing multi-method support for its construct validity, IPiC scales correlated with both self- and informant-reported criteria. IPiC Negative Affectivity correlated moderately to

strongly with dissatisfaction with life (self-report), mental health problems (self-report), relationship dissatisfaction (informant-report), general health problems (informant-report), and cognitive problems (informant-report). IPiC Disinhibition correlated moderately with relationship dissatisfaction (informant-report) and general health problems (informant-report). IPiC Detachment correlated moderately with lack of social support (self-report), relationship dissatisfaction (informant-report), and general health problems (informant-report). IPiC Dissociality correlated moderately with relationship dissatisfaction (informant-report). IPiC Anankastia did not correlate at moderate or large effect sizes with any criteria.

The PiCD scales showed moderate-to-large relationships with self-report criteria measures. PiCD Negative Affectivity correlated moderately to strongly with self-reported mental health problems, depressive symptoms, dissatisfaction with life, and insomnia symptoms. PiCD Detachment correlated moderately with mental health problems, depressive symptoms, and dissatisfaction with life. PiCD Disinhibition also correlated moderately with self-report mental health problems, depressive symptoms, and dissatisfaction with life. PiCD Dissociality and PiCD Anankastia did not correlate at moderate or large effect sizes with the criteria scales. While PiCD Negative Affectivity, Disinhibition, and Detachment correlated moderately to strongly with depressive symptoms, dissatisfaction with life, and mental health problems (all three self-report criteria measures), the IPiC Negative Affectivity, Disinhibition, and Detachment scales also correlated with these self-reported criteria measures, but at smaller effect sizes. These findings indicate that while the IPiC criterion correlations paralleled those of the PiCD, the magnitude of the correlations depended in part on the assessment method of the criteria measure.

Factor Structure

EFA factor solutions with Geomin rotation were extracted from the 60 items of the PiCD and IPiC using the "psych" package in R statistical software (Revelle, 2019). Parallel analysis was completed with the psych package as well, but recommended 13 factors for the self-report data and 11 factors for the informant-report data—

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[1] The one exception was that PiCD Disinhibition did not statistically significantly correlate with the informant-reported AD8.

Table 3

Relationships Between the IPiC/PiCD Scales and the Criteria Measures

Scale	Satisfaction			Social support		Mental health		Sleep	Physical health		Cognitive functioning
	DAS	I-DAS	SWLS	SAS	SNQ	BDI-II	HSI M	ISI	HSI P	I-HSI	I-AD8
PiCD NA	−.27		**−.40**	.21	−.29	**.52**	**−.55**	**.36**	−.27	.27	.18
PiCD DN	−.18		**−.32**	.17	−.26	**.39**	**−.39**	.25	−.29	.18	.09
PiCD DT	−.26		**−.30**	.29	**−.44**	**.39**	**−.30**	.20	−.20	.17	
PiCD DL					−.13	.10					
PiCD AK											
IPiC NA	−.25	**−.50**	**−.35**	.19	−.16	.26	**−.30**	.21	−.22	**.57**	**.35**
IPiC DN	−.17	**−.40**	−.26			.21	−.22	.13	−.15	**.37**	.27
IPiC DT	−.22	**−.35**	−.26	.24	**−.34**	.16	−.16			**.31**	.21
IPiC DL	−.21	**−.37**	−.15							.27	.19
IPiC AK		.23				−.14				−.12	-.13

Note. Statistically significant correlations ($p < .01$) included in the table. Large effect sizes in bold and underlined; moderate effect sizes in bold (Cohen, 1992). PiCD = Personality Inventory for ICD-11; IPiC = Informant-Personality Inventory for ICD-11; NA = Negative Affectivity; DN = Disinhibition; DT = Detachment; DL = Dissociality; AK = Anankastia; I = informant-report; BDI-II = Beck Depression Inventory-II; DAS = Self-report Dyadic Adjustment Scale; I-DAS = Informant-report Dyadic Adjustment Scale; ISI = Insomnia Severity Index; SAS = Social Adjustment Scale; SNQ = Social Network Questionnaire; SWLS = Satisfaction With Life Scale; HSI = Health Status Inventory; HSI P = HSI physical health composite; HSI M = HSI mental health composite; I-AD8 = Washington University Dementia Screening Test.

