Turkish adaptation and psychometric properties of the Short UPPS-P Impulsive Behavior Scale (S-UPPS-P)

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SUMMARY

Objective: This study aimed to adapt the Short UPPS-P Impulsive Behavior Scale (S-UPPS-P), which assesses five core dimensions of impulsivity (negative urgency, lack of premeditation, lack of perseverance, sensation seeking, and positive urgency), into Turkish and to evaluate its psychometric properties in a Turkish adult sample.

Method: The study was conducted with 304 adult participants aged 18–48. The adaptation process followed standard procedures, including translation, back-translation, and assessment of linguistic equivalence. Construct validity was examined using exploratory and confirmatory factor analyses. Discriminant and criterion validity were assessed using the Barratt Impulsiveness Scale-11 Short Form, the Brief Sensation Seeking Scale, and items evaluating impulsive behaviors in daily life. Reliability was evaluated via internal consistency and split-half methods.

Results: The five-factor structure of the S-UPPS-P was consistent with the original version and demonstrated excellent model fit in confirmatory factor analysis ($\chi^2/df = 2.40$, RMSEA =.07, CFI =.92). The scale showed high internal consistency (α =.85). S-UPPS-P scores were significantly associated with everyday impulsive behavior patterns, and correlations with the Barratt Impulsiveness Scale and the Brief Sensation Seeking Scale supported criterion validity.

Discussion: The Turkish version of the S-UPPS-P was found to be a valid and reliable tool for assessing multidimensional impulsivity in adults. By including the positive urgency dimension and offering a brief format, the scale provides a comprehensive yet time-efficient option for use in both research and clinical settings.

Key Words: Impulsivity, Scale Adaptation, Validity, Reliability, UPPS-P, S-UPPS-P

INTRODUCTION

Impulsivity is a multidimensional construct defined as the tendency to act without planning, to prefer immediate rewards, to act without considering consequences, and without considering potential risks (1,2). In addition to contributing to maladaptive decision-making in everyday life, it has been shown to play a critical role in several psychiatric disorders, including substance use disorders, attention-deficit/hyperactivity disorder (ADHD), and eating disorders (3,4,5). Behaviors such as loss of control while eating, unplanned shopping, and difficulty making or following plans have been reported to be linked to an individual's level of impulsivity (6,7). Moreover, impulsivity is also associated with behaviors such as aggression, anxiety, depression, a decline in academic performance, and risk-taking (8). Considering the reflections of impulsivity on daily life and its relationship with psychopathology, understanding and accurately measuring it is important (9). The measurement of impulsivity frequently involves the use of behavioral tasks (e.g., go-no-go task (10); balloon analogue risk task (11)) and self-report scales (e.g., Barratt Impulsiveness Scale (12); UPPS-P Impulsive Behavior Scale (13)). The literature demonstrates that conceptualizing impulsivity as a single factor is insufficient, and there is consensus that it represents a multidimensional construct (4). However, debate remains regarding the precise definitions and number of its dimensions. Due to the conceptual distinctions arising from definitions proposed and scales developed by different researchers, assessing impulsivity and comparing findings across studies is complicated (14,15,16).

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Whiteside and Lynam (3) developed the UPPS Impulsive Behavior Scale through a comprehensive analysis of existing scales designed to measure impulsivity. The name of the scale is an acronym from the initial letters of the English terms representing the four dimensions of impulsivity: Urgency, Premeditation, Perseverance, and Sensation Seeking (UPPS). This approach conceptualizes impulsivity as a higher-order construct that encompasses a wide range of behaviors and symptoms (4). Negative urgency refers to a tendency to act rashly when experiencing negative emotions. Lack of premeditation reflects a reduced tendency to consider the consequences of one's actions beforehand. Lack of perseverance reflects difficulty sustaining effort on long or monotonous tasks. Sensation seeking refers to the tendency to seek out novel and stimulating experiences.

The model developed by Whiteside and Lynam (3) initially encompassed impulsivity associated only with negative affect. Cyders et al. (17) later demonstrated that impulsivity is not limited to negative affect but can also emerge under positive emotional states, adding the "positive urgency" dimension to the existing impulsivity model, resulting in a five-factor conceptualization of impulsivity. Following this theoretical expansion, the 59-item UPPS-P Impulsive Behavior Scale was developed by Lynam et al. (13) based on this five-dimensional structure. Positive urgency refers to the tendency to act rashly when experiencing positive emotions. Research has shown that the five dimensions are interrelated to varying degrees, with the strongest associations typically observed between positive and negative urgency (18, 19, 20). Conversely, sensation seeking has consistently demonstrated comparatively weaker associations with the other dimensions. An increasing number of studies also indicate that the UPPS-P model has a strong and consistent factor structure (8,18,19,20).

