**Title: Validation of the Spanish Version of Impulsive-Compulsive Behaviours (ICB) Checklist in Prison Population**

**Francisca López-Torrecillas**. Center Research Mind Brain and Behavior (CIMCYC), University of Granada, Spain; [fcalopez@ugr.es](mailto:fcalopez@ugr.es). https://orcid.org/0000-0002-4541-5184.

**Eva Castillo**. Albolote Penitentiary Center Granada, Spain; evacastillofer@correo.ugr.es

**Isabel Ramírez-Uclés.** Department of Personality, Assessment and Psychological Treatment (UNED); [iramirez@psi.uned.es](mailto:iramirez@psi.uned.es); https://orcid.org/0000-0002-3689-5999.

**Pablo Holgado-Tello.** Department of Behavioral Sciences Methodology (UNED); [pfholgado@psi.uned.es](mailto:pfholgado@psi.uned.es); https://orcid.org/0000-0003-0769-5901.

**Andrew Dawson.** Brain and Mental Health Laboratory, School of Psychological Sciences, Monash Institute of Cognitive and Clinical Neurosciences, Monash University, VIC 3168, Australia; [andrew.dawson@monash.edu](mailto:andrew.dawson@monash.edu); https://orcid.org/0000-0002-9312-9203.

**Jeggan Tiego**. Monash Institute of Cognitive and Clinical Neurosciences, School of Psychological Sciences, Monash University, Clayton, VIC, Australia. [Jeggan.Tiego@monash.edu](mailto:Jeggan.Tiego@monash.edu); <https://orcid.org/0000-0002-9312-9203>.

**Murat Yücel**. Brain and Mental Health Laboratory, School of Psychological Sciences, Monash Institute of Cognitive and Clinical Neurosciences, Monash University, VIC 3168, Australia; [murat.yucel@monash.edu](mailto:murat.yucel@monash.edu); <https://orcid.org/0000-0003-0220-9230>.

Corresponding author: Francisca López Torrecillas. Departamento de Personalidad, Evaluación y Tratamiento Psicológico. Universidad de Granada, Campus de Cartuja, 18071, Granada, Spain.

**Authors’ contributions:** All the authors participated in the conception and design of the work, specifically Murat Yücel (MY), Andrew Dawson (AD), Jeggan Tiego (JT), and Francisca López-Torrecillas (FLT), conceived the original idea for the study and wrote the study protocol. Eva Castillo (EV) manages the day-to-day running of the study, including all participant questionnaires, and Isabel Ramírez-Uclés (IRU), Pablo Holgado-Tello (PHC) undertook all data analyses. This study paper was written by FLT, IRU, and PHC with input from all co-authors. All authors read and approved the final manuscript and believe that the manuscript represents valid work; carefully read and fully approve of it.

**Title: Validation of the Spanish Version of Impulsive-Compulsive Behaviours (ICB) Checklist in prison population**

Impulsive and compulsive behaviours are widespread among young adults, frequently co/exist, and can have negative long-term consequences. Impulsivity has been evaluated using experimental tasks and self-report measures and compulsivity has been evaluated mainly using the same instruments that are used to assess impulsivity, although occasionally compulsivity has been evaluated using more specific self-report measures important for evaluating the development and maintenance of Obsessive-Compulsive Disorders. The purpose of the current study was to validate a Spanish version of the Impulsive-Compulsive Behaviors (ICB) Checklist in a prison population. The ICB Checklist was translated into Spanish and administered to a sample of 700 men who voluntarily responded to the questionnaire. The mean age of respondents was 37.33 years (SD = 9.09). The Spanish version showed a two-factor structure for a 34-item self-reported instrument to assess impulsivity and compulsivity. The adaptations of the ICB Checklist indicated that the Spanish version showed adequate reliability (McDonald’s omega coefficient of .80 and Cronbach alpha of .79 for factor 1 and McDonald’s omega coefficient of .79 and Cronbach alpha of .80 for factor 2). Correlations with other measures of impulsivity and compulsivity (UPPS-P; OBQ-44; EuropASI; SCL-90-R) supported the construct validity of the scale. The scale’s reliability and validity are found to be satisfactory. This scale has been validated in the prison population context and also identified the optimal version of the ICB checklist.

Key word: Impulsivity, Compulsivity, Measurement, Assessment, Validity.

**Introduction**

Impulsivity and compulsivity are natural behaviours governed by brain systems important for survival in all species. When impulsivity and compulsivity become dysfunctional, comprehension of the underlying mechanisms can help find targeted treatment strategies Pathological impulsivity and compulsivity are among the fundamental and most devastating symptoms of a wide spectrum of mental disorders, placing an enormous personal, social, and economic burden on society (Berlin & Hollander 2014).

The American Psychiatric Association (APA, 2013) defines impulsivity as a tendency towards quick, unplanned reactions to either internal or external stimuli, without regard for undesired consequences, whilst compulsivity is, in turn, defined as the performance of repetitive behaviours in order to reduce or prevent anxiety or distress, whilst not providing pleasure or gratification. Although impulsivity and compulsivity interfere with different aspects of response control, they are expressed in related yet distinct neural systems linked to decisional and motivational processes that include the basal ganglia, their limbic cortical inputs, and top-down control from cortical prefrontal circuitry.

Increased frontal lobe activity could characterize compulsivity disorders whilst decreased frontal lobe activity could characterize impulsive disorders (Lee et al., 2019). The inefficient functioning of the frontal lobe is closely connected to criminal behaviour (Reynolds et al., 2018). Repetitive behaviours that often lead to harmful consequences have been attributed to traits traditionally described as “impulsive” or “compulsive”, e.g., substance use disorder, pathological gambling, and hoarding. These behaviours are common and often co-exist in the general and in prison populations (Ramírez et al., 2008; Stringer, 2018). The European Drug Report (EMCDD, 2021) estimated that 45 % of people with experience of incarceration have used drugs while in prison. Prisoners with substance use disorders suffer from health problems resulting from drug use, particularly HIV and Hepatitis C. Drug addiction is also associated with a high incidence of depression, risk of self-harm, irritability, and diverse physical and psychological problems. These problems are often accompanied by a previous history of family violence and sexual abuse and crimes such as sexual aggression, robbery, road safety and other sexual offences. It is important to note that these statistics are computed taking into account only one penalty per crime, i.e., considering only the main or most serious penalty, without taking into account other penalties incurred by the same individual (e.g., a main plus an additional penalty) (Díez, 2006).

Impulsive and compulsive problems are frequent in young adults, can co-exist, and have undesirable long-term consequences (Chamberlain et al., 2019). Antisocial personality, gambling, and substance use are some of the clinical disorders that are characterized by impulsivity (Lee et al., 2019). To illustrate, a person might engage in a spontaneous aggressive act (as is often observed in antisocial personality disorder), may experience craving for a particular substance, or a strong desire to gamble, without considering the potentially harmful consequences. Compulsivity, in contrast, is characterized by repeated dysfunctional behaviours, often undertaken according to inflexible rules, and which are traditionally found in obsessive-compulsive disorder (OCD). However, substance use disorders have also been considered compulsive behaviours (Tolomeo et al., 2018).