perhaps overestimations because of the item-level data. Thus, four- and five-factor solutions were considered, as these are the numbers of factors that have been considered in all prior studies. The fit indices for the item-level self-report PiCD factor analytic solutions were (a) for the four-factor solution: RMSEA = .056 (95% CI = .055, .057), RMSR = .04, TLI = .718, BIC = −2057.73, explaining 31% of the variance and (b) for the five-factor solution: RMSEA = .052 (95% CI = .051, .053), RMSR = .04, TLI = .757, BIC = −3025.14, explaining 33% of the variance. The fit indices for the item-level informant-report IPiC factor analytic solutions were (c) for the four-factor solution: RMSEA = .066 (95% CI = .065, .067), RMSR = .04, TLI = .727, BIC = 976.61, explaining 38% of the variance and (d) for the five-factor solution: RMSEA = .062 (95% CI = .060, .063), RMSR = .04, TLI = .760, BIC = −331.91, explaining 41% of the variance. The Tucker congruence coefficients between self- and informant-reports for the four-factor solution were .94, .91, .93, and .78, and for the five-factor solution they were .93, −.90, .91, .91, and .95. As expected, the relative fit index TLI was lower than the RMSEA and RMSR. However, the RMSEA indicated adequate subjective fit for both solutions (Kline, 2016). The four-factor solution is presented because the four-factor solution is both most parsimonious and consistent with prior theory and research and the fit indices were similar across self- and informant-report solutions. However, the five-factor solution results are discussed and presented in Supplemental Table S2.

The loading patterns for the item-level four-factor solutions were similar across self- and informant-reports, and are displayed in Table 4. There were negative affectivity, detachment, dissociality, and bipolar anankastia/disinhibition factors. For the informant-report IPiC solution, 87% of the items loaded $\lambda > .30$ on their expected factor. For the self-report PiCD solution, 80% of the items loaded $\lambda > .30$ on their expected factor.

On the negative affectivity factors, all items loaded $\lambda > .30$ for both self- and informant-solutions, except one. On the detachment factors, all items loaded $\lambda > .30$ except one, which loaded on negative affectivity for both methods. On the dissociality factors,

all items loaded $\lambda > .30$ except one from the self-reports, which loaded on negative affectivity, and one from the informant-reports, which did not load >.30 on any factor. On the bipolar anankastia/ disinhibition factors, in the self-report solution, all anankastia items loaded $\lambda > .30$ except one, which did not have a significant primary loading on any factor. From the informant-perspective, all items loaded $\lambda > .30$ except three items, two of which had primary negative loadings on the dissociality factor, indicating they represented content opposite to dissociality. On the informant-report anankastia/disinhibition factor, all disinhibition items loaded $\lambda > |.30|$ (negatively) except two, which did not have primary loadings elsewhere. On the self-report anankastia/disinhibition factor, only four items loaded $\lambda > |.30|$ (negatively), although two loaded $\lambda = −.29$, one loaded $\lambda = −.27$, and one −.18. Two other disinhibition items did not load significantly on the anankastia/disinhibition factor, but did not load on other factors, either. Three disinhibition items cross-loaded $\lambda > .30$ on the negative affectivity factor, indicating that disinhibition content was more correlated with negative affectivity on self-reports than it was on informant-reports (this correlation was also displayed in the scale-level correlations presented in Table 2).

The loading patterns for the item-level five-factor solutions were also similar across self- and informant-reports: There were negative affectivity, detachment, dissociality, and two bipolar anankastia/ disinhibition factors. For the informant-report IPiC solution, 82% of the items loaded $\lambda > .30$ on their expected factor and 85% loaded primarily on their expected factor. For the self-report PiCD solution, 80% of the items loaded $\lambda > .30$ on their expected factor and 82% loaded primarily on their expected factor.

