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Psychopathic Profiles in the General Population: Construction and validation of the ERPO Scale

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Título: Perfiles psicopáticos en población general: construcción y validación de la Escala ERPO.

Resumen: La psicopatía subclínica es un tema de interés para diversos campos de la psicología (recursos humanos, contexto forense, psicología clínica, etc.). El objetivo de este estudio fue construir una escala para la evaluación de la psicopatía subclínica y utilizarla para obtener perfiles psicopáticos en la población adulta general española. Para lograr esto, se generó un conjunto de ítems que evaluaban 3 dimensiones (Manipulación, Insensibilidad, Impulsividad Imprudente) y fueron revisados por un panel de expertos en psicometría y evaluación psicológica. El estudio piloto fue completado por 436 sujetos, y el estudio principal por 536. La estructura interna de la escala se exploró mediante varios Análisis Factoriales Exploratorios y un Análisis Factorial Confirmatorio final. El análisis de conglomerados resultó en cinco agrupaciones de sujetos (Psicopáticos, No Psicopáticos, Manipuladores, Insensibles e Imprudentes), que mostraron relaciones diferenciales con Psicopatía, la Tríada Oscura, Amabilidad, Honestidad-Humildad e Interés Propio. La escala desarrollada proporciona puntuaciones válidas y fiables para evaluar la psicopatía subclínica en la población adulta general española, así como la posibilidad de establecer cinco perfiles psicopáticos en esta población.
Palabras clave: Psicopatía subclínica. Perfiles psicopáticos. Construcción de tests. Análisis factorial. Análisis de clúster.

Abstract: Subclinical psychopathy is an issue of interest for various psychological fields (human resources, forensic context, clinical psychology, etc.). The aim of this study was to construct a scale for the assessment of subclinical psychopathy and to use it to obtain psychopathic profiles in the general adult Spanish population. To achieve this, a set of items evaluating three dimensions (Manipulation, Insensitivity, Reckless Impulsivity) was generated and reviewed by a panel of experts in psychometrics and psychological assessment. The pilot study was completed by 436 subjects, and the main study by 536. The internal structure of the scale was explored using various Exploratory Factor Analyses and a final Confirmatory Factor Analysis. Cluster analysis resulted in five subject groupings (Psychopathic, Non-Psychopathic, Manipulative, Callous, and Reckless), which showed differential relationships with Psychopathy, Dark Triad, Agreeableness, Honesty-Humility, and Self-Interest. The developed scale provides valid and reliable scores for assessing subclinical psychopathy in the general adult Spanish population, as well as the possibility of establishing five psychopathic profiles in this population.
Keywords: Subclinical Psychopathy. Psychopathic Profiles. Test Construction. Factor Analysis. Cluster Analysis.

Introduction

Antisocial behaviours and the individuals who engage in them are an object of both fascination and concern to society. This interest has been reflected in a variety of spheres, such as academic, political, organizational, and artistic fields. In fact, pioneering authors in behavioural sciences such as Pinel, Kraepelin, and Kretchmer produced various writings on this issue. In his 1941 book "*The Mask of Sanity*", Cleckley described a psychological profile he called psychopathic, characterized by manipulation, impulsivity, callous affect and antisocial behaviour, without hallucinations or neurotic manifestations (Cleckley, 1988). This description was taken up by Hare, who stressed its criminal nature, and created the most widely-used structured interview to diagnose it, the Psychopathy Checklist (PCL; Hare, 1980; Hare et al., 1990). Subsequent work produced the Self Report Psychopathy Scale (SRP; Hare, 1985), one of the most well-known self-report scales for psychopathy.

In clinical psychology, psychopathy has been treated as a personality disorder. In the APA diagnostic manuals, it originally appeared as "sociopathic personality", before being understood as Antisocial Personality Disorder in the DSM-II. The current DSM-5 considers psychopathic characteristics as a specifier of Antisocial Personality Disorder (American Psychiatric Association, 2013).

The concept of "sociopathy" often appears in the literature on psychopathy. The distinction between psychopathy and sociopathy (or rather primary and secondary psychopathy) mainly refers to the aetiology of the disorder. Psychopathy's origins are in temperament, whereas sociopathy refers to subjects where factors related to upbringing and early care are more important (Porter, 1996). Although the terms are sometimes used interchangeably, recent research tends to differentiate them, based both on their aetiological divergence, subtle differences in their behavioral manifestations, and on identified neurological differences (Pemment, 2013; Spytska, 2024).

In this study, we adopt a contextual perspective—closer to the concept of sociopathy—, where psychopathic traits develop interactively throughout a person's development. This implies that those traits are no different—qualitatively—to those present in any other person, but are instead quantitative variations of traits everybody has (Hare & Neumann, 2005). In other words, psychopathy is a dimensional construct, a continuum where individuals with high levels of psychopathic traits would be categorized as psychopaths.