Impulsivity has been evaluated using experimental tasks and self-report measures (Leung et al., 2017), and compulsivity has been evaluated mainly using the same instruments that are used to assess impulsivity, although occasionally compulsivity has been evaluated using more specific self-report measures such as the Compulsive Obsessive Belief Questionnaire-44 (OBQ-44; Steketee, 2003) and the checklist of Yale-Brown Obsessive-Compulsive scale (Y-BOC; Goodman et al., 1989). However, these instruments have been considered (van Timmeren et al., 2018) important for evaluating the development and maintenance of obsessive-compulsive disorders (OCD). Therefore, there is now a need for clinicians to efficiently administer a combination of assessments that evaluate a wide range of behaviours. The frequent co-occurrence of behaviours across the constructs of impulsivity and compulsivity is still poorly recognised in the construction of instruments. The Impulsive-Compulsive Behaviours (ICB) Checklist aims to refine the assessment of the two constructs via a transdiagnostic approach. At the same time, it can help researchers to better comprehend the frequent clustering of maladaptive behaviours based on the common phenotypes of impulsivity and compulsivity. The checklist can also be used by clinicians to check for clustering of behaviours and offers a new way to study behaviours across disorders. The 34-item Impulsive-Compulsive Behaviour Checklist (ICB; Guo et al., 2017) is one of the most frequently used instruments that has been developed to assess impulsive and compulsive problem behaviours. Consequently, the present study aimed to validate the Spanish version of the checklist by (a) examining its psychometric properties, and (b) testing structural framework for measuring impulsive and compulsive in a prison population.

**Methodology**

**Participants**

All the population surveyed in this study was drawn from the prison population at the Granada Prison Centre. They were selected using stratified probabilistic sampling and 700 men voluntarily responded to the questionnaire. The mean age of respondents was 37.33 years (SD = 9.09). The inclusion criterion was age between 18 and 55. Participants were excluded if they were older than 55, had a physical or psychiatric illness (schizophrenia or depression), or were currently under psychopharmacological treatment. The sample was divided into two groups for exploratory and confirmatory analysis. The final sample groups therefore consisted of 413 and 278 participants, respectively. The demographic and crime behaviour characteristics of the sample are displayed in Table 1.

A total of 50 participants refused to participate in the study. Table 1 shows the demographic characteristics.

The participants were interviewed individually to check whether they met the inclusion criteria and were invited to participate in the study. Each participant was evaluated during an individual session and completed the measures described below.

INSERT TABLE 1 HERE

**Instruments**

*Demographic, Crime, and Institutional Behaviour Interview.*

This interview was created for the purposes of this project to collect socio-demographic data and information about the crimes committed and the punishment or prison sentences received according to the Spanish prison regulation law (Royal Decree 1201/1981).

*Impulsive-Compulsive Behaviours Checklist, (ICB*; Guo et al., 2017).

This instrument lists 34 behaviours. Participants are asked to indicate how frequently they have engaged in these behaviours in the past 12 months on Likert response scales (1=“never”, 2=“sometimes”, 3=“often”, 4=“always”, and tick if yes “This behaviour/urge/desire causes me distress”). The scale has excellent psychometric properties (Guo el al., 2017).

In particular, the ICB tests the presence of 34 impulsive and compulsive behaviours. For each behaviour, the respondents states whether they and/or others think they have a problem with the behaviour, using the response options “never”, “sometimes”, “often”, or “always”. The behaviours included in the ICB are the following: Washing, smoking, feeling compelled to collect free items (such as books, magazines, samples when shopping) or saving something you know you will never use, being overly cautious with money, (re) arranging / ordering, shopping, list making, counting (e.g., money, tiles), grooming, idiosyncratic routines (performing a very personalized sequence of actions), repeating actions (performing actions over and over again), exercising, betting/gambling, hair picking, lying, sexual activities/behaviours, calorie counting, alcohol consumption, planning (e.g., over organizing, illicit drug use, cleaning too much, verbal aggression, violence towards objects/properties, swearing, checking (e.g., locks, light switches), checking (e.g., yourself in the mirror), speeding when driving, medication use, physical aggression, social networking (e.g., Facebook, Twitter, Google+, Myspace), applying rules, purposeful self-injury (i.e. non-accidental), re-writing/re-reading and tattooing.

*Impulsive Behaviour Scale (UPPS-P; Verdejo et al., 2010).*

This includes 59 items measuring five dimensions of impulsivity: Negative Urgency (12 items), Lack of Premeditation (11 items), Lack of Perseverance (10 items), Sensation Seeking (12 items), and Positive Urgency (14 items). Responses are recorded on a Likert scale from 1 (completely agree) to 4 (completely disagree). In this study, we used the Spanish version (Verdejo-García et al., 2010) which has demonstrated excellent psychometric properties (Cronbach's alpha of .79 for Negative Urgency; .68 for Lack of Premeditation; .59 for Lack of Perseverance; .64 for Sensation Seeking and .82 for Positive Urgency). The underlying factor structure of the scale explained 64.29% of the variance.

*Obsessive Beliefs Questionnaire-44 (OBQ-44*; Steketee et al., 2003).

This instrument evaluates dysfunctional (obsessive) beliefs with 44 items using a Likert response scale from 1 (very much disagrees) to 7 (very much agrees). The instrument measures three dimensions: Responsibility/Threat estimation (OBQ-RT) with 16 items, Perfectionism/Certainty (OBQ-PC) with 16 items, and Importance/Control of thoughts (OBQ- ICT) with 12 items. The Spanish version (Nogueira-Arjona et al., 2012) confirmed that the instrument has adequate reliability, an internal consistency α=.95 for the total score, α=.89 for OBQ-RT estimation, α=.88 for OBQ-PC, and α=.85 for OBQ-ICT. Test-retest reliability was high both for the total score (α=.80) and for the separate dimensions (OBQ-RT estimation = .74; OBQ-PC=.75; OBQ- ICT= .79).

*European Addiction Severity Index* (Kokkevi & Hartgers, 1995).