On the negative affectivity factors, all items loaded $\lambda > .30$ for both self- and informant-solutions, again except one, which loaded $\lambda = .30$ on dissociality in the self-report solution and not > .30 on any factor in the informant-report solution. On the self-report detachment factor, all items loaded $\lambda > .30$, again except one, which loaded on negative affectivity. On the informant-report detachment factor, seven detachment items loaded $\lambda > .30$ on the detachment factor, but five items loaded $\lambda > .30$ on the dissociality

Table 4

Four-Factor Self- and Informant-PiCD Item-Level EFA Solutions

	PiCD				IPiC			
Item	NA	AK+/DN−	DT	DL	NA	AK+/DN−	DT	DL
NA1	**.70**	.06	−.02	−.10	**.68**	−.11	−.05	−.07
NA2	**.57**	.10	.00	.01	**.61**	.07	.05	.18
NA3	**.63**	.00	.00	.01	**.58**	−.02	.03	.24
NA4	**.70**	.13	.06	−.09	**.71**	−.09	.01	−.06
NA5	**.69**	.05	.09	.01	**.66**	.00	.09	.05
NA6	−.03	.04	.13	.24	.09	.03	.12	.04
NA7	**.49**	−.03	.11	−.05	**.65**	−.13	.07	−.04
NA8	**.46**	.07	.08	−.10	**.65**	.04	−.06	.05
NA9	**.66**	−.07	.08	−.02	**.62**	−.04	.03	.19
NA10	**.64**	.00	.04	−.05	**.71**	−.07	−.06	−.03
NA11	**.52**	.01	.13	.06	**.59**	−.02	.01	.10
NA12	**.61**	.00	.06	.11	**.60**	.01	.09	.24
AK1	.24	**.31**	−.26	.16	.22	**.48**	−.11	.17
AK2	.05	.27	.29	−.10	.24	.13	.15	**−.42**
AK3	−.23	**.56**	.10	.10	−.12	**.58**	.04	−.27
AK4	.18	**.39**	−.05	.21	.29	**.58**	.04	.29
AK5	.15	**.40**	.16	−.06	.22	.21	.06	**−.43**
AK6	−.15	**.39**	.20	−.02	−.03	**.43**	.22	**−.31**
AK7	.17	**.49**	−.06	.21	.29	**.63**	−.03	.14
AK8	.18	**.36**	.06	.03	.25	.21	.06	−.26
AK9	−.04	**.63**	.01	.05	.03	**.61**	.04	−.27
AK10	.00	**.34**	−.24	−.02	.04	**.55**	−.29	−.01
AK11	.26	**.55**	.16	−.02	.33	**.40**	.03	**−.42**
AK12	−.04	**.41**	.05	−.06	.01	**.47**	.04	−.28
DN1	**.51**	**−.34**	−.20	.09	.19	**−.43**	−.11	**.39**
DN2	.10	−.08	.16	.19	.00	**−.40**	.22	.13
DN3	.17	−.29	.21	−.07	.07	**−.55**	.13	−.10
DN4	**.47**	−.29	.01	.13	.29	**−.43**	.03	**.33**
DN5	.15	−.06	.04	.25	.13	−.07	.23	.23
DN6	.14	**−.36**	.30	−.10	.11	**−.55**	.09	−.05
DN7	.35	**−.36**	.03	.18	.06	**−.52**	.06	**.37**
DN8	.17	−.18	.17	.19	.07	−.19	.26	.23
DN9	−.14	−.27	.21	.00	−.06	**−.42**	.10	.05
DN10	**.42**	**−.40**	−.02	.12	.09	**−.55**	.05	**.37**
DN11	.26	−.25	.12	.10	.18	**−.30**	.05	.24
DN12	.12	−.24	.20	.08	.04	**−.57**	.21	.04
DT1	.16	−.03	**.57**	.08	.22	.07	**.55**	−.02
DT2	−.11	.07	**.52**	.26	−.09	.08	**.62**	.06
DT3	.03	.12	**.72**	−.08	.05	−.04	**.60**	**−.39**
DT4	.23	−.06	**.46**	.09	.20	−.03	**.49**	.18
DT5	**−.42**	.11	.09	.17	**−.45**	.04	.27	−.10
DT6	.05	.05	**.67**	−.02	.13	−.06	**.51**	**−.35**
DT7	.12	−.07	**.66**	.11	.17	.01	**.64**	.03
DT8	.04	.01	**.49**	.16	.05	.00	**.52**	−.01
DT9	−.09	.08	**.72**	−.03	−.08	.03	**.68**	−.23
DT10	.04	−.05	**.43**	.25	.01	.07	**.54**	.22
DT11	−.10	.02	**.48**	**.34**	−.11	−.09	**.54**	.19
DT12	.09	.06	**.68**	−.02	.14	−.03	**.60**	−.27
DL1	**.33**	−.14	−.01	.24	.27	−.07	.10	**.40**
DL2	.03	−.12	.23	**.35**	.08	−.08	**.39**	**.32**
DL3	−.07	.04	**−.32**	.46	−.20	.18	−.21	.28
DL4	.07	.17	−.11	**.51**	.00	.19	.03	**.51**
DL5	.00	.01	.12	**.34**	.02	.04	**.39**	**.36**
DL6	.13	.04	−.12	**.41**	.03	.04	−.09	**.36**
DL7	.05	−.04	.06	**.47**	.18	.04	.14	**.52**
DL8	−.04	−.11	.28	**.39**	.01	−.02	**.44**	**.46**
DL9	.16	−.07	−.01	**.55**	.10	−.02	.21	**.60**
DL10	−.05	−.02	−.12	**.49**	−.01	.20	.03	**.44**
DL11	−.05	.06	.18	**.44**	−.06	.05	**.34**	**.30**
DL12	.04	−.16	.06	**.54**	.08	−.08	.23	**.55**