The classic definition of psychopathy includes characteristics referring to two factors (Harpur et al., 1988): the Psy-

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chopathic Personality and Antisocial Behaviour. These factors are represented in the main evaluation instruments (Hare et al., 1990) and can be subdivided into four first-order factors (Hare & Neumann, 2005; Seara-Cardoso et al., 2020). The Psychopathic Personality factor (Factor I) is split into Interpersonal and Affective factors, and the Antisocial Behaviour factor (Factor II) is split into Lifestyle and Antisocial factors.

If we understand psychopathy as a multidimensional construct, it would be feasible to find subjects with high scores in the first factor and low scores in the second (i.e. people with psychopathic personality traits who do not present antisocial-impulsive behaviours). These people could not be called psychopaths, given the incompatibilities between their profiles and a formal diagnosis of Antisocial Personality Disorder; they would rather be named as subclinical, successful, or white-collar psychopaths (Hall & Benning, 2006), given their potential "advantages" in certain contexts (Kranefeld & Blickle, 2022).

At the subclinical level, psychopathy has exhibited negative correlations with personality dimensions such as Agreeableness and Honesty-Humility (Book et al., 2015; Schreiber & Marcus, 2020). Looking at individual differences, men usually score higher than women in psychopathic traits (Cale & Lilienfeld, 2002; Seara-Cardoso et al., 2020).

The literature offers various questionnaires for evaluating subclinical psychopathy, some of which have been validated for Spanish populations (see Table S1 of the Supplementary Material). No instrument originally developed in Spanish has been identified, which could offer advantages in capturing the idiosyncrasies of the target population compared to adapted measures. Regarding Spanish adaptations, only two of the scales (the SRP and the LSRP) are currently available for research purposes. However, the LSRP adaptation shows methodological shortcomings (e.g., use of principal components analysis, orthogonal rotation, unjustified extraction of three factors, and low reliability; Andreu et al., 2018). On the other hand, the SRP adaptation (Gomez-Leal et al., 2021) relies on a purely confirmatory approach, testing an already established factor structure.

Yet, adopting an exploratory approach can be particularly useful for detecting jingle-jangle fallacies and for minimizing construct overlap, a great concern when developing instrument for socially aversive traits (e.g., García-Fernández et al., 2025; Kay & Arrow, 2022). Overlap occurs when two or more traits share core aspects of their definitions, which artificially inflates the shared variance between them (Furnham et al., 2013). This can produce what is called the "jangle fallacy", where two apparently different traits refer to the same psychological construct (Gonzalez et al., 2021).

This is clear with psychopathy when it is compared to other socially aversive traits. For example, Machiavellianism and psychopathy are closely related: r = .46 (O'Boyle et al., 2012), r = .58 (Muris et al., 2017), and r = .72 - .80 (Moshagen et al., 2018). A more detailed analysis of the definitions of these traits leads to the conclusion that they both refer to the same questions, and are only differentiated by impulsivity, which is present in psychopathy but replaced by long-term planning in Machiavellianism (Jones & Figueredo, 2013); and in fact, some authors consider the two to be equivalent (Miller et al., 2017). There are similar problems with other personality traits that the literature usually identifies as "dark" (Moshagen et al., 2018). This poses a problem when one wants to evaluate a person in various dark traits (e.g., Someone with a high score in psychopathy will probably have a high score in Machiavellianism, and applying the second questionnaire will add little descriptive information). To avoid this redundancy, we might choose to identify the different facets making up these traits, developing scales that focus on evaluating them rather than producing an overall score in the trait being measured. In the case of psychopathy, this means looking to rate the subject in the variables Manipulation, Callousness, and Impulsivity, and not providing a general psychopathy score. This approach would allow us to produce a profile for the person being evaluated, and interpreting that profile would provide more information than just a general score, which might be the result of various combinations of facets (e.g., a high score in Manipulation, and a low score in Callousness and Impulsivity would give a similar overall score to a high score in Callousness and a low score in Manipulation and Impulsivity).

Most of the questionnaires referenced in Table S1 group the scores into three dimensions, which are similar between the questionnaires and could be considered equivalent. On that basis, in our study they are called Manipulation, Callousness, and Sensation-Seeking. Manipulation is defined as a subject's tendency to demonstrate skill and confidence in their ability to get what they want from others, by means of shock (provoking emotions), deception, flattery, or self-interested collaboration. Callousness (evaluated inversely) is the tendency for a person to not have close relationships with others, not feel concern for others' feelings, not take responsibility for their actions, and not feel guilty for their mistakes. Sensation-Seeking is the tendency to want to experience strong emotions and engage in high-risk behaviours. This dimension closely corresponds to the "Thrill and Adventure Seeking" subscale of the Sensation Seeking Scale developed by Zuckerman et al. (1978).

