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ORIGINAL ARTICLE

Psychometric properties of the Brazilian Portuguese version of the UPPS-P impulsive behavior scale for children and adolescents

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Abstract
Objective: To translate and validate the version for children and adolescents of the UPPS-P scale into Brazilian Portuguese.
Method: After a five-step translation process, the final draft was submitted to a panel of 12 different specialties experts. Subsequently, the application of the scale was applied concomitantly with the "Swanson, Nolan, and Pelham Scale - Version IV" (SNAP-IV) and the "Child and Adolescent Behavior Inventory" (CABI) scale to analyze the correlation between them. Content Validity Index (CVI) and reliability were estimated by calculating internal consistency and analyzing its test-retest stability.
Results: The items whose CVI was lower than 80% underwent a detailed analysis to verify the reason for the bad evaluation. Five items (3, 7, 11, 22 and 35) scored below 80% and were reassessed. There was high internal consistency in all parameters: Lack of premeditation (McDonald's omega = 0.806; Cronbach's alpha = 0.801), Negative Urgency (McDonald's omega = 0.838; Cronbach's alpha = 0.836), Sensation seeking (McDonald's omega = 0.826; Cronbach's alpha = 0.810), Lack of Perseverance (McDonald's omega = 0.800; Cronbach's alpha = 0.799) and Positive Urgency (McDonald's omega = 0.936; Cronbach's alpha = 0.934). A strong correlation was observed between UPPS-P features and impulsivity in behavioral assessments.
Conclusions: The Brazilian Portuguese version of the UPPS-P scale is a good instrument to assess impulsivity in children and adolescents.

Introduction

Impulsivity is a multifaceted phenomenon characterized by cognitive and behavioral patterns that can lead to immediate and medium/long-term dysfunctional consequences[1,2]

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and it may explain individual differences in human functioning.[3] Impulsivity is a core symptom of several psychiatric disorders.

Impulsivity can be defined by: (1) acting quickly, without premeditation or control in response to stimuli (Medical Subject Headings, MeSH Unique ID: D0071751);[4] (2) behavior without thinking properly, or (3) a tendency to act with less premeditation than most individuals of equal ability and knowledge. Eysenk and Eysenk (1977)[5,6] pointed to the relationship between impulsiveness and risk-taking, lack of planning, and speed in decision-making. Whiteside and Lynan (2001)[7] observed the multifaceted nature of impulsivity and created a tool to measure and classify its different dimensions: the UPPS impulsive behavior scale. The acronym UPPS comes from the English terms Urgency, (lack of) Premeditation, (lack of) Perseverance, and Sensation Seeking which are the four main traits of measuring impulsivity. This scale measures four dimensions: negative urgency, defined as the tendency to act hastily in the face of negative and intense emotional contexts; lack of premeditation, defined as the tendency not to consider the consequences of an act before engaging in it; lack of perseverance, defined as the inability to stay focused on a task that can be boring and/or difficult; and sensation seeking, defined as a tendency to enjoy and an openness to new experiences. More recently, an additional component was added to the original UPPS model referring to impulsive actions in intense positive emotional contexts and labeled as positive urgency,[8,9] thus changing the scale's acronym to UPPS-P.

Impulsivity presents itself in different ways in different ages, which demands adaptation to better measure to classify the parameters of impulsivity for different age groups.[10] Decision-making and impulse control are related to specific areas of the brain, such as the frontal cortex,[11] these skills develop throughout the life cycle. Non-linear development and some stages of life may be characterized by having some of the most prevalent impulsivity nuances. Three-year-old toddlers tend to be more impulsive, as they are biased to respond for more consistent information and more immediate rewards.[12]

To better characterize impulsivity in the age group from 7 to 17 years, Zapolski & Smith (2013);[10] Zapolski et al., (2009)[13] created the 40-items version for children and adolescents of the UPPS-P scale. This scale allows the analysis of impulsivity, subdividing it into 5 subscales (8-item each). This is a spectral scale, with no cutoff to be considered impulsive and the higher the score, the more impulsive the person. The UPPS-P is validated, translated into several languages, and widely used around the world. In Brazil, few tools are available to measure impulsivity. The Barrat scale - BIS 11 characterizes impulsivity in 3 aspects (motor, attention, and lack of planning)[2] and the "Go/No Go" task measures the ability to control impulse, closely related to the urgencies measured in the UPPS-P; the "IOWA Gambling Task (IGT)" is a decision-making test in situations of uncertainty is highly correlated with aspects of urgency and lack of premeditation. The UPPS-P features have been predictive of externalizing and substance-related behaviors.