This instrument was adapted from the Addiction Severity Index (ASI; McLellan et al., 1980) for use in 11 European countries. The Spanish version of the EuropAsi was validated by Bobes et al. (1996). The semi-structured interview measures the severity of drug consumption based on information provided by respondents regarding their activities in the past 30 days and their perceived need for help. It consists of 7 scales: 1) General medical condition; 2) Professional and financial situation; 3) Alcohol consumption; 4) Other drug consumption; 5) Legal problems; 6) Family and social relations; and 7) Psychological condition. After the interview, the intervention team can evaluate the need for treatment in each area. A score from 0 (no problems) to 9 (extreme problems) is calculated taking into account several key items in each area and both the patient’s own evaluation and the interviewer’s opinion. A higher score signifies more severe addiction. Severity is defined as needing treatment (when there is no treatment in place currently) or as the need to implement additional treatment (if the person is already receiving some type of intervention). This instrument can be useful for both clinicians (e.g., for screening, clinical assessment, and result evaluation) and institutions (e.g., for assessment of programme results, comparing different treatments, subpopulations, or contexts) (González-Saiz et al., 2002). EuropASI provides useful information that can be considered clinically important for treatment planning or research (López-Goñi et al., 2012). The EuropAsi provides a multidisciplinary diagnosis of addiction problems, together with a profile that can be used for the implementation of personalized interventions for each patient. In addition, it is widely used in research and trials testing the effectiveness of drug-dependence treatments (Sánchez-Hervás et al., 2009). In this study the Legal Status section has been omitted because prison participant are homogeneous with regard to this assessment.

*The* Symptom Checklist*-*90-R (SCL-90-R; González de Rivera et al., 2002).

This symptom scale measures the degree of psychological distress a person has experienced in the past week. The scale consists of 90 items (52 in the reduced version) using Likert scales with five answer options. The scale assesses nine dimensions: Somatizations (SOM); Obsessions and Compulsions (OBS); Interpersonal Sensitivity (IS), Depression (DEP), Anxiety (ANS), Hostility (HOS), Phobic Anxiety (FOB), Paranoid Ideation (PAR), and Psychoticism (PSIC). Seven additional items assess sleep disorders, eating disorders, death-related thoughts, and feelings of guilt. Three global indices of distress can be calculated: an Index of Global Severity (IGS) measuring current levels of perceived distress, Total Positive Symptoms (TPS) measuring the total number of present symptoms, and the Index of Positive Symptomatic Distress (PSD) measuring the response style towards symptoms. The nine dimensions have documented reliability scores around or greater than α=.70 and have shown concurrent and predictive validity against criteria including other clinical evaluation instruments, screening instruments, psychiatric diagnoses, structured evaluation protocols, or indicators of recidivism (Derogatis & Savitz, 2002). We used the Spanish version of the inventory (González de Rivera et al., 2002).

**Procedure**

The Impulsive-Compulsive Behaviour Checklist was translated into Spanish following transcultural translation procedures used in previous studies (Castellet et al., 2014; Nuñez et al., 2005). The instrument was translated from English to Spanish according to the parallel back-translation procedure (Brislin, 1986). First, a bilingual speaker translated the scale from the original language into Spanish. The Spanish version was then translated back into English by another bilingual person with no knowledge of the original scale. To ensure the production of a correct translation, this procedure was repeated and eventually four bilingual speakers participated in the parallel back-translation procedure. This also produced two pilot Spanish versions of the Impulsive-Compulsive Behaviour Checklist. Second, the items obtained from the translation procedure were evaluated by an expert group composed of the bilinguals involved in the translation process and two psychology researchers. The expert group selected those items for which the original meaning was maintained and created the format and instructions of the scale to be identical to the original. As a result, the Spanish version included a total of 34 impulsive and compulsive problem behaviours. For each behaviour, the respondent states to what extent they and/or others think they have a problem with the respective behaviour, responding “never”, “sometimes”, “often”, or “always”. Appendices A y B include the original and Spanish versions, respectively.

Finally, to evaluate to what extent the items were expressed clearly, the Spanish version was administered to 30 university students and 30 participants of the general population of Granada. They could ask questions or comment on the instructions and items. As a result of their questions and comments a few minor changes were made to the scale.

Four researchers administered the battery that included the interview, checklists, scale, questionnaire, and index described previously and according to standardized instructions. At the start of the session, all participants were advised of their right to leave the study at any time and had to sign a written informed consent form to participate. When the session ended, participants were debriefed and the researchers thanked them for their participation. All participants received information about the goals of the study and signed a written informed consent form. Ethical approval for this study was obtained from the Research Ethics Committee of University of Granada.

**Data analysis**

We first report a descriptive analysis of the ICB item scores, including means, standard deviations, and skewness and kurtosis coefficients.

To examine validity based on the internal structure of the ICB, both CFA and EFA was performed. In sample A, the original structure proposed by Guo et al. (2017) was tested and an alternative structure using EFA was explored. The alternative model was then tested in sample B using CFA. Because items are scored using a Likert-type scale, and there are many items, the analysis was based on the polychoric correlation matrix, using Robust Unweighted Least Square (RULS) (Holgado-Tello et al., 2009a,b; Yang-Wallentin et al., 2010). After estimating the matrix of polychoric correlations, we tested the assumption of bivariate normality by calculating the percentage of tests that rejected the null hypothesis of bivariate normality for each pair of correlations. This was done assuming an alpha level of 5%. In addition, we report the percentage of correlations with RMSEA less than .1 (Jöreskog & Moustaki, 2001).

The Satorra-Bentler chi-square (S-Bχ2) was calculated, together with the following goodness-of-fit indices (Bentler, 2007): the comparative fit index (CFI; Bentler, 1992), the non-normed fit index (NNFI; Bentler & Bonett, 1980), and the root mean square error of approximation (RMSEA; Steiger, 2000). Acceptable fit for the CFI and the NNFI is indicated by values approaching .95 (Bentler & Bonett, 1980; Hu & Bentler, 1999; McDonald & Ho, 2002), and good fit by a value ≥.95 (Hu & Bentler, 1999); For RMSEA values >.08 indicate poor fit, values between .06 and .08 reasonable fit (MacCallum et al., 1996), and values <.06 good fit (Hu & Bentler, 1999).

McDonald’s omega coefficient was used to assess the reliability of test scores, with values ≥.70 considered acceptable (Ventura-León & Caycho-Rodríguez, 2017).

For the item analysis corrected item-total correlations were calculated. These indicate the correlation between each item and the total test score when the item of interest is excluded. The relationship between factor scores and other variables was examined with Spearman correlation coefficients. In addition, Spearman correlations were computed for the five dimensions of UPPS-P (Negative Urgency; Lack of Premeditation; Lack of Perseverance; Sensation Seeking and Positive Urgency); the three dimensions of OBQ-44 (Responsibility/Threat estimation, Perfectionism/Certainty and Importance/Control of thoughts); and the six scales of EuropASI (General medical condition; Professional and financial situation; Alcohol consumption; Other drug consumption; Family and social relations and Psychological condition). As indicated above, Legal problems were not included because the whole sample would have had identical scores. Finally, we computed scores for the nine dimensions of SCL-90-R (Somatizations; Obsessions and Compulsions; Interpersonal Sensitivity; Depression; Anxiety; Hostility; Phobic Anxiety; Paranoid Ideation, and Psychoticism).