The UPPS-P is one of the most comprehensive measures of impulsivity; however, the 59-item length of the scale makes it time-consuming to administer, which poses a considerable disadvantage, particularly for individuals with short attention spans, adolescents, and specific clinical groups (8). To address this limitation, shorter versions of the scale have been developed, among which the short French version developed by Billieux et al. (21) and the 20-item English short version developed by Cyders et al. (22) stand out. The Short UPPS-P (S-UPPS-P) is a brief and time-efficient instrument that assesses the five core dimensions of impulsivity while demonstrating psychometric properties comparable to the UPPS-P (21). In recent years, the scale has been adapted into several languages, including German (18), Japanese (23), Chinese (24), and Portuguese (8). It has been noted that impulsivity can be influenced by participants' sociodemographic characteristics (25,26) and that different dimensions of impulsivity may be more salient in different cultural contexts (8).

The original long form of the UPPS Impulsive Behavior Scale (3) has been adapted into Turkish by Yargıç et al. (27) for use with psychiatric patients. However, this adaptation was based on the four-dimensional model and did not include the updated five-dimensional structure. More recently, Eray et al. (28) examined the validity and reliability of the S-UPPS-P among adolescents aged 13–18 and demonstrated that it could successfully differentiate between the different dimensions of impulsivity in individuals diagnosed with ADHD. However, that study focused solely on the adolescent population, and the validity and reliability of the S-UPPS-P (21) have not yet been evaluated in the adult population. Therefore, the suitability of the short form for adults requires validation in this population. The purpose of the current study is to adapt the Short Form of the UPPS-P Impulsive Behavior Scale (S-UPPS-P) (21) to the Turkish adult population and to examine its psychometric properties. Accordingly, the aim is to provide the Turkish form of the S-UPPS-P that can be used as a valid and reliable measurement tool for both research and clinical use.

METHODS

Participants

The minimum required sample size was determined using a power analysis conducted with G*Power 3.1. Assuming a 95% confidence level, a significance level of .05, and a medium effect size of .30 (Cohen's f), the analysis indicated that 143 par-

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ticipants would be sufficient. The study's sample consisted of 304 individuals from various provinces in Turkey, including 224 women and 80 men, aged between 18 and 48 years (M = 22.38, SD = 4.28). Data were collected both face-to-face (n = 100) and online (n = 204) using a convenience sampling method. In-person data were obtained from students at Dokuz Eylul University, while the online survey was shared via social media. When the groups were compared according to the data collection method, no significant difference was found between the total scale score (t(302) = -1.623, p = .106) and the sub-factors (t(302) = -.213 "negative urgency", -424 "lack of premeditation", .865 "lack of perseverance", -.583 "sensation seeking", -1.466 "positive urgency", p > .05). Therefore, the data from all participants were combined for analysis. The demographic characteristics of the sample are presented in Table 1.

Data Collection Tools

Data were collected using the demographic information form, Short UPPS-P Impulsive Behavior Scale (S-UPPS-P), and, for criterion validity, the Barratt Impulsiveness Scale-11 Short Form (BIS-11-SF) and the Brief Sensation Seeking Scale (BSSS-8).

Demographic information form: This form was designed to collect participants' basic sociodemographic information as well as lifestyle habits related to impulsive behaviors. Data included age, gender, education level, smoking and alcohol use, psychiatric diagnoses, and medication use (see Table 1). In addition, several questions were included to capture daily behavioral patterns linked to impulsivity: (1) loss of control while eating and its frequency, (2) unplanned shopping tendencies, (3) frequency of weekly planning and adherence, and (4) frequency of unnecessary shopping. These items were added to enhance the construct validity of the scale.

Table 1. Demographic characteristics of the participants (*N* = 304)

Variables		Frequency (n)	Percentage (%)
Gender	Female	224	73.7
	Male	80	26.3
Education	High School Graduate	18	5.9
	Undergraduate Student	262	86.2
	Graduate Student	24	7.9
Psychiatric/psychological diagnosis	No	235	77.3
	Yes	69	22.7
Use of psychiatric medication	No	281	92.4
	Yes	23	7.6
Cigarette use	No	185	60.9
	Yes	119	39.1
Alcohol use	No	112	36.8
	Yes	192	63.2

Short UPPS-P Impulsive Behavior Scale (S-UPPS-P): The scale was originally developed by Billieux et al. (21) with 20 items and a 4-point Likert scale. The Turkish adaptation was conducted within the scope of the current study. Five different subscales of the S-UPPS-P indicating impulsive behaviors were measured on a Likert-type scale (1 = strongly agree, 4 = strongly disagree) and Cronbach's alpha internal consistency coefficients were determined: Negative urgency (4 items, α= .78), lack of premeditation (4 items, α = .84), lack of perseverance (4 items, α = .85), sensation seeking (4 items, α = .74), positive urgency (4 items, α = .72), and the total score of the scale (20 items, α = .85) was found (see Table 2). The items in the "lack of premeditation" sub-dimension (Items 1, 6, 13, 19) and "lack of perseverance" sub-dimension (Items 5, 8, 11, 16) are reverse-coded. The total scores that can be obtained from each sub-dimension of the scale range from 4 to 16, and the total score that can be obtained from the scale ranges from 20 to 80.