High internal consistency and a number of studies have supported the construct validity of five impulsivity-related traits.[14,15] The UPPS-P has already been translated and adapted in its versions for the adult population,[16,17] having great results. Now, the authors propose to adapt the version for use for the population of children and adolescents. The process of translating, adapting, and validating the scale is important to grant proper access to symptoms and to build reliable scientific knowledge. Therefore, the aim of this study was to translate and validate Brazilian Portuguese UPPS-P for use in the population of children and adolescents and to explore its psychometric properties.

Methods

Translation and transcultural adaptation of UPPS-P to Brazilian Portuguese

Five-step translation and adaptation of the UPPS-P was conducted as summarized by Sousa & Rojjanasrirat (2011):[18]

- First, two independent translation versions of the original instrument into Brazilian Portuguese were developed.
- Second, a third bilingual individual compared the translated versions regarding ambiguity and discrepancy of words, phrases, and meanings. Discrepancies were solved by consensus of all translators, who agreed on the first version of the synthesis.
- Third, independent back-translation into English by two other bilingual/bicultural translators was done.
- The fourth step was a comparison of the two back-translated versions with the original by a trio of experts with extensive clinical experience in psychology, pediatrics, and psychiatry. They analyzed format, wording, grammatical structure, the similarity of meaning and relevance. No items needed to go through the previous steps again and a pre-final version of the UPPS-P in Brazilian Portuguese was approved.
- The fifth step, the pilot test, the pre-final version of the UPPS-P was evaluated in person by 20 children (aged, 7 to 17 years; mean, 11.4). Children indicated whether questionnaire items were clear using a dichotomous scale (ie clear vs. unclear). Each item was considered clear when 80% of the pilot sample rated it as clear. All items were considered clear, with no need to change terms or words. The children analyzed at this stage of the translation did not participate in the scale validation phase later.

Participants

This study was carried out in accordance with international ethical guidelines and was approved by the Ethics Committee of the Federal University of Minas Gerais (UFMG). Demographic data, the UPPS-P scale for children and adolescents, and other psychological measures were collected for each individual. Recruitment was done for seven months exclusively through online social media.

A hundred eight-nine Brazilian and Portuguese-speaking children and adolescents, aged 7 to 17 years, from all of the five regions of the country, were evaluated in an online setting. All participants and legal guardians consent and sign the Consent Form. This was a non-clinical sample with a mean age of 12.5 years.

Sample power was estimated for statistical analysis using the G-Power version 3.1[19] having large and moderate effect sizes with 99% power and small effect sizes with 27% power. Since this is a validation study the authors expect moderate to large associations between the UPPS-P scale and other selected measures.

Assessment

UPPS-P for children and adolescents

The children and adolescents version of the UPPS-P impulsive behavior scale was used to assess 5 behaviors: negative and positive urgency, lack of premeditation and perseverance, and sensation seeking. People are asked to relate, on a scale of 1 to 4, in which 1 the person completely disagrees with what was said and 4 if they fully agree with what was said.[20] The higher the score on the subscale, the greater the symptom. When the subscale scores are added together, the total gives the person's impulsivity score.

For each of these dimensions of impulsivity, the authors have 8 items on the scale divided as follows:

Lack of premeditation (4, 6, 10, 16, 23, 25, 28, 29)
Negative urgency (1, 7, 11, 17, 20, 26, 30, 32)
Sensation seeking (2, 8, 12, 14, 18, 21, 27, 31)
Lack of perseverance (3, 5, 9, 13, 15, 19, 22, 24)
Positive urgency (33−40).

Items 3, 5, 6, 9, 10, 13, 15, 16, 19, 22, 23, 24, 25, 28, and 29 have reversed scores. The score of each subscale is given by the sum of the items (after inversion, if necessary) and the total score of the scale is given by the simple sum of the scores of all items. All questions are short, making it easy for even young children to understand.