**Results**

**Descriptive Item Analysis**

Table 2 shows the results for the 34 items selected by Guo et al. (2017). The skewness and kurtosis indices indicated deviations from normality on most occasions.

INSERT TABLE 2

**Analysis of the internal structure**

Taking into account the items extracted, and the structure explored and validated by Guo et al. (2017), a CFA was conducted in sample A according to this configuration and consisting of two factors. The first was Impulsive-Compulsions and the second Compulsive-Impulsions. The estimated model converged normally and showed an acceptable fit to the data with 34 items. The chi-square test was significant, χ2 Satorra-Bentler(*df = 522; p <* .0001) = 344.168; RMSEA (Root Mean Square Error of Approximation) = .095 (90% confidence interval 92% y 99.2%); SRMR (Standardized Root Mean Square Residual) = .15; CFI (Comparative Fit Index) =.54; NFI (Normed Fit Index) = .48; y NNFI (Non-Normed Fit Index) = .51. These fit indices indicated that the model was suitable for the data.

**Exploratory factor analysis**

In order to explore the internal structure underlying the items extracted by Guo et al. (2017) an EFA was conducted using FACTOR. As estimation method we used Unweighted Least Squares (ULS), and a varimax rotation. We fixed two factors to be extracted. The first factor itself accounted for 20.59% of the variance; the second factor for only 11.62%.

Analysing the composition of the factors in accordance with the categorisation proposals made by Guo et al. (2017), the first factor would include behaviours such us washing, feeling compelled to collect things, being overly cautious with money, re-arranging/ordering, shopping, list making, counting (e.g. money, tiles), grooming, idiosyncratic routines (performing a very personalised sequence of actions), repeating actions (over and over again), exercising, hair pulling, calorie counting, planning (e.g. over-organising), checking (e.g. locks, light switches), checking (e.g. yourself in the mirror), social networking (e.g. Facebook, Twitter, Google+, MySpace), applying rules, re-writing/re-reading. The second would comprise: smoking, betting/gambling, lying, sexual activities/behaviours, alcohol consumption, illicit drug use, verbal aggression, violence towards objects/properties, swearing, speed driving, medication use, physical aggression, purposeful self-injury (i.e. not accidental), and tattooing.

# Confirmatory factor analysis

To define the measurement model, the following criteria were used: theoretical coherence and the loadings obtained in the previous EFA. Model 1 was defined based on the two-factor structure obtained in the previous EFA, and also tested the model proposed by Guo et al. (2017).

The χ2 result obtained in model 1 with 526 degrees of freedom was χ2Satorra-Bentler = 825.26 with *p* < .0001. The other fit indices for model 1 were: RMSEA= .048 [.041, 0.54]; CFI = .92; and NNFI= .91. The standardized solution is shown in Table 3, and all loadings were statistically significant, except for the lambda of item 30. However, given its theoretical relevance and the consideration that the conclusion about the fit of the model should be based on the global fit indexes, we decided to keep it.

The two factors structure found in the current study showed adequate fit indices and hence cannot be rejected. Construct validity was confirmed by a high convergence of the results and coherence between theory and the observed data.

INSERT TABLE 3

**Reliability and item analysis**

For factor 1 the value obtained for McDonald’s omega coefficient was .80 and for Cronbach alpha .79, which indicated satisfactory reliability of test scores. For factor 2, the value obtained for McDonald’s omega coefficient was .79 and for Cronbach alpha .80.

For factor 1, the discrimination indexes ranged between .18 (item 31) to .52 (item 21). Only item 31 was under .20. For factor 2, the corrected item-total correlations were between .28 (item 29) and .59 (item 20), showing good homogeneity indices for all items.

**Validity evidence based on relationships with other variables**

The data satisfied assumptions for ordinal/interval data and monotonic relationships between variables and hence Spearman rank-order correlations were used. Correlations between the ICB Checklist factor scores and the results for each validity measure are shown in Tables 4.1 and 4.2.

INSERT HERE TABLES 4.1 y 4.2

Impulsive-Compulsions (factor 1) achieved a suitable Spearman coefficient. As shown in Table 4.1, this factor was related to UPPS-P in two different ways, firstly, it was negatively related to Lack of Premeditation (-.230) and Lack of Perseverance (-.221), and secondly, it was positively related with Sensation Seeking (.178). In addition, Impulsive-Compulsions (factor 1) was related positively to two OBQ-44 dimensions (Responsibility/Threat Estimation and Importance/Control of Thoughts, .205 and .289 respectively). No correlations were found for OBQ-44 Perfectionism/Certainty dimension and EuropAsi five dimensions and the total score. Table 4.2 shows the positive relationship between the Impulsive-Compulsions factor 1 and Obsessive-Compulsive (.194) and Depression (.159) of the SCL-90-R.

Compulsive-Impulsions (factor 2) achieved a suitable Spearman coefficient. As shown in Table 4.1, this factor was related to all instruments used in the study. Firstly, positively to UPPS-P in Lack of Premeditation (.204), Negative Urgency (.521), Sensation Seeking (.391) and Positive Urgency (.428). Secondly, positively to all OBQ-44 dimensions [(Responsibility/Threat Estimation (.226), Importance/Control of Thoughts (.134), Perfectionism/Certainty (.140)]. Thirdly, positively to five EuropAsi dimensions and total score [Medical Status (.146), Employment/Support (.195), Alcohol Use (.437), Drug Use (.590) and EuropASI Total score (.617). No correlations were found for Family/Social relationships dimension. Table 4.2. shows the positive relationship between the Impulsive-Compulsions factor 2 and all SCL-90-R dimensions [Somatization (.152), Obsessive-Compulsive (.298), Interpersonal Sensitivity (.216), Depression (.195), Anxiety (.324), Hostility (.293), Phobic Anxiety (.164), Paranoid Ideation (.156) and Psychoticism (.278)].

INSERT TABLES 4.1 Y 4.2

**Discussion**

The goal of the present study was to assess the psychometric properties of the Spanish version of the ICB Checklist Spanish and provide evidence for its measurement invariance in a prison population. Pathological impulsivity and compulsivity underlie multiple mental disorders and can often be some of the most debilitating symptoms. Whilst a number of studies have linked impulsivity with disruptive behaviors, there is no evidence to support the existence of a similar relationship with compulsivity. Only a few tests are available to measure compulsivity and, in most cases, these have been applied to general populations.