The present study pursued two objectives. The first was to develop a valid and reliable instrument —the first originally created in Spanish— for the assessment of psychopathic traits in the general adult population. This scale combines exploratory and confirmatory factor analyses to minimize construct overlap. The second objective was to employ this instrument to derive personality profiles.

Method

Participants

Pilot Study. This pilot version of the questionnaire was completed by 447 people. One person was removed from

the study for being under 18 years old and 10 were removed for not being Spanish nationals. The final sample comprised 436 Spanish nationals, 73.4% of whom were women. The mean age was 32.33 years (*SD* = 14.26), ranging from 18 to 99 (the upper extreme value was reported by a single participant; the next highest age was 75 years.). The majority of participants resided in the Principality of Asturias (67.43%), followed by the Community of Madrid (13.53%), Andalusia (3.44%), Castile and León (3.21%), and Catalonia (2.29%). The remaining autonomous communities each represented between 0.23% and 1.61% of the total sample. No responses were recorded from Ceuta, Melilla, Aragon, the Balearic Islands, or Navarre.

Main Study. The questionnaire was completed by 695 people. Two were removed from the study for being under 18 and 12 were removed for not being Spanish nationals. In addition, the responses from 145 subjects were eliminated as they failed to correctly answer the control questions (see Instruments). The final sample comprised 536 Spanish nationals, 73.9% of whom were women. The mean age of the sample was 33.14 years (*SD* = 13.47, range = 18-71). The majority of participants resided in the Principality of Asturias (76.87%), followed by the Community of Madrid (7.65%), and La Rioja (2.43%). The remaining autonomous communities each represented between 0.19% and 1.87% of the total sample. No responses were recorded from Ceuta, Melilla, Extremadura, or Murcia.

Instruments

The Oviedo Scale of Psychopathic Traits (ERPO - *based on the Spanish title*). This is the measure of subclinical psychopathy that the present study aims to validate. It is expected to evaluate three facets: Manipulation, Callousness, and Sensation-Seeking. The first step in creating this instrument was to review the main scales used for subclinical psychopathy (see Table S1 of the Supplementary Material) in order to properly define the dimensions. Then, based on those definitions, 100 items were written (between 30 and 40 per dimension). Six experts in psychometry reviewed whether these items met psychometric standards (Downing & Haladyna, 2006). Following that initial review, 75 items were retained that complied with the stipulated standards. These 75 items were assessed by a panel of 20 experts in psychological evaluation via an online questionnaire. In the questionnaire, each expert noted which dimension they thought each item belonged to, and scored how well the item represented that dimension on a scale from 1 to 10. The intraclass correlation coefficient indicated an excellent level of agreement for the experts in this task (ICC(3,k) = .87, 95% CI [.82, .91], $p < .001$). For an item to be considered suitable it had to be classified in the correct dimension by 19 of the 20 experts and have a mean representativeness score above eight (i.e. how well the item captures the meaning of the selected dimension). Fleiss' kappa coefficient was .86 for this task, indicating a good level of agreement between the experts. Using these criteria, 14 items were selected for each dimension (those with the highest scores in representativeness) to construct the pilot questionnaire. The format of the pilot questionnaire was a Likert-type scale with 5 response options from 0, meaning "completely disagree" to 4, meaning "completely agree". In the main study, the response format was a VAS (Visual Analog Scale) from 1 to 99 points. Final items can be found in Table S2 of the Supplementary Material.

Attentional Control Scale. This scale has 10 items that ask the participant to choose a specific response (e.g., "Please select 'completely agree'"). The aim is to check whether the subject is reading the items or responding at random. If subjects give incorrect responses to any of these items, they are removed from the study since they were not carefully responding to the questionnaire.

Self-Report Psychopathy Scale (SRP-III; Mahmut et al., 2011). This is a psychopathy scale that has been validated in the general population, made up of four dimensions (Interpersonal manipulation, Callous affect, Erratic lifestyle, Criminal tendencies) with eight items each, except Criminal tendencies, which has ten. We used the Spanish adaptation by Gómez-Leal et al. (2021), which indicated the following indices of reliability $\alpha_{\text{Manipulation}} = .72$, $\alpha_{\text{Callous affect}} = .65$, $\alpha_{\text{Erratic Lifestyle}} = .76$, $\alpha_{\text{Criminal tendencies}} = .75$, $\alpha_{\text{Total}} = .84$. Responses were given on a five-point Likert scale, from 0, for "completely disagree", to 4 for "completely agree".