Swanson, Nolan and Pelham - Version IV (SNAP-IV) - The Brazilian version of the SNAP-IV, a 26-item screening questionnaire for ADHD and ODD symptoms.[21] Parents rated their children as inattentive, hyperactive, impulsive symptoms, and using a four-point Likert scale, ranging from 0 (not at all) to 3 (very much). Scores for symptoms of inattention (consisting of the sum of nine-item ratings), hyperactive/impulsive symptoms (also consisting of the sum of nine-item ratings), oppositional defiant symptoms (the sum of eight-item ratings), and a total ADHD score were used.

Child and Adolescent Behavior Inventory (CABI)

The Child and Adolescent Behavior Inventory (CABI) scale consists of a 113-item questionnaire, completed by the caregiver, to identify behavior problems in school-age children aged 6 to 18 years.[22] This scale can identify Internalizing Problems, Externalizing Problems, and Aggressive and Disobedient Behavior. Higher scores indicate bigger problems. In this study, the authors will use the analysis of the items corresponding to externalizing behaviors, ADHD, and ODD as they are the subscales with the highest impulsive character.

Brazil economic classification criteria

The Brazilian Economic Classification Criteria assigns weighted points to household data (presence and a number of appliances and facilities, level of education of the head of the household) to generate a score that categorizes families into one of six economic classes: A, B1, B2, C1, C2 and DE.[23] The total score of this scale was used for the statistical analysis. The higher the score, the higher the economic status.

Statistical procedures for analysis of validity and reliability of UPPS-P

Content Validity was assessed using the content validity index (CVI)[18]. The CVI estimates the agreement of different judges in each test item regarding its validity as an indicator of impulsivity. The minimum agreement was established at 80%. If an UPPS-P item did not achieve at least this level of agreement it was retranslated and further adjusted until it reached 80% or more. This was done in two stages. The first stage involved the evaluation of specialists, a panel of 12 experts who evaluated the final translation of the UPPS-P. Each item was scored regarding how pertinent it was for the assessment of impulsivity and if the instructions, response format, and items were clear and easy to comprehend. The second stage involved the application of UPPS-P in 20 children and adolescents to assess its clarity and comprehension.

UPPS-P version was obtained, and a psychometric assessment was done to evaluate its criterion-related validity related to impulsivity and reliability (internal consistency and test-retest stability). Pearson correlations between UPPS-P and measures from the SNAP-IV (Inattention, Hyperactivity and Oppositional-Defiant behavior) and CABI questionnaires (Problems related to ADHD, Oppositional-Defiant Disorder and externalizing symptoms) were done. In addition, the performance of boys and girls in UPPS-P scores was compared using independent samples-t tests since there is evidence of gender differences in UPPS-P scores.

Reliability was estimated by calculating internal consistency and analyzing its test-retest stability. The authors used Mcdonald's Omega and Cronbach's Alpha for UPPS-P total scores and subscales. Regarding temporal stability, the authors used an intraclass correlation coefficient between results obtained from a subsample of 30 participants with 16 weeks intervals. The latter were divided into two groups of 15 participants, one assessed with the traditional pen-and-paper version of the UPPS-P and the other with the online version, to analyze if the test interface impacts its reliability. The authors tested this using repeated measures analysis of variance comparing UPPS-P scores in baseline and follow-up and testing the main effects and interactions of assessment type.

The statistical analysis was conducted in the JASP 0.13.1 software.[24]

Results

Content validity

The authors started the process of translating the UPPS-P scale with the translation from English into Portuguese and later with the back-translation into English to verify any semantic or conceptual discrepancy (see Table 1). The items whose CVI was lower than 80% underwent a detailed analysis to analyze the cause of the bad evaluation and make a possible change in the item. Five items (3, 7, 11, 22 and 35) scored below 80% and had to be reevaluated. In item 7, the experts suggested a different order for the text. The item

Table 1 Versions of the UPPS-P scale according to the translation and adaptation process.