The current results indicated that the Spanish version showed adequate reliability and validity in a prison population. Evidence of good reliability has been indicated by McDonald’s omega coefficient and Cronbach alpha, whilst the coefficients for Factor 1 were .80 for McDonald’s omega coefficient and .79 for Cronbach alpha. For Factor 2, coefficients were .79 for McDonald’s omega coefficient and .80 for Cronbach alpha. The findings of the current study were informed by the original scale validation of Guo et al. (2017). The scale was validated to encompass a broad range of aspects of impulsivity and compulsivity in the prison population, in order to assist with research aimed at obtaining a deeper understanding of the underlying mechanisms of criminal behavior. Thus, the reliability (internal consistency) of the ICB Checklist for the two subscales was acceptable with values that are similar to those reported in the original study (Guo et al., 2017), as well as in validation studies conducted in samples of the Australian Twin Registry (ATR) and in the United States through Amazon Mechanical Turk (AMT) online (Guo et al., 2017). In our study, the results regarding the internal structure were lower than in the original study, which could be explained by the use of a different sample (our sample consisted of prison population).

Considering the validity of the ICB Ckecklist, results from the confirmatory factor analysis partially supported the two-factor structure for a 34-item self-reported instrument to assess impulsivity and compulsivity. Factor 1 (Impulsive-Compulsions) consisted of twenty items (1, 3, 4, 5, 6, 7, 8, 9, 10, 11,12, 14, 17, 19, 21, 25, 26, 30, 31 and 33) which were: washing, feeling compelled to collect things, being overly cautious with money, re-arranging/ordering, shopping, list making, counting (e.g. money, tiles), grooming, idiosyncratic routines (performing a very personalised sequence of actions), repeating actions (over and over again), exercising, hair pulling, calorie counting, planning (e.g. over-organising), checking (e.g. locks, light switches), checking (e.g. yourself in the mirror), social networking (e.g. Facebook, Twitter, Google+, MySpace), applying rules, and re-writing/re-reading, which accounted for 20,59% of the variance. Factor 2 (Compulsive-Impulsions) consisted of fourteen items (2, 13, 15, 16, 18, 20, 22, 23, 24, 27, 28, 29, 32 y 34) which were: smoking, betting/gambling, lying, sexual activities/behaviours, alcohol consumption, illicit drug use, verbal aggression, violence towards objects/properties, swearing, speed driving, medication use, physical aggression, purposeful self-injury (i.e. not accidental), and tattooing, which account for 11.62 of the variance. Thus, the Spanish version provided support for the factorial validity of the ICB Checklist. The fit indices obtained are similar to those obtained in the original study (Guo et al., 2017). Additionally, all factor loading were statistically significant (among .18-.58 for the first factor and .28- .77 for the second factor) in standardized values and contributed to the assessment of the constructs (impulsivity and compulsivity)

Good construct validity was demonstrated, with significant correlations found with other measures of impulsivity and compulsivity (UPPS-P; OBQ-44; EuropAsi; SCL-90-R). Impulsive-Compulsions (factor 1) was negatively related to UPPS-P Lack of Premeditation and Lack of Perseverance and positively related to Sensation Seeking. Besides, this factor was positively related to two OBQ-44 dimensions (Responsibility/Threat and Estimation, Importance/Control of Thoughts). The first two (overestimation of threat and conceptual rigidity) make it difficult to design an intervention in a penitentiary context, because it is a very strict environment in terms of compliance with the rules. However, other elements such as excessive responsibility and perfectionism could perhaps be more easily addressed and even lead to obtaining certain penitentiary benefits (e.g., permission to leave, or obtaining a favorable recommendation from professionals of the penitentiary center). These results are novel but well aligned with what we have observed in the imprisonment context, because compulsive inmates are more adaptive than impulsive inmates. The seemingly contradictory findings could increase the relevance of the ICB, because OBQ does not discriminate between impulsivity or compulsivity. Also, this factor was only positively related to two dimensions of the SCL-90-R (Obsessive-Compulsive and Depression) which could reflect its lower dangerousness.

Compulsive-Impulsions (factor 2) was positively related to UPPS-P in Lack of Premeditation, Negative Urgency, Sensation Seeking, and Positive Urgency. Moreover, this factor was positively related to all OBQ-44 dimensions (Responsibility/Threat Estimation, Importance/Control of Thoughts, Perfectionism/Certainty). Also, it was positively related to five EuropASI dimensions (Medical status, Employment/support, Alcohol use, and Drug use) and EuropASI total. The positive relationship between the Impulsive-Compulsion factor 2 and all SCL-90-R dimensions (Somatization, Obsessive-Compulsive, Interpersonal Sensitivity, Depression, Anxiety, Hostility, Phobic Anxiety, Paranoid Ideation, and Psychoticism) is also worth mentioning. This suggests that impulsivity is associated with increased risk behavior.

These results are consistent with a meta-analysis (Bresin, 2019) that found relationships between the different dimensions of impulsivity (Negative Urgency, Positive Urgency, Lack of Premeditation) and aggression. Further, such findings are fully in line with other studies (Mulhauser et al., 2019; Rømer-Thomsen et al., 2018) that obtained associations between UPPS-P impulsivity traits (Negative Urgency, Lack of Premeditation and Sensation Seeking) and addiction-related behaviors. Specifically, drug users in a prison population showed greater Sensitivity to Reward, Positive Urgency, Negative Urgency, and Sensation Seeking than non-dependent users. Similarly, our results are aligned with those from Sohn et al. (2014) and Frydman et al., (2020) who found that the ICB Checklist was positively related to two OBQ-44 dimensions (Responsibility/Threat Estimation and Importance/Control of Thoughts).

The current results are also in line with those of Guo et al. (2017) who highlighted that pathological impulsivity and compulsivity underlie a wide range of mental disorders and are among their core and most debilitating symptoms, placing an enormous personal, social, and economic burden on society. Compulsive behaviors have to do mainly with interpersonal problems and sensitivities, empathy, and systemizing, the drive to analyze and derive underlying rules for systems. Dominant behaviors, diminished empathy, mental control, cognitive inflexibility, and irrational beliefs are key elements to predict the risk of violence stemming from the severity of compulsive behaviors.

The correlations if the ICB Checklist with UPPS-P; OBQ-44; EuropASI, and SCL-90-R could indicate that compulsivity and impulsivity have a particularly strong association with a rigid or inflexible response profile (Lee, et al., 2019). We think that the Compulsive-Impulsions (factor 2) is more dangerous than Impulsive-Compulsions (factor 1). Factor 2 covers a wide range of misbehaviours that lead to undesirable outcomes, even criminal behaviours, or cause harm to others, such as smoking, betting/gambling, lying, sexual activities/behaviours, alcohol consumption, illicit drug use, verbal aggression, violence towards objects/properties, swearing, speed driving, medication use, physical aggression and tattooing. Nevertheless, factor 1 covers a range of actions that are less harmful such as washing, collecting things or saving things you will never use, being overly cautious with spending money, grooming, idiosyncratic routines, repeating actions (exercising, hair picking, calorie counting, planning, over organizing, cleaning too much and re-writing/re-reading), checking everything (locks, light switches, yourself in the mirror), using social networking and applying rules. Factor 2 (Compulsive-Impulsions) could be conceptualized as the core symptoms of a broad range of psychiatric disorders that often co-occur, that refer to repetitive behaviors involving alterations within a wide range of behaviors with legal and clinical effects such as smoking, betting/gambling, lying, sexual activities, medication, alcohol, and illicit drug consumption, verbal and physical aggression, violence towards objects, swearing, speeding when driving, and purposeful self-injury (i.e. non-accidental).