Dirty Dozen (DD; Jonason & Webster, 2010). This is a brief measure of the Dark Triad, which assesses Psychopathy, Machiavellianism, and Narcissism using four items for each dimension. We used the Spanish adaptation by Pineda et al. (2020), who indicated a reliability for the total scale of $\alpha = .80$. Responses are made on a five-point Likert scale, from 0, "completely disagree," to 4, "completely agree".

HEXACO Personality Inventory-Revised (HEXACO-60; Ashton & Lee, 2009). We used two scales from this test (Agreeableness and Honesty-Humility), each with ten items, as these were the two scales that had demonstrated the best relationship with psychopathy (Book et al., 2015), and including all of the dimensions would have made the questionnaire too long. The responses were given on a five-point Likert scale, from 0, "completely disagree," to 4, "completely agree". The Spanish adaptation was by Roncero et al. (2013).

The Dictator Game (Self-interest). This is a behavioural measure of Self-interest derived from game theory. It is a single item with the following phrase, "Imagine that after finishing the questionnaire, we gave you a reward of 10€. There is another person who, after completing the test just like you, gets no reward. How much of the 10€ would you be willing to give to that person?". The score for the item is the amount of money that the respondent would give, with low scores indicating self-interest and high scores indicating altruism. The response to this item has been shown to have correlations above .30 with various dark traits (Moshagen et al., 2018).

The indices of reliability for the scales used in this study are shown in Table 2.

Procedure

Both the pilot questionnaire and the main study were applied through a specially-made web page. This allowed us to give participants a short report with their scores as a way of thanking them for their participation in the main study. The instructions and the reports made it clear that the results were not part of any psychological evaluation process and therefore would in no way be indicative of psychological problems.

The study used snowball sampling, with the link to the questionnaire spread by various social media networks and participants also asked to disseminate it. Data was collected between February and May 2022. The online questionnaire was configured to require responses for all items, ensuring that no missing data were recorded. Participation was anonymous and voluntary, in compliance with privacy legislation and professional guidelines. Participants received no financial reward for completing the questionnaire.

Data Analysis

Pilot Study

Firstly, the items from the Callousness subscale were redirected. Following that, each subscale was analysed separately. In order to remove poorly-performing items, we examined indices of asymmetry (a_3) and kurtosis (a_4), discarding items where $|a_3|$ or $|a_4| > 3.5$. Once that was done, items with a lo Discrimination Index (corrected item-test correlation) below .3 were removed. Then, to examine the subscales' factorial structures, we performed exploratory factor analysis (EFA) for each one. The suitability of the polychoric correlation matrix was examined using the Kaiser-Meyer-Olkin (KMO) index and Bartlett's statistic, with thresholds of KMO > .70 and $p_{\text{Bartlett}} \leq .05$ (Kaiser, 1970). Suitability of the items for EFA was assessed via the MSA index, which should be above .50 (Lorenzo-Seva & Ferrando, 2021). The total number of dimensions to extract in the EFA for each subscale was evaluated via Optimal Implementation of Parallel Analysis (Timmerman & Lorenzo-Seva, 2011). The extraction method was Robust Diagonally Weighted Least Squares (RDWLS). Model fit was assessed with the percentage of variance explained, the Comparative Fit Index (CFI), and the Root Mean Square of the Residuals (RMSR), as well as the fit to a unidimensional structure using the MIREAL statistic. These indices must satisfy the following criteria: CFI > .90, RMSR < .08 y MIREAL < .30 (Ferrando & Lorenzo-Seva, 2018). The reliability of the scale scores was estimated using the McDonald's Omega (ω). Lastly, we performed a final EFA with all the subscales using oblique rotation (Robust Promin; Lorenzo-Seva & Ferrando, 2019).

Main Study

To determine the suitability of the internal structure of the ERPO, we performed a confirmatory factor analysis (CFA) where each item could only load on its respective subscale, allowing all subscales to correlate between themselves. We also calculated reliability coefficients for each subscale, along with the descriptive statistics and indices of discrimination for each item. Following that, to gather evidence of validity with regard to other variables, we calculated the correlations between ERPO and the SRP dimensions, the Dark Triad total, and the HEXACO dimensions of Honesty-Humility and Agreeableness. Subsequently, we determined whether there were statistically significant differences in psychopathic traits by sex, using the Student *t* test with Welch's correction, and Cohen's *d* as an estimator of effect size. To control for the effect of performing multiple comparisons, we applied Bonferroni's correction, with the level of significance set at .013.