	Original version	First version in Portuguese	Back-translation to English	Final version in Portuguese	CVI of experts
1	If I feel like doing something, I tend to do it, even if it's bad.	Se eu tenho vontade de fazer algo, eu tendo a fazer, mesmo que seja algo ruim.	If I want to do something, I tend to do it, even if it is a bad thing.	Se eu tenho vontade de fazer algo, eu geralmente faço mesmo que seja algo ruim.	100%
2	I like new, thrilling things to happen.	Eu gosto que coisas novas e empolgantes aconteçam.	I like new and exciting things to happen.	Eu gosto que coisas novas e empolgantes aconteçam.	100%
3	I like to see things through to the end.	Eu gosto de acompanhar as coisas até o final.	I like to follow things until the end.	Eu gosto de acompanhar as coisas até o final.	50%
4	I tend to blurt out things without thinking.	Eu tendo falar as coisas sem pensar.	I tend to speak things without thinking first.	Eu, geralmente, falo coisas sem pensar.	100%
5	I am upset when I am not finished with things.	Eu fico chateado(a) quando não finalizo as coisas.	I get upset when I don't finish a something.	Eu fico chateado(a) quando não finalizo as coisas.	83.3%
6	I like to stoop and think about something before I do it.	Eu gosto de parar e pensar bem antes de fazer algo.	Before doing something, I like to stop and it through before doing it.	Eu gosto de parar e pensar bem antes de fazer algo.	100%
7	When I feel bad, I often do things I later regret in order to make myself feel better now.	Quando me sinto mal, eu frequentemente faço coisas das quais me arrependo, mas que me fazem me sentir melhor no momento.	When I feel bad, I often do the things I regret the most, but they make me feel better at the moment.	Quando não estou me sentindo bem, faço coisas que me deixam melhor, mas depois me arrependo.	66.7%
8	I would like water skiing.	Eu gostaria de surfar.	I would like to surf.	Eu gostaria de surfar.	83.3%
9	Once I get going on something I hate to stop.	Quando começo a fazer algo, eu odeio parar.	When I start something, I hate to stop it.	Quando começo a fazer algo, eu odeio parar.	100%
10	I like to know just what to do before I start a project.	Eu gosto de saber exatamente o que tenho que fazer antes de começar um projeto.	I like to Know exactly what I have to do before starting a project.	Eu gosto de saber exatamente o que tenho que fazer antes de começar uma tarefa.	100%
11	Sometimes when I feel bad, I keep doing something even though it is making me feel worse.	Algumas vezes, quando me sinto mal, eu continuo fazendo algo, mesmo sabendo que isso me faz me sentir pior.	Sometimes, when I'm feeling bad, I keep on doing something, eventhough I know it makes me feel worse.	Quando me sinto mal, muitas vezes continuo fazendo algo, mesmo sabendo que depois isso me fará sentir pior.	58.3%
12	I enjoy taking risks.	Eu gosto de assumir riscos.	I like to take risks.	Eu gosto de assumir riscos.	100%
13	It is easy for me to think hard.	É fácil para mim pensar mais.	It is easy to me to think more.	É fácil para mim pensar com cuidado nas coisas que faço.	91.7%
14	I would like parachute jumping.	Eu gostaria de pular de paraquedas.	I would like to go skydiving.	Eu gostaria de pular de paraquedas.	100%
15	I finish what I start.	Eu termino aquilo que começo.	I finish what I start.	Eu termino aquilo que começo.	100%
16	I try to take a careful approach to things.	Eu tento ser cuidadoso (a) com as coisas.	I tend to be careful with things.	Eu tento ser cuidadoso (a) com as coisas.	91.7%
17	When I am upset I often act without thinking.	Quando estou chateado(a), frequentemente ajo sem pensar.	When I'm upset, I frequently act before thinking it through.	Quando estou chateado(a), frequentemente ajo sem pensar.	91.7%

Table 1 (*Continued*)