Progress in Psychology (in terms of mechanistic, diagnostic, and treatment elements) has been halted by an approach based on specific mental disorders that are usually studied in isolation in clinical populations instead of in a continuous or dimensional approach in the general population (Cuthbert & Insel, 2013). Our results hence represent an optimal framework for today's needs, which allows conceptualizing innovative solutions to impulsive and compulsive problems from a dimensional perspective.

The present study has some limitations. Firstly, it lacked a control group (comprising non-prison population); secondly, only men were selected instead of a mixed-gender sample. The rationale for the second limitation is twofold: firstly, we evaluated crimes such as gender abuse which is defined as male-to-female aggression, and secondly, the prison population contains five times more men than women. Therefore, it would have been difficult to conduct this study in women. However, one important strength of the current study is that it was the first to analyze the reliability and validity of the Impulsive-Compulsive Behaviours Checklist (ICB) in the Spanish prison population, confirming excellent psychometric properties.

Future research should take into account four points. Firstly, the items of the scale that best distinguish compulsivity from impulsivity should be examined, and other disorders could be included to assess the discriminant validity of ICB against these disorders, along with scales for measuring symptoms (which were not included here). Secondly, it would be worth investigating the specific contribution of impulsivity and compulsivity to antisocial personality disorder and obsessive-compulsive personality disorder. Additionally, it would valuable for future work to administer the ICB in the context of other psychiatric symptom domains such as impulse control disorders (hair-pulling disorder, compulsive stealing); disorders listed by the DSM-5 (APA, 2013) among those in need of further study such as Internet use disorder/Internet gaming disorder, and personality disorders (particularly obsessive-compulsive personality disorder and antisocial personality disorder). Thirdly, we recommend recruiting larger samples that also include women so that more definitive factor analysis results could be obtained; and fourthly, we recommend to assess the utility of this scale as both a screening tool and an instrument for evaluating the severity of impulsive and compulsive disorders, along with its ability to measure changes over time (such as during treatment for compulsive symptoms).

**Conclusion**

In summary, the ICB is a convenient 34-item instrument designed to capture broad aspects of impulsivity and compulsivity that do not focus on highly nonexclusive symptom domains. The adaptations of the ICB Checklist indicated that the Spanish version showed adequate reliability. Correlations with other measures of impulsivity and compulsivity (UPPS-P; OBQ-44; EuropASI; SCL-90-R) supported the construct validity of the scale in prison population. Our results allow conceptualizing innovative solutions to impulsive and compulsive problems from a dimensional perspective.

**Conflict of Interest:** The authors of this article declare no conflict of interest.

**Institutional Review Board Statement:** The study was conducted in accordance with the Declaration of Helsinki and approved by the Ethical approval for this study was obtained from the Research Ethics Committee of University of Granada (396/CEIH/2018).

**Informed Consent Statement:** Informed consent was obtained from all participants involved in the study.

**Ethical Approval:** This study was approved by the Research Ethics Committee from the Granada University.

**Informed Consent**: Informed consent was obtained from all individual participants included in the study.

**Funding:** This research is part of Project A-SEJ-154-UGR20 financed by the Andalusian Knowledge Agency. Ministry of Economy, Knowledge, Companies and University.

**Data Availability Statement**: Data of this study is secure with the first author and available on request.

**Acknowledgments:** The authors appreciate the permission to perform this study from the General Secretary of Penitentiary Institutions. The authors would also like to thank all the participants and staff who participated directly or indirectly in this research. The authors appreciate the permission to perform this study from the General Secretary of Penitentiary Institutions. The authors would also like to thank all the participants and staff who participated directly or indirectly in this research.

**Conflicts of Interest:** The authors declare no conflict of interest.

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**Table 1.** Baseline demographic and crime behaviour characteristics of the participants (N= 700) and refused (N=50)

|  |  |
| --- | --- |
| **Variables Scores** |  |
| Education (N=700) |  |
| Without Primary 115  Primary 325 |  |
| Secondary 237 |  |
| Degree 23 |  |
| Education (N=50) |  |
| Without Primary 12  Primary 31 |  |
| Secondary 7 |  |
| Degree 0 |  |
| Marital status (N=700) |  |
| Single 332 |  |
| Married 135 |  |
| Divorced 99 |  |
| Widower 6 |  |
| Lived with their partner 128 |  |
| Marital status (N=50) |  |
| Single 25 |  |
| Married 9 |  |
| Divorced 5 |  |
| Widower 1 |  |
| Lived with their partner 10 |  |
| Nationality (N=700)  Spain 661  Other European 7  South America 17  Africa 15 |  |
| Nationality (N=50)  Spain 46  Other European 4  South America 0  Africa 0 |  |
| Offenses (N=700) |  |
| Against life and integrity 67 |  |
| Against Freedom 52 |  |
| Against Property/ Treasury 343 |  |
| Against Public Health 112  Gender Violence 116 |  |
| Offenses (N=50) |  |
| Against life and integrity 5 |  |
| Against Freedom 3 |  |
| Against Property/ Treasury 28 |  |
| Against Public Health 3  Gender Violence 11 |  |
| Months of the prison sentence mean (SD) 81.51 (79.77) |  |
| Months of the prison sentence (range) (3-680) |  |