Following that, we performed a (k-means) cluster analysis to establish different personality profiles based on psychopathic traits. To establish the best number of clusters to extract, we analysed the drop in the within-cluster sum of squares with an elbow plot. The suitability of the profiles was assessed using a silhouette chart, which allows a visual estimation of the quality of the grouping looking at the width of the silhouette: the wider the silhouette, the greater the "clarity" of the clusters (subjects are very close to the group they belong in and far away from others; Rousseeuw, 1987). Lastly, to determine whether there were statistically significant differences between profiles with respect to other variables (Psychopathy, Dark Triad, Agreeableness, Honesty-Humility, and Self-interest), we performed different ANOVAs, including the total for each scale as a dependent variable and the profile as an independent variable, using η^2 as an indicator of effect size. If the ANOVA produced a significant result (applying Bonferroni's correction to the level of significance, which was therefore set at .01), post-hoc comparisons were carried out using Tukey's test, with the effect size calculated using Cohen's *d*.

The analyses were preformed using the R programming language, version 4.2.2 (R Core Team, 2022) and the *tidyverse* (Wickham et al., 2019), *psych* (Revelle, 2024) and *lavaan* (Rosseel, 2012) packages. Exploratory factor analysis was done using the FACTOR program, 12.03.02 (Lorenzo-Seva & Ferrando, 2006).

Results

Pilot Study

First, means, standard deviations, asymmetry, and kurtosis were calculated for each item (Table S3 in the Supplementary Material). Items 1 and 14 from Manipulation, 2 and 4 from Callousness, and item 8 from Sensation-Seeking were removed as they gave values for kurtosis above 3.5. The

Discrimination index was calculated for each item, iteratively removing items with indices below .3. This led to the removal of items 7, 9, 8, and 13 from Callousness, and items 6, 9, and 11 from Sensation-Seeking.Parallel analysis suggested extracting one dimension for the variables Manipulation and Callousness, and two for Sensation-Seeking. The second Sensation-Seeking factor, made up of items 3, 4, 7, 9, and 10, are items whose content seemed not to clearly express the recklessness component in the definition of the subscale. Therefore, these items were removed from the subscale.

All of the statistics for the fit of the subscales were within the cut-off points, with the exception of the RMSEA for the Manipulation subscale. To remedy that, items 3, 5, 7, 10, and 13 were removed, since their uniqueness was correlated with that of other items, which is an indicator of redundancy in item statements. The wording of the items was carefully considered when eliminating these items in order to avoid basic aspects of the dimension definitions being left unevaluated. The resulting indices of fit for these analyses are given in Table 1. The end result was all of the statistics being within cut-off points, except the MIREAL for the Callousness scale, which was slightly above 0.3. Lastly, an EFA was performed for the total scale (Table 1), which produced results within the cut-off points for KMO, CFI and RMSR.

Table 1
Factor Structures of ERPO's Subscales (Pilot Study).

Dimension	Bartlett	(*p*)	KMO	% EV	CFI	RMSR	MIREAL	ω
Sensation-Seeking	1262.6(< .001)		.85	68.9	1.00	03	.27	.83
Manipulation	979.8(< .001)		.84	49.7	.99	.06	.26	.79
Callousness	975.8(< .001)		.78	42.0	.94	.08	.33	.75
ERPO scale	4837.3(< .001)		.74	39.2	.97	.08		

Note. % EV= percentage of explained variance, *CFI* = Comparative Fit Index, *RMSR* = Root Mean Squared Error, *MIREAL* = Mean Item Residual Absolute Loadings. ω = McDonald's Omega.

Main Study

The Confirmatory Factor Analysis of the ERPO scale demonstrated an acceptable fit for a structure of three correlated factors (CFI = .95, RMSEA = .051). The correlations between factors and the factor loadings are shown in Figure 1. The correlations ranged between .14 and .42, the factor loadings were between .19 and .88. The descriptive statistics and discrimination indices for the items (range: .25 - .73), and the descriptive statistics for the total scores are shown in Table S4 of the Supplementary Material.

Table 2 shows the estimations of reliability and the correlations between the scales in the main study. With the exception of the SRP Callousness scale, all of the estimations of reliability were over .70. Furthermore, the correlations between the ERPO and its equivalents in the SRP were high (.45 - .71).

Figure 1
CFA of the ERPO Scale.