Note. PiCD = Personality Inventory for ICD-11; NA = Negative Affectivity; DT = Detachment; AK = Anankastia; DN = Disinhibition; DL = Dissociality; + = positive loadings; − = negative loadings; Loadings > .30 in bold.

factor, indicating overlap among detachment and dissociality from the informant-perspective (which was not obviously displayed in the scale-level correlations in Table 2). On the dissociality factors, all dissociality items loaded $\lambda > .30$ except one on the self-report dissociality factor, and two on the informant-report dissociality factor. Consistent with expectations, there were two bipolar anankastia/disinhibition factors in the five-factor solution, across both self- and informant-reports. On the informant-report anankastia/disinhibition factors, there was an even split, with seven anankastia items loading $\lambda > .30$ on one of the factors, and seven anankastia items loading $\lambda > .30$ on the other factor. Regarding the disinhibition items, eight loaded $\lambda > .30$ on one factor and four loaded $\lambda > .30$ on the other. Two disinhibition items loaded on the dissociality factor, and one did not load significantly on any factor. For the self-report anankastia/disinhibition factors, one factor was represented primarily by anankastia items (eight anankastia items loaded $\lambda > .30$ on this factor, and no disinhibition items loaded $\lambda > .30$ on this factor). On the other factor, four anankastia items loaded $\lambda > .30$ and three disinhibition items loaded $\lambda > |.30|$ (negatively). One additional disinhibition item loaded $\lambda = -.26$. on this factor. On the self-report PiCD, four disinhibition items loaded $\lambda > .30$ on the negative affectivity factor, indicating again that from the self-report, there was overlap between the negative affectivity and disinhibition domains. Only these seven disinhibition items had loadings $\lambda > |.30|$ on any factor, with five disinhibition items not loading $\lambda > |.30|$ on any factor. A post-hoc six-factor solution was extracted to see if these disinhibition items loaded > .30 on any factor in the six-factor solution, and they did not. The six-factor solution had slightly better fit indices than the five- and four-factor solutions, but one of the factors included only three items, each from one of three different domains. Thus, the six-factor solution is not presented.