**Table 2.** Descriptive statistics for item scores: Mean (M), Standard deviation (SD), Skewness, and Kurtosis.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Ítem** | **M** | **SD** | **Skewness** | **Kurtosis** |
| 1.Washing | 3.70 | .65 | -1.725 | 4.197 |
| 2. Smoking | 3.00 | 1.14 | -.467 | -.930 |
| 3. Feel compelled to collect free things (books, journals, sample items when shopping) or saving something you know you will never use | 1.56 | .80 | 1.740 | 3.556 |
| 4. Being overly cautious with money | 2.24 | 1.01 | .532 | -.606 |
| 5. (Re) Arranging /Ordering | 2.90 | .96 | -.089 | -.895 |
| 6. Shopping | 2.76 | .91 | .005 | -.717 |
| 7. List making | 2.04 | .98 | .675 | -.519 |
| 8. Counting (e.g., money, tiles) | 2.34 | 1.06 | .476 | -.674 |
| 9. Grooming | 3.69 | .67 | -1.566 | 3.009 |
| 10. Idiosyncratic routines (performing a very personalized sequence of actions) | 2.80 | .98 | -.325 | -.748 |
| 11. Repeating actions (performing actions over and over again) | 2.14 | .98 | .672 | -.194 |
| 12. Exercising | 2.74 | .99 | .033 | -.948 |
| 13. Betting/Gambling | 1.61 | .79 | 1.356 | 1.651 |
| 14. Hair picking | 2.00 | .89 | .720 | -.016 |
| 15. Lying | 1.89 | .61 | 1.140 | 4.733 |
| 16. Sexual activities/behaviours | 2.47 | .93 | .184 | -.751 |
| 17. Calorie counting | 1.37 | .69 | 1.964 | 3.339 |
| 18. Alcohol consumption | 2.11 | .92 | .919 | .603 |
| 19. Planning (e.g., over organizing | 2.08 | .90 | .731 | .307 |
| 20. Illicit drug use | 2.28 | 1.14 | .618 | -.465 |
| 21. Cleaning too much | 2.34 | .96 | .481 | -.283 |
| 22. Verbal aggression | 1.75 | .66 | .632 | .591 |
| 23. Violence towards objects/properties | 1.37 | .64 | 1.827 | 3.348 |
| 24. Swearing | 1.81 | .71 | .784 | .934 |
| 25. Checking (e.g., locks, light switches) | 1.95 | .95 | .887 | .085 |
| 26. Checking (e.g., yourself in the mirror) | 2.32 | .92 | .555 | -.189 |
| 27. Speeding when driving | 2.13 | .97 | .692 | -.145 |
| 28. Medication use | 2.00 | .92 | .925 | .446 |
| 29. Physical aggression | 1.92 | .82 | .650 | .099 |
| 30. Social networking (e.g., Facebook, Twitter, Google+, Myspace) | 2.17 | 1.08 | .514 | -.839 |
| 31. Applying rules | 2.64 | .93 | .129 | -.933 |
| 32. Purposeful self-injury (i.e. non-accidental) | 1.24 | .56 | 2.838 | 9.939 |
| 33. Re-writing/re-reading | 1.92 | .85 | .929 | .737 |
| 34. Tattooing | 1.95 | .95 | 1.014 | .529 |

**Table 3**. Factorial structure. EFA and standardized solution for CFA.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **EFA** | |  | **CFA** | |
| **Item** | **F1** | **F2** |  | **F1** | **F2** |
| 1.Washing | 0.47 |  |  | 0.32 |  |
| 3. Feel compelled to collect free things (books, journals, sample items when shopping) or saving something you know you will never use | 0.42 |  |  | 0.19 |  |
| 4. Being overly cautious with money | 0.37 |  |  | 0.38 |  |
| 5. (re) Arranging / Ordering | 0.60 |  |  | 0.58 |  |
| 6. Shopping | 0.45 |  |  | 0.47 |  |
| 7. List making | 0.54 |  |  | 0.49 |  |
| 8. Counting (e.g., money, tiles) | 0.47 |  |  | 0.51 |  |
| 9. Grooming | 0.63 |  |  | 0.41 |  |
| 10. Idiosyncratic routines (performing a very personalized sequence of actions) | 0.53 |  |  | 0.47 |  |
| 11. Repeating actions (performing actions over and over again) | 0.47 |  |  | 0.45 |  |
| 12. Exercising | 0.45 |  |  | 0.18 |  |
| 14. Hair picking | 0.31 |  |  | 0.29 |  |
| 17. Calorie counting | 0.40 |  |  | 0.22 |  |
| 19. Planning (e.g., over organizing) | 0.53 |  |  | 0.50 |  |
| 21. Cleaning too much | 0.62 |  |  | 0.50 |  |
| 25. Checking (e.g., locks, light switches) | 0.40 |  |  | 0.47 |  |
| 26. Checking (e.g., yourself in the mirror) | 0.50 |  |  | 0.58 |  |
| 30. Social networking (e.g., Facebook, Twitter, Google+, Myspace) | 0.35 |  |  | 0.21 |  |
| 31. Applying rules | 0.36 |  |  | 0.16 |  |
| 33. Re-writing/re-reading | 0.38 |  |  | 0.33 |  |
| 2. Smoking |  | 0.44 |  |  | 0.28 |
| 13. Betting/Gambling |  | 0.53 |  |  | 0.50 |
| 15. Lying |  | 0.50 |  |  | 0.51 |
| 16. Sexual activities/behaviours |  | 0.32 |  |  | 0.31 |
| 18. Alcohol consumption |  | 0.50 |  |  | 0.36 |
| 20. Illicit drug use |  | 0.70 |  |  | 0.54 |
| 22. Verbal aggression |  | 0.70 |  |  | 0.58 |
| 23. Violence towards objects/properties |  | 0.77 |  |  | 0.77 |
| 24. Swearing |  | 0.54 |  |  | 0.54 |
| 27. Speeding when driving |  | 0.60 |  |  | 0.60 |
| 28. Medication use |  | 0.51 |  |  | 0.37 |
| 29. Physical aggression |  | 0.31 |  |  | 0.33 |
| 32. Purposeful self-injury (i.e. non-accidental) |  | 0.63 |  |  | 0.55 |
| 34. Tattooing |  | 0.39 |  |  | 0.41 |

**Table 4.1.** Spearman`s correlations between factor 1 and 2 of ICB and the dimensions of UPPS P, OBQ-44 and EuropASI.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **ICB**  **Factor 1** | **ICB**  **Factor 2** |  |  | **ICB**  **Factor 1** | **ICB**  **Factor 2** |
| **UPPS-P** |  |  |  | **EuropASI** |  |  |
| Lack of Premeditation | -0.230\*\* | 0.204\*\* |  | Medical status | 0.087 | 0.146\* |
| Negative Urgency | 0.067 | 0.521\*\* |  | Employment/support | 0.018 | 0.195\*\* |
| Lack of Perseverance | -0.221\*\* | 0.095 |  | Alcohol use | 0.008 | 0.437\*\* |
| Sensation Seeking | 0.178\*\* | 0.391\*\* |  | Drug use | 0.018 | 0.590\*\* |
| Positive Urgency | 0.051 | 0.428\*\* |  | Family/social relationships | -0.003 | 0.040 |
| **OBQ-44**  Responsibility and threat estimation | 0.205\*\* | 0.226\* |  | EuropASI Total | 0.082 | 0.617\*\* |
| Importance and control of thoughts | 0.289\*\* | 0.134\* |  |  |  |  |
| Perfectionism/certainty | 0.081 | 0.140\* |  |  |  |  |

Note. ICB Checklist=Impulsive-Compulsive Behaviours Checklist; OBQ-44=Obsessive Beliefs Questionnaire-44; UPPS-P=Positive Urgency Impulsive; EuropASI=European Addiction Severity Index