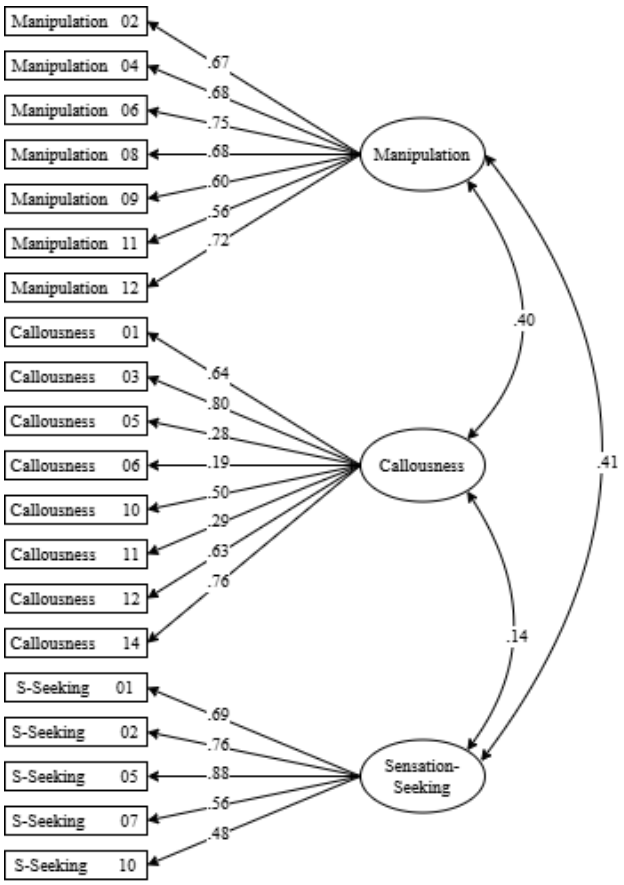


Table 2
Correlation and Reliability Indices for the Scales (Main Study).

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
(1) ERPO Manipulation	*.85*										
(2) ERPO Callousness	.28	*.76*									
(3) ERPO Sensation-Seeking	.33	.06[a]	*.81*								
(4) SRP Manipulation	.68	.33	.38	*.85*							
(5) SRP Callousness	.36	.45	.21	.47	*.65*						
(6) SRP Erratic	.39	.15	.71	.48	.28	*.77*					
(7) SRP Criminal	.32	.05[a]	.32	.39	.22	.52	*.76*				
(8) SRP Total	.59	.29	.56	.78	.58	.80	.77	*.87*			
(9) DD Total	.76	.31	.33	.68	.48	.47	.36	.66	*.82*		
(10) HEXACO Amability	-.19	-.19	-.07[a]	-.28	-.41	-.06[a]	-.09[a]	-.25	-.28	*.76*	
(11) HEXACO Honest-Humility	-.58	-.17	-.30	-.51	-.38	-.38	-.37	-.55	-.63	.20	*.72*

Note. Reliabilities (ω) indices can be found on the main diagonal. All correlations were statistically significant at p < .05, except those marked with superscript [a].

There were statistically significant differences between the sexes in Sensation-Seeking (t = 4.41, df = 217.24, p < *.001, d* = 0.46), Manipulation (t = 3.23, df = 29.3, p = *.002, d* = 0.33) and Callousness (t = 3.50, df = 202.6, p < *.001, d* = 0.39). In each case, men scored higher, with small to moderate effects.

In the cluster analysis, looking at the elbow chart (Figure S1 in the Supplementary Material), the theory of the profiles and the sample size of each cluster suggested the extraction of 5 profiles to be best (Figure S2 in the Supplementary Material). The profiles were labelled as follows: a) Non-psychopathic (all scores below the mean), b) Psychopathic (all scores above the mean), c) Manipulator, d) Callous, and e) Reckless (according to which of the dimensions was above the mean). A visual inspection of the silhouette chart (Figure S2 in the Supplementary Material) indicates that this grouping may be considered suitable.

All of the ANOVAs were statistically significant: the SRP total (F = 95.08, df_1 = 4, df_2 = 531, p = < .001, η^2 =.42), the DD total (F = 118.5, df_1 = 4, df_2 = 531, p = < .001, η^2 =.47), the HEXACO Agreeableness total (F = 9.147, df_1 = 4, df_2 = 531, p = < .001, η^2 =.06), and Honesty-Humility (F = 48.7, df_1 = 4, df_2 = 531, p = < .001, η^2 =.27), as well as the selfish behaviour test (F = 10.01, df_1 = 4, df_2 = 531, p = < .001, η^2 =.07).

The results of the post hoc tests are shown in Table 3. Because the Manipulator, Reckless, and Callous profiles are between the Psychopathic and Non-psychopathic profiles, we refer to them as "intermediate profiles". In all of the variables we examined, the largest differences were between the Psychopathic and Non-psychopathic profiles, all of which were statistically significant. Looking at effect sizes, these differences were largest in the Dark Triad (d = 1.99 — 3.12), followed by Psychopathy (d = 1.50 — 2.55), Honesty-Humility (d = -1.26 — -2.00), Self-interest (d = 0.59 — 1.06), and Agreeableness (d = -0.61 — -1.06). In the Dark Triad and Psychopathy, all of the differences between the Non-psychopathic profile and the intermediate profiles were statistically significant, albeit with smaller effect sizes than for the differences between the Psychopathic and Non-psychopathic profiles. This was also the case for the variables Agreeableness, Honesty-Humility, and Self-interest, although not all of the differences were statistically significant. More specifically, the Manipulator profile was no different from the Non-psychopathic profile in Agreeableness, and the Callous profile was no different in Honesty-Humility and Self-interest.