Discussion

The latest version of the ICD (ICD-11) includes a dimensional system of personality disorder, with a five-domain maladaptive trait model. The PiCD is a self-report questionnaire that was developed specifically to measure the ICD-11 trait model. Several studies have provided convergent and discriminant validation evidence for the PiCD (Carnovale et al., 2020; Crego & Widiger, 2020; Gutiérrez et al., 2020; Oltmanns & Widiger, 2018, 2019; Somma et al., 2020), but only one study has examined ratings for the IPiC (Bach et al., 2020). No study has directly compared the IPiC with the PiCD within the same data set, examining their convergence; no studies have examined the relationship of the IPiC or PiCD with a variety of well-validated criterion measures, and no studies have examined the validity of the IPiC (or the PiCD) in older adults, or in close relationships (Bach et al. included only clinician ratings). The present study is the first to provide tests of the IPiC and PiCD for each of these areas.

The data from the present study support the validity of the IPiC and PiCD for measuring the ICD-11 trait domains. Evidence was provided for internal consistency, convergent and discriminant validity, criterion validity, and structural validity across both measures. Together the findings indicate multi-method validity for the IPiC and PiCD and provide research support indicating that they can be used for the assessment of the ICD-11 domains in older adults.

The structural validity of the IPiC at the item level was well supported, obtaining a four-factor structure corresponding to negative affectivity, detachment, dissocial, and a bipolar factor defined by the opposing poles of anankastia and disinhibition. This bipolar factor is consistent with the prior PiCD studies (Carnovale et al., 2020; Crego & Widiger, 2020; Gutiérrez et al., 2020; McCabe & Widiger, 2020; Oltmanns & Widiger, 2018, 2019; Somma et al., 2020). The bipolar factor is also consistent with how the ICD-11 trait model has been described by its authors (Mulder et al., 2016) as well as how the disinhibition and compulsivity domains (and/or facet scales) were described in the original version of the DSM-5 dimensional trait model (e.g., Krueger et al., 2012; Skodol, 2012).

An unexpected result though was a weaker four-factor structure obtained by the PiCD. All prior studies examining the PiCD at the item level have found strong four-factor solutions (Carnovale et al., 2020; Gutiérrez et al., 2020; Oltmanns & Widiger, 2018). In the current study, eight of the twelve disinhibition items failed to load on the bipolar factor (in the five-factor solution, the anankastia/disinhibition factor split into a primarily anankastia factor and a bipolar anankastia/disinhibition factor). The PiCD Disinhibition and PiCD Anankastia scales did correlate negatively with one another, but only weakly, whereas there was a large effect size negative relationship between IPiC Disinhibition and IPiC Anankastia.

Anomalous results were also obtained with the IPiC, albeit not as strong or the same as obtained with the PiCD. Three of the PiCD Disinhibition items loaded primarily on the negative affectivity factor (five did not load on any factor) whereas three of the IPiC Disinhibition items cross-loaded on the dissocial factor (none cross-loaded on negative affectivity). All of the cross-loading items (from the PiCD and IPiC Disinhibition) item related to impulsive tendencies. In the five-factor solution, PiCD Disinhibition items loaded primarily on negative affectivity (whereas for the IPiC the bipolar anakastia-disinhibition remained). The relatively larger relationships between PiCD Negative Affectivity and PiCD Disinhibition are consistent with prior studies (e.g., Oltmanns & Widiger, 2019). In sum, factor loadings showed that self-reports and informant-reports differed slightly when describing disinhibition. Perhaps the participants' disinhibition traits (and perhaps more specifically items related to impulsiveness) associate with negative affectivity, or vice versa, whereas the informants see targets' disinhibition traits to be interpersonally troubling or somewhat antagonistic (as noted further below, IPiC Disinhibition related significantly with dyadic maladjustment). Bach et al. (2020) found that disinhibition items related to irresponsible behaviors—as rated by clinicians regarding patients—cross-loaded with dissociality (e.g., "I leave work without notifying my co-workers"), but not items related to impulsiveness. Thus, the present cross-loadings between impulsiveness and dissociality may be a unique feature of informant-assessments of older adults, community samples, or close–other relationships.