\*\**p* < .001, \**p* < .005

**Table 4.2 (cont.).** Spearman`s correlations between factors 1 and 2 of ICB and dimensions of SCL-90.

|  |  |  |
| --- | --- | --- |
|  | **ICB**  **Factor 1** | **ICB**  **Factor 2** |
| **SCL-90** |  |  |
| Somatization | .088 | 0.152\*\* |
| [Obsessive-compulsive](https://en.wikipedia.org/wiki/Obsessive-compulsive) | 0.194\*\* | 0.298\*\* |
| Interpersonal sensitivity | 0.086 | 0.216\*\* |
| Depression | 0.159\*\* | 0.195\*\* |
| Anxiety | 0.107 | 0.324\*\* |
| Hostility | 0.098 | 0.293\*\* |
| Phobic anxiety | 0.063 | 0.164\*\* |
| [Paranoid ideation](https://en.wikipedia.org/wiki/Paranoid_ideation) | 0.083 | 0.156\*\* |
| [Psychoticism](https://en.wikipedia.org/wiki/Psychoticism) | 0.069 | 0.278\*\* |

Note. SCL-90=The Symptom Checklist-90

\*\**p* < .001, \**p* < .005

**Appendix A**

**Impulsive-Compulsive Behaviours Checklist (ICB)**

This list consists of several behaviours that we all engage in from time to time. It can be challenging to be honest about your level of involvement in these behaviours and therefore we emphasize that all information here will be confidential. You will not be judged in any way based on your answers and we encourage you to fill in the items on this list honestly and accurately. When considering your responses, please do not include issues that are caused by medical conditions (e.g., diabetes, erectile dysfunction).

Please answer the questions below for every behaviour on the list by selecting the appropriate response on the scale ranging from ‘Not at all’ to ‘All the time’. Please answer each question as it applies to you over the last 12 months.

Do YOU and/or OTHERS think you have an issue/ problem with any of the following behaviours?

1=Never; 2=Sometimes; 3=Often; 4= Always

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | 1 | 2 | 3 | 4 |
| 1. Washing |  |  |  |  |
| 2. Smoking |  |  |  |  |
| 3. Feel compelled to collect free things (books, journals, sample items when shopping) or saving something you know you will never use |  |  |  |  |
| 4. Being overly cautious with money |  |  |  |  |
| 5. (re) Arranging / Ordering |  |  |  |  |
| 6. Shopping |  |  |  |  |
| 7. List making |  |  |  |  |
| 8. Counting (e.g., money, tiles) |  |  |  |  |
| 9. Grooming |  |  |  |  |
| 10. Idiosyncratic routines (performing a very personalized sequence of actions) |  |  |  |  |
| 11. Repeating actions (performing actions over and over again) |  |  |  |  |
| 12. Exercising |  |  |  |  |
| 13. Betting/Gambling |  |  |  |  |
| 14. Hair picking |  |  |  |  |
| 15. Lying |  |  |  |  |
| 16. Sexual activities/behaviours |  |  |  |  |
| 17. Calorie counting |  |  |  |  |
| 18. Alcohol consumption |  |  |  |  |
| 19. Planning (e.g., over organizing |  |  |  |  |
| 20. Illicit drug use |  |  |  |  |
| 21. Cleaning too much |  |  |  |  |
| 22. Verbal aggression |  |  |  |  |
| 23. Violence towards objects/properties |  |  |  |  |
| 24. Swearing |  |  |  |  |
| 25. Checking (e.g., locks, light switches) |  |  |  |  |
| 26. Checking (e.g., yourself in the mirror) |  |  |  |  |
| 27. Speeding when driving |  |  |  |  |
| 28. Medication use |  |  |  |  |
| 29. Physical aggression |  |  |  |  |
| 30. Social networking (e.g., Facebook, Twitter, Google+, Myspace) |  |  |  |  |
| 31. Applying rules |  |  |  |  |
| 32. Purposeful self-injury (i.e. non-accidental) |  |  |  |  |
| 33. Re-writing/re-reading |  |  |  |  |
| 34. Tattooing |  |  |  |  |

**Appendix B**

**Listado de Comportamientos Compulsivos-Impulsivos (ICB)**

A continuación le presentamos una lista de comportamientos que todos podemos realizar de vez en cuando. Lee cada frase y decide en qué grado te describe. No vas a ser juzgado/a por tus respuestas. No hay respuestas correctas o erróneas. Probablemente estarás de acuerdo con algunas frases y en desacuerdo con otras. Por favor, indica tus comportamientos y sentimientos personales sobre cada frase, marcando con una cruz lo que mejor describa tu conducta o sentimiento. Se muy sincero/a e intenta describirte cómo eres realmente es y no como te gustaría ser.

1=Nunca; 2=Algunas veces; 3=A menudo; 4= Siempre

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | 1 | 2 | 3 | 4 |
| 1. Lavarme |  |  |  |  |
| 2. Fumar |  |  |  |  |
| 3. Coleccionar artículos gratuitos (libros, revistas, muestras de regalo) o guardar algo que sabes que nunca vas a utilizar |  |  |  |  |
| 4. Ser excesivamente prudente con el dinero |  |  |  |  |
| 5. Reorganizar y ordenar |  |  |  |  |
| 6. Comprar |  |  |  |  |
| 7. Hacer listas de tareas |  |  |  |  |
| 8. Contar (dinero, fichas, piezas, etc.) |  |  |  |  |
| 9. Asearme |  |  |  |  |
| 10. Rutinas personales |  |  |  |  |
| 11. Acciones repetitivas (hacer una y otra vez la misma actividad) |  |  |  |  |
| 12. Hacer ejercicio |  |  |  |  |
| 13. Hacer apuestas |  |  |  |  |
| 14. Tocarme o arrancarme el pelo |  |  |  |  |
| 25. Mentir |  |  |  |  |
| 16. Realizar comportamientos/actividades sexuales |  |  |  |  |
| 17. Contar calorías |  |  |  |  |
| 18. Consumir alcohol |  |  |  |  |
| 19. Planificar u organizar demasiado |  |  |  |  |
| 20. Consumir drogas ilegales |  |  |  |  |
| 21. Limpiar demasiado |  |  |  |  |
| 22. Realizar agresiones verbales |  |  |  |  |
| 23. Realizar violencia hacia objetos de valor |  |  |  |  |
| 24. Realizar juramentos |  |  |  |  |
| 25. Realizar comprobaciones (cerraduras, interruptores de luz, etc.) |  |  |  |  |
| 26. Realizar comprobaciones (ejemplo, mirarme en el espejo) |  |  |  |  |
| 27. Conducir a alta velocidad |  |  |  |  |
| 28. Usar medicamentos |  |  |  |  |
| 29. Agredir físicamente |  |  |  |  |
| 30. Usar redes sociales por ejemplo Facebook, Twitter, Google+, Myspace |  |  |  |  |
| 31. Regirme por las normas |  |  |  |  |
| 32. Autolesionarme conscientemente (no de manera accidental) |  |  |  |  |
| 33. Reescribir y releer |  |  |  |  |
| 34. Hacerme tatuajes |  |  |  |  |