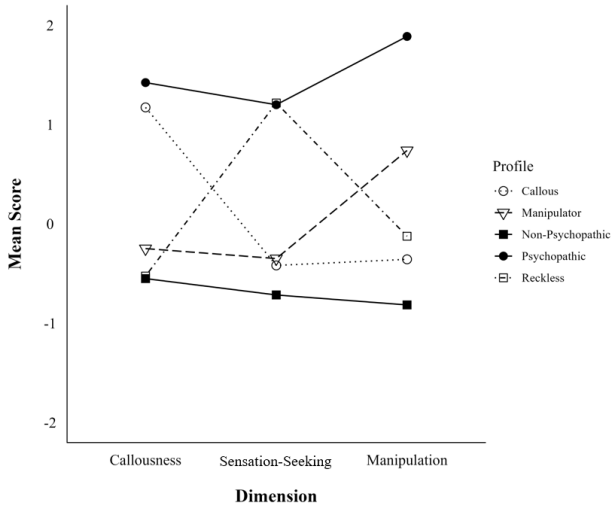
Table 3
Tukey's Post hoc Tests and Cohen's d Between ERPO Profiles.

	Non-Psychopathic	Manipulator	Reckless	Callous
DD				
Psychopathic	3.12***	1.99***	2.45***	2.66***
Non-Psychopathic		-1.41***	-.7***	-.36*
Manipulator			.65***	.94***
Reckless				0.3
Callous				
SRP				
Psychopathic	2.55***	1.91***	1.5***	2.25***
Non-Psychopathic		-.72***	-1.18***	-.48*
Manipulator			-.46**	.30
Reckless				.79***
Callous				
HEXACO Amability				
Psychopathic	-1.03***	-.72**	-.63**	-.61**
Non-Psychopathic		.29	.35*	.44**
Manipulator			.07	.13
Reckless				.06
Callous				
HEXACO Honest-Humility				
Psychopathic	-2.00***	-1.15***	-1.26***	-1.77***
Non-Psychopathic		.98***	.76***	.27
Manipulator			-.17	-.71***
Reckless				-.5**
Callous				
Self-Interest				
Psychopathic	1.06***	.61*	.59*	.78**
Non-Psychopathic		-.46**	-.4**	-.28
Manipulator			.03	.18
Reckless				.14
Callous				

Note. In the upper triangle, the Cohen's d values are displayed. Statistical significance for the t-test: ***p <.001; **p<.01; *p <.05.

The differences between the intermediate profiles were not so great, as noted above. However, in the Dark Triad, the Manipulator profile had higher scores than the other two profiles, as did the Reckless profile in Psychopathy, and the Callous profile in Honesty-Humility. There were no statistically significant differences between the intermediate profiles in Agreeableness and Self-interest (Table 3).

Figure 2
Obtained Profiles with the ERPO Scale.



Note. Means are calculated from standardized scores.

Discussion

This study had two objectives. The first was to develop a scale for evaluating psychopathic traits in the general Spanish adult population. The second was to establish profiles of psychopathic personality based on the scores in those traits.

The items selected for the pilot study were approved by two panels of experts who applied strict selection criteria. This ensured that the items were clear, properly worded, and representative of the dimension to be measured.

According to the results of the factor analyses and the coefficients of reliability, the ERPO has good evidence of validity in terms of its internal structure. In fact, the subscales gave better indicators of reliability than those from the SRP (comparing Callousness-Callousness, Manipulation-Manipulation, Impulsivity-Erratic). It is worth noting that this difference was not due to a longer test. The SRP has eight items in each subscale while the ERPO has eight in the Callousness subscale, seven in Manipulation, and five in Impulsivity.

The strongest correlation between ERPO subscales was between Manipulation and Callousness (r = .401), and many authors have suggested these two dimensions as the possible core of the dark personality (Jones & Figueredo, 2013), and they make up Factor I in Psychopathy (Hare & Neumann, 2005). Nonetheless, the correlations between the ERPO subscales were not as strong as those found in other questionnaires about psychopathy (e.g. Hare & Neumann, 2005), probably due to the concern about avoiding theoretical overlap when wording the items in each subscale. This means it does not seem feasible to put an overall score in subclinical psychopathy. This is consistent with the theories that understand the construct as a syndrome rather than as a single entity (Hare & Neumann, 2005) and moves away from models that seek to combine socially aversive traits under a single score (e.g. Moshagen et al., 2018).