With respect to the self–other agreement on the ICD-11 traits measured by the IPiC and PiCD, the a priori predictions were that agreement would be relatively higher on detachment, disinhibition, and anankastia, and lower on negative affectivity and dissociality—based on evidence that negative affectivity and dissociality (antagonism) traits are less observable and more evaluative, leading to lower self–other agreement (Funder & Dobroth, 1987; Vazire, 2010). These hypotheses were partially supported, in that the best agreement was found for detachment. Agreement was found

for dissociality and negative affectivity, but their agreement was not appreciably higher than the agreement found for disinhibition and anankastia. Self-informant agreement around $r = .30$ is not an uncommon finding (Oltmanns & Oltmanns, 2020). Indeed, in the initial validation study for the informant PID-5 (Markon et al., 2013), agreement was in this range—negative affectivity (.30), antagonism (.31), and detachment (.25) (with agreement for disinhibition at .40). However, self-informant agreement has been higher in other PID-5 studies (Oltmanns & Oltmanns, 2020). The results obtained in the current study may also reflect in some cases idiosyncratic results for the PiCD rather than the IPiC. As noted earlier, PiCD Disinhibition was less strongly related to PiCD Anankastia than has been observed many times previously, and demonstrated weaker structural validity on the bipolar-anankastia domain than has been shown previously.

The present study is the first to provide multiple criterion validity tests for both the PiCD and the IPiC, in regard to several well-validated self- and informant-measures of important life variables. Out of 30 preregistered hypotheses based on prior research findings, 29 were supported.[2] This essentially provides 29 replications of associations previously found between personality and life outcome variables, and 1 failed replication. There were also 38 further associations that were not predicted, mainly because the a priori hypotheses were based only on prior significant findings. Of the 38 unpredicted significant associations, only 9 were regarding associations between the self-report PiCD scales and the criteria variables. Thus, 27 were regarding associations between the IPiC scales and the criteria variables. The reason there were not many a priori predictions regarding the IPiC scales was that all a priori hypotheses were based on prior findings, and there has been a paucity of studies on informant-reports of maladaptive personality traits and life outcomes, and thus there were few hypotheses made. In sum, the findings from the present study replicate 29/30 prior associations between personality (measured by other instruments) and life outcomes, which strongly supports the criterion validity of the IPiC and PiCD scales.

Overall, the PiCD correlated higher with self-report criteria than informant-report criteria, and the IPiC correlated higher with informant-report criteria than with self-report criteria, which is to be expected due to shared method variance and unique sources of information. However, in general—for both the PiCD and the IPiC—negative affectivity, disinhibition, and detachment correlated moderately to strongly with mental health problems and dissatisfaction with life. Negative affectivity displayed large effect size relationships with mental health problems and dissatisfaction with life, even across methods (i.e., IPiC Negative Affectivity even correlated moderately with self-report dissatisfaction with life). Negative affectivity also uniquely correlated with insomnia symptoms at a moderate effect size, which is consistent with prior findings (Watson et al., 1988), and this finding was across methods (i.e., IPiC Negative Affectivity correlated significantly with self-reported insomnia symptoms).