	Original version	First version in Portuguese	Back-translation to English	Final version in Portuguese	CVI of experts
18	I like new, thrilling things, even if they are a little scary.	Eu gosto de coisas novas e empolgantes, mesmo se elas forem um pouco assustadoras.	I like new and exciting things, even if they are a little scary.	Eu gosto de coisas novas e empolgantes, mesmo que elas sejam um pouco assustadoras.	100%
19	I tend to get things done on time.	Eu normalmente faço as coisas dentro do prazo.	I usually do things within the schedule.	Eu normalmente faço as coisas no tempo certo.	100%
20	When I feel rejected, I often say things that I later regret.	Quando me sinto rejeitado(a), eu frequentemente falo coisas das quais me arrependo depois.	When I feel rejected I frequently say things which I later regret.	Quando me sinto rejeitado(a), eu frequentemente falo coisas das quais me arrependo depois.	100%
21	I would like to learn to fly an airplane.	Eu gostaria de aprender a pilotar um avião.	I would like to learn how to fly an airplane.	Eu gostaria de aprender a pilotar um avião.	100%
22	I am a person who always gets the job done.	Sou uma pessoa que sempre resolve minhas coisas.	I'm person that always solve its own problems.	Sou uma pessoa que sempre resolvo minhas coisas.	75%
23	I am very careful.	Sou muito cuidadoso (a).	I am very careful.	Sou muito cuidadoso (a).	91.7%
24	I almost always finish projects that I start.	Eu quase sempre finalizo projetos que eu começo.	I almost always finish the projects I start.	Eu quase sempre finalizo tarefas que eu começo.	91.7%
25	I like to know what to expect, before doing something new.	Eu gosto de saber o que esperar antes de fazer algo novo.	I like to know what to expect before doing something new.	Eu gosto de saber o que esperar antes de fazer algo novo.	83.3%
26	I often make matters worse because I act without thinking when I am upset.	Eu frequentemente torno as coisas piores porque ajo sem pensar quando estou chateado(a).	When I'm upset I often make things worse because I act without thinking first.	Quando estou chateado(a), torno as coisas piores por agir sem pensar.	91.7%
27	I would like to ski very fast down a high mountain slope.	Eu gostaria de esquiar muito rápido descendo uma montanha bem alta.	I would like to go skiing very fast down a tall mountain.	Eu gostaria de esquiar muito rápido descendo uma montanha bem alta.	91.7%
28	I tend to stop and think before doing things.	Eu costumo parar e pensar antes de fazer as coisas.	I usually stop and think before doing anything.	Eu costumo parar e pensar antes de fazer as coisas.	100%
29	Before making a choice, I tend to think about both the good things and the bad things about the choice.	Antes de fazer uma escolha, eu costumo pensar tanto sobre as coisas boas como sobre as coisas ruins dessa escolha.	Before making a choice, I usually think as much about the good as about the bad aspects of that choice.	Antes de fazer uma escolha, eu costumo pensar tanto sobre as coisas boas como sobre as coisas ruins.	100%
30	When I am mad, I sometimes say things that I later regret.	Quando estou bravo (a), as vezes falo coisas das quais me arrependo depois.	When I am angry, sometimes I say things of which I regret later.	Quando estou bravo (a), as vezes falo coisas das quais me arrependo depois.	100%
31	I would enjoy fast driving.	Eu gostaria de dirigir em alta velocidade.	I would like to drive at high speed.	Eu gostaria de dirigir em alta velocidade.	100%
32	Sometimes I do crazy things I later regret.	Algumas vezes, eu faço coisas das quais me arrependo depois.	Sometimes I do things of which I regret later.	Algumas vezes, eu faço coisas das quais me arrependo depois.	100%
33	When I am very happy, I can't stop myself from going overboard.	Quando estou muito feliz, eu não consigo evitar exageros.	When I am happy I can't avoid exaggerating.	Quando estou muito feliz, eu não consigo evitar exageros.	100%

Table 1 (*Continued*)

	Original version	First version in Portuguese	Back-translation to English	Final version in Portuguese	CVI of experts
34	When I am really thrilled, I tend not to think about the results of my actions.	Quando estou realmente empolgado(a), eu costumo não pensar sobre as consequências das minhas ações.	When I am really thrilled about something, I usually don't think about the consequences of my actions.	Quando estou realmente empolgado(a), costumo não pensar sobre as consequências das minhas ações.	100%
35	When I am in a great mood, I tend to do things that could cause me problems.	Quando estou de muito empolgado, eu tendo a fazer coisas que poderiam me causar problemas.	When I am very excited about something, I tend to do things that can cause me problems.	Quando estou muito empolgado, geralmente faço coisas que poderiam me causar problemas.	66.7%
36	I tend to act without thinking when I am very, very happy.	Eu tendo a agir sem pensar quando estou muito, muito feliz.	I tend to act without thinking when I am very, very happy.	Eu costumo agir sem pensar quando estou muito, muito feliz.	100%
37	When I get really happy about something, I tend to do things that can lead to trouble.	Quando fico realmente feliz com algo, eu tendo a fazer coisas que podem levar a problemas.	When I get really happy about something, I tend to do things that can cause problems.	Quando fico realmente feliz com algo, eu costumo fazer coisas que podem levar a problemas.	83.3%
38	When I am really happy, I tend to get out of control.	Quando estou muito feliz, eu tendo a perder o controle de mim mesmo.	When I am really happy, I tend to lose control of myself.	Quando estou muito feliz, geralmente perco o controle de mim mesmo(a).	91.7%
39	I tend to lose control when I am in a great mood.	Eu costumo perder o controle quando estou de muito bom humor.	I tend to lose control when I am in a good mood.	Eu costumo perder o controle quando estou de muito bom humor.	100%
40	When I am very happy, I tend to do thing that may cause problems in my life.	Quando estou muito feliz, eu tendo a fazer coisas que podem causar problemas na minha vida.	When I am very happy, I tend to do things that can cause problems in my life.	Quando estou muito feliz, geralmente faço coisas que podem causar problemas na minha vida.	100%