The differences in means between the sexes showed that men tended to score higher in the ERPO subscales, which is in line with research showing that men are more "psychopathic" than women, both in scores in psychopathic traits and in the prevalence of clinical diagnosis (Cale & Lilienfeld, 2002).

In terms of relationships to other variables, each of the ERPO subscales demonstrated strong correlations with its namesake in the SRP, which is good evidence of convergent validity. Furthermore, the relationships with personality variables are consistent with what is described in the literature: negative relationships with the dimensions of Agreeableness and Honesty-Humility, and positive with the Dark Triad (Book et al., 2015; Furnham et al., 2013).

The clusters identified based on the Manipulation, Callousness, and Impulsivity subscales produced five clearly differentiated psychopathic profiles: Psychopathic, Non-psychopathic, Reckless, Callous, and Manipulator. It is worth noting that, if there had been an overall score, the latter three profiles would have had similar scores. However, as the post hoc tests showed, these profiles exhibited different relationships with other variables. The Manipulator profile scored higher than the others in the Dark Triad, which is consistent with the idea that Machiavellianism (which carries great weight within the dark triad; Postigo et al., 2023) and Subclinical Psychopathy are equivalent constructs in terms of using manipulative strategies (Miller et al., 2017). The Reckless profile, on the other hand, had higher scores than the other intermediate profiles in Psychopathy, which might be explained from the triarchic model, which places absence of fear as an etiological factor of psychopathic traits (Patrick & Drislane, 2015). Finally, the callous profile had higher scores than the other two (reckless and manipulator) in Honesty-Humility. This is consistent with what authors have suggested about Honesty-Humility, which refers to reckless, manipulative traits rather than callous ones. People with very high scores in the Honesty-Humility scale avoid manipulating others for their own gain, are not very tempted to break rules, are not interested in wealth or luxury, and feel no particular right to a higher social status. In contrast, those with very low scores in this scale will flatter others to get what they want, tend to break rules for personal gain, are motivated by material gain, and feel a notable sense of self-importance (Lee & Ashton, 2009, p. 1).

The Psychopathic profile is clearly different from the others, and has the highest scores in the Dark Triad, Psychopathy and Self-interest, as well as the lowest scores in Honesty-Humility and Agreeableness. In general, the intermediate profiles (Manipulator, Callous, and Reckless) also differed from the Non-psychopathic profile, albeit to a lesser extent. In other words, the intermediate profiles were closer to the Non-psychopathic profile than they were to the Psychopathic profile. Comparing these results to a typical general score (SRP), the Psychopathic and Non-psychopathic

profiles correspond to high and low scores respectively. The intermediate profiles would have moderate scores although such subjects may exhibit different relationships with other variables. The profile-cantered focus of the ERPO allows better discrimination of these individuals.

This may be extremely useful when evaluating a person's personality. As noted previously, an overall score might mask individual differences between subjects with the same score. Being able to differentiate people in profiles may help psychological research, for example, to study relationships with other variables or to produce comparison groups. In addition, applied psychology may be able to have a potent tool that offers more information than an overall score when evaluating people in different fields (e.g., legal, clinical, business, etc.).

This study is not without limitations. One comes from redirecting the construct of Sensitivity to Callousness, as redirecting items is a controversial practice in personality questionnaires (García-Fernández et al, 2022). Additionally, the use of the VAS format for the ERPO items in the main study may not represent the most optimal response format, as indicated by previous research (Buskirk, 2015; García-Fernández et al., 2024). Another limitation is related to the nature of the variables being measured, which may be influenced by response biases due to acquiescence and social desirability (Navarro-González et al., 2016), simulation of responses, or a lack of insight from the person being evaluated (Lilienfeld & Fowler, 2006). Finally, the samples were not balanced in terms of sex, with approximately three-quarters of the participants being women. This imbalance may influence the represenativeness of psychopathic traits, as prior research has suggested potential gender differences in their expression (Verona & Vitale, 2018). Future studies should address this limitation by recruiting more balanced samples and conducting measurement invariance analyses across sex. Additionally, forthcoming research should aim to examine the relationship between ERPO profiles and behavioural variables to further support the practical utility of this assessment instrument.

Conclusions

The scores from the ERPO scale have been shown to be reliable and valid, allowing the production of profiles of psychopathic traits in the general Spanish adult population. Five profiles were identified: psychopathic, non-psychopathic, manipulator, callous, and reckless. These profiles exhibit differential relationships with other variables, showing their usefulness over a general score in the construct.

Complementary information

Conflict of interest.- The authors declare no conclict of interest.
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