The association between self-reported negative affectivity and problems in life was not only in the perspective of the target participant. Informants who rated targets as higher in negative affectivity reported that the targets had poorer physical and mental health and exhibited signs of cognitive decline. PiCD Negative Affectivity was, however, only modestly predictive of social functioning problems and problems with physical health. While IPiC

Dissocality correlated modestly with the self- and informant-report criteria scales, it showed a moderate relationship with partner-reported relationship satisfaction, in addition to IPiC Negative Affectivity, Disinhibition, and Detachment, indicating that if an informant romantic partner perceives the target as more dissocial, the partner may be less satisfied with their romantic relationship with the target. Overall, these results suggest that PiCD and IPiC Negative Affectivity, Disinhibition, and Detachment are associated with problems in life. Future research should replicate these findings in other age groups, in other settings, in longitudinal designs, and with other measures of life outcome variables.

An interesting finding emerged related to IPiC and PiCD traits and romantic relationship satisfaction measured by the self- and informant-DAS. To understand this finding, it is important here to keep in mind the differences in the associations/perspectives reported on the questionnaires: Informants reported on the targets' traits and the informants' own relationship satisfaction, while targets reported on the targets' traits and the targets' own relationship satisfaction. If an informant endorsed higher levels of maladaptive traits for the target, he or she (the informant) self-reported lower romantic relationship satisfaction. This was a moderate (detachment, disinhibition, dissociality) to large (negative affectivity) effect. It indicates that if one perceives their romantic partner as having higher levels of negative affectivity, disinhibition, dissociality, or detachment, one also reports less satisfaction with the relationship. In contrast, if a target self-reported higher levels of *their own* negative affectivity, disinhibition, or detachment, the target is only modestly less satisfied with their romantic relationship. Put into simpler words, the finding indicates for older adults: If you report higher levels of maladaptive traits, you are modestly less satisfied with your romantic relationship. If your partner reports higher levels of maladaptive traits for you, your partner is moderately to highly less satisfied with your romantic relationship. The differences in correlation sizes (e.g., the difference between the correlation between self-report negative affectivity and self-report relationship satisfaction and the correlation between informant-report negative affectivity and informant-report relationship satisfaction) were statistically significant for negative affectivity, disinhibition, and dissociality ($z = 3.58$, 3.13, and 3.92, $p = .0003$, $p = .0009$, and $p = .0001$, respectively). This finding alone provides validity evidence for the IPiC.

While the present study has several important strengths, it also has limitations. A limitation of the present study is that the sample has a lower amount of maladaptive personality traits present, as a community sample. However, the community nature of the study is in fact also one of its strengths. Maladaptive personality traits are important to study in the clinic, yet they are also present in the community and cause problems in the lives of people outside of the clinic. It is important to know how maladaptive personality affects clinical patients and community subjects alike, and to understand the differences between maladaptive traits in the two populations. The findings of the present study also generalize only to the U.S. older adult community of White and Black adults. Findings should be replicated and examined closely with more age groups, ethnicities, and nationalities. The use of only self- and informant-reported

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[2] The HSI was divided into physical and mental health components after preregistration, so hypotheses regarding the self-report HSI was counted as two if both were supported.

criteria variables was also a limitation, and to the extent possible, more objective criteria measures should be implemented into future studies. However, it was useful to examine relationships with life outcome measures across perspectives (e.g., informant-reported relationship satisfaction and self-reported relationship satisfaction). Finally, the IPiC is limited in that it was validated only using male and female pronouns. Future research should develop and validate a version for non-binary gender identifications.

The present study is a step forward for the validation of the ICD-11 trait model. It presents the first study of the IPiC in a community sample, with close–other informants, and to provide a comparison to the PiCD. The present study is also the first for the IPiC and also the PiCD in comparison to a variety of well-validated self- and informant-report life criteria variables, and in a sample of older adults. It provides the most extensive criterion validity test of the PiCD itself to-date. Results support the validity of the IPiC as a multimethod assessment instrument of the ICD-11 trait model. Findings indicate that the domains of the ICD-11 trait model, as measured by the PiCD and the IPiC, have implications for important areas of personal functioning such as health, social, and satisfaction variables. To date, the evidence continues to suggest the that IPiC and PiCD are valid and useful measures of the ICD-11 personality trait model, and that dimensional trait personality models capture important variance in life outcomes generally.

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