was previously arranged as follows: "Quando me sinto mal, eu faço coisas das quais me arrependo, mas que me fazem me sentir melhor no momento" and, later, the analysis of the suggestions, was adjusted to: "Quando não estou me sentindo bem, faço coisas que me deixam melhor, mas depois me arrependo". In item 11, some observations were made regarding the verb tenses of the sentence, and the suggestions were accepted so that the sentence would make better sense in Portuguese. In item 22, the experts suggested changing the word "*resolve*" to "*resolvo*" and this suggestion was accepted. In item 35, there was a typo in the term "*Quando estou de muito empolgado*" and this error was found by the specialists and fixed.

Correlation with subscales and other measures

Correlations between UPPS-P scores and other measures are shown in Table 2. Most of the UPPS-P subscales were intercorrelated to some extent, unusually with moderate effect sizes. However, there was relative independence between some facets of impulsivity such as Lack of Premeditation with Negative Urgency (r = 0.108) and Sensation Seeking (r = −0.052), Lack of Perseverance with Negative Urgency (r = −0.060), Positive Urgency (r = −0.050) and Sensation Seeking (r = −0.227). These results support the hypothesis of impulsivity as a multifaceted construct and not a unitary trait. Nonetheless, all subscales were related to the total score (coefficients ranging from 0.333 to 0.761).

Age and socioeconomic status were significant only for children aging between 7 and 12 years old and negative urgency (r = 0.278). UPPS-P scores and participants' sex were non-significant. So, UPPS-P scores seem related to individual differences.

Finally, correlations with other measures (SNAP-IV and CABI scores) showed a more heterogeneous pattern of association. Lack of premeditation, Negative Urgency, and Positive Urgency was related to all measures of inattention, hyperactivity, ODD and externalizing symptoms. Lack of perseverance was associated with all SNAP-IV measures but only with ADHD symptoms of CABI (r = 0.334). Sensation seeking however showed mostly independent scores from all the external measures except for a weak correlation with SNAP-IV Inattention scores (r = 0.163). The total score showed usually moderate correlations with all other measures.

Reliability

Internal consistency for the UPPS-P total score was high (ω = 0.884; α = 0.892), a well for each subscale: Lack of

Table 2 Intercorrelations between UPPS-P subscales and correlations with SNAP-IV and CABI results.

	Lack of Premeditation	Negative Urgency	Sensation Seeking	Lack of Perseverence	Positive Urgency	Total Score
Lack of Premeditation	1000	-	-	-	-	-
Negative Urgency	0.108	1000	-	-	-	-
Sensation Seeking	−0.052	**0.471**	1000	-	-	-
Lack of Perseverence	**0.733**	−0.060	−0.227	1000	-	-
Positive Urgency	**0.199**	**0.674**	**0.478**	−0.050	1000	-
Total Score	**0.546**	**0.761**	**0.607**	**0.333**	**0.813**	1000
Age (child)	0.005	**0.278**	0.090	0.007	0.174	0.108
Age (adolescent)	−0.037	0.100	0.190	−0.026	0.024	0.097
SES	−0.049	0.077	−0.037	−0.061	−0.068	−0.043
SNAP-IV Inattention	**0.428**	**0.302**	**0.163**	**0.348**	**0.256**	**0.455**
SNAP-IV Hyperactivity	**0.369**	**0.236**	0.137	**0.171**	**0.272**	**0.363**
SNAP-IV ODD	**0.377**	**0.282**	0.095	**0.210**	**0.334**	**0.408**
CABI Externalyzing	**0.277**	**0.170**	0.026	0.136	**0.246**	**0.268**
CABI ADHD	**0.450**	**0.274**	0.126	**0.334**	**0.367**	**0.479**
CABI ODD	**0.358**	**0.199**	0.045	0.173	**0.294**	**0.334**

premeditation (ω = 0.806; α = 0.801), Negative Urgency (ω = 0.838; α = 0.836), Sensation seeking (ω = 0.826; α = 0.810), Lack of Perseverance (ω = 0.800; α = 0.799) and Positive Urgency (ω = 0.936; α = 0.934). Temporal stability, assessed by the intraclass correlation coefficient, showed a strong correlation between the initial assessment and the 4-month follow-up (r = 0.865, $p<0.001$), an indication of reliability.

Finally, the authors tested the test interface (pen-and-paper x online) and impacted its reliability. In the repeated measures ANOVA model the authors did not find an effect of time on the UPPS-P means (F = 0.326, p = 0.572, $^{p}\eta^2$=1%) nor an interaction between this factor and the application modality (F = 0.200, p = 0.658, $^{p}\eta^2 \leq 1\%$). Test and retest conditions seem not significantly affected by the form of application (in person or remote).

Discussion

Although impulsivity is mentioned explicitly in the diagnostic criteria of the 5th edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-V)[25] for several disorders, the role of impulsivity in psychiatric disorders is still not fully known. There are disagreements in the literature about definitions and measuring impulsivity having plenty of measures that try to inform us about it.[26,27]

The pediatrician's use of UPPS-P will allow an objective and standardized measure of impulsiveness, which can aid information about clinical conditions and evaluate the effectiveness of treatment. The Brazilian version of the UPPS-P-C is presented as a valid instrument for assessing impulsivity in children, as shown in other versions such as French's study of UPPS-P-C.[28] The internal reliability coefficients of the UPPS-P-C are approximately close to those obtained with the Brazilian version (Cronbach's alpha = 0.67−0.80 in the original scale and 0.79−0.93 in the present study).[29]

The UPPS scale had an internal consistency of all items among themselves and of the items of each subscale among them, reinforcing the quality of the scale. The inverse proportional correlation between lack of perseverance and sensation seeking has been reported since the first version of the UPPS for adults[15] and was an expected finding. The UPPS-P impulsivity measures were compared to the externalizing disorders, ADHD and ODD. The UPPS-P measurements were strongly correlated with behavioral symptoms in the CABI and SNAP-IV. The lack of correlation between the "sensation seeking" subscale with the SNAP-IV hyperactive/impulsive and opposer/defyer profile was previously found and confirmed in the present sample.[13]

There is no observed gender effect, despite the literature controversies. In a review, Hosseini-Kamkar and Morton (2014)[30] discuss the difference between the sexes in self-regulation. Women were less impulsive only in the fertile phases of the menstrual cycle, showing a hormone relationship. Generally, impulsive comorbidities are more prevalent in males, but the reasons are unknown. For example, ADHD and ODD are more prevalent in male children, while binge eating disorder is more prevalent in female children.[7]

The lack of correlation between impulsivity scores and social class is also widely discussed. Vasconcelos et al. (2012)[31] showed the higher the economic class and

education level, the greater the person's ability to control impulses. In the present sample, a strong correlation between negative urgency and age in the group of children aged 7 to 12 years was observed. Some components of impulsivity are more expressed in certain age groups and during the decision-making development.[32]

The main limitation of the present study is that the present sample was not large enough to assess this correlation in the populational Brazilian scenario and the present analysis was carried out in only two age groups. The form of application was online, but the test-retest and difference analysis between in-person and remote applications seem similar and no significant divergence was observed in the retest results after 4 months or in the reapplications in person or online. In addition, the main advantage of this UPPS-P version is the possibility for assessing the five different impulsivity facets in a valid, self-report tool for children. Nonetheless, a wider assessment of comorbidities is necessary.

In conclusion, the present study resulted in a translation, adaptation and validation of the UPPS-P scale for children and adolescents into Brazilian Portuguese (Supplementary Figure). Meticulous methodological steps were done to establish language suitability, cultural fit, and language standards. Validity and reliability, including high internal consistency and strong agreement with the measurements of other scales of psychiatric disorders, were observed with a high impulsive character.

Conflicts of interest

The authors declare no conflicts of interest.

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Supplementary materials

Supplementary material associated with this article can be found in the online version at doi:10.1016/j.jped.2023.04.008.

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