Barratt Impulsiveness Scale-11 Short Form (BIS-11-SF): The scale was developed by Barratt (29) and revised by Patton et al. (12). The validity and reliability study for the Turkish sample of the 4-point Likert-type and 15-item short form used in the study was conducted by Tamam et al. (30). The total score ranges from 15–60. The scale consists of 15 items and three subscales: attention impulsiveness (5), motor impulsiveness (5), and non-planning (5). According to the internal consistency analysis of the short form, Cronbach's alpha was .82 for the total score and .64–.80 for the subscales.

Brief Sensation Seeking Scale (BSSS-8): The scale was developed by Hoyle et al. (31) and adapted into Turkish by Çelik and Turan (32). It consists of eight items rated on a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree). The Turkish version has a unidimensional structure, and no items are reverse-coded. Higher scores indicate greater levels of sensation seeking, whereas lower scores reflect lower levels. The Turkish adaptation

study reported a reliability coefficient of .79 for the scale.

Procedure

Ethical approval for the study was obtained from the Dokuz Eylul University Social and Humanities Scientific Research and Publication Ethics Committee (Date: 26.04.2024, Decision Number: 14). Permissions to use all instruments included in the study were obtained from the relevant authors. Data collection was carried out between May and December 2024. Participants were informed about all stages of the research, and their consent was obtained.

In adapting the S-UPPS-P for the Turkish sample, the steps recommended by Erkuş (33) were followed. The English version of the scale (21) was translated by the research team and a translator; the translations were reviewed by a linguist against the original items, and the final version was established by the researchers. In the second stage, the Turkish items were back-translated into English by bilingual psychologists and a linguist. Another linguist compared the back-translation with the original form (21) and confirmed high overlap. Minor adjustments for cultural adaptation were made by the researchers. Finally, a high correlation was found between the English and Turkish forms in a test administered to 15 bilingual individuals ($r = .84$, $p < .001$).

Statistical Analysis

Analyses were carried out using SPSS 29.0 and R 4.4.3. Prior to the validity and reliability analyses, the dataset was examined for missing values, outliers, normality, and linearity. Z values remained within ±3.29 (34), and no missing data were found; all participants were included in the analyses. Skewness–kurtosis (±1.5) values and P–P and Q–Q plots indicated suitability for factor analysis (34). For construct validity, exploratory factor analysis (EFA) was conducted first: the Kaiser–Meyer–Olkin (KMO) measure and Bartlett's test of sphericity were examined to evaluate sample adequacy; principal components analysis with varimax rotation was used, and factors with eigenvalues greater than 1 were reported. Confirmatory factor analysis (CFA) was then applied to confirm the discovered structure, and model fit was evaluated with goodness-of-fit indices (x^2/df, RMSEA, CFI, GFI, NFI, TLI, SRMR, AIC). In CFA, modification indices related to error covariances were considered when revising the model. To examine discriminant validity, independent-samples t-tests were used for intergroup comparisons; to examine criterion validity, Pearson correlations were calculated with the BSSS-8 and the BIS-11-SF, and correlations were also examined between S-UPPS-P scores and daily impulsive behaviors. Reliability was evaluated using Cronbach's alpha (internal consistency) and the split-half method. The significance level was set at .05 for all analyses.

RESULTS

Construct Validity: Factor Analysis

To examine the construct validity of the S-UPPS-P, an exploratory factor analysis (EFA) was conducted to determine whether the scale demonstrates a multidimensional structure. The model–data fit of the discovered structure was then evaluated using confirmatory factor analysis (CFA).

Prior to the EFA, the inter-item correlation matrix was examined, and the suitability of the data for factor analysis was evaluated with the Kaiser–Meyer–Olkin (KMO) measure and Bartlett's test of sphericity. The KMO value was .82 and Bartlett's test was significant ($x^2 = 2695.69$; df = 190; $p < .001$), indicating that the sample was adequate for factor analysis (35). Using principal components analysis with varimax rotation, five factors with eigenvalues greater than 1 were obtained; no factor loading fell below .40 and no cross-loading items were identified. The five-factor structure explained 66.03% of the total variance and was consistent with the original scale.

According to the EFA, the first factor, "negative urgency", was represented by four items and explained 28.39% of the total variance; this dimension reflects a tendency to act rashly under negative emotions. The second factor, "lack of premeditation", characterized by reduced consideration of

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consequences before acting, explained 14.71% of the variance with four items. The third factor, "lack of perseverance" (9.56%), captures difficulty persisting in and completing initiated tasks. The fourth factor, "sensation seeking", explained 7.04% of the variance with four items and reflects the tendency to pursue new and stimulating experiences. The fifth factor, "positive urgency", explained 6.32% of the variance with four items and refers to a tendency to act without thinking under positive emotions. The EFA findings are presented in Table 2.

To confirm the structure obtained with EFA, a measurement model was created, and CFA was applied. Model–data fit was assessed through various goodness-of-fit indices (36–38). At this stage, path analysis, fit indices, and modification suggestions were considered; in line with these suggestions, the error terms of Items 10 and 15, and Items 8 and 7, were correlated. As a result of the comparative analysis presented in Table 3, Model 2 was calculated as $x^2 = 365$, df = 152, $x^2/df = 2.40$, and this value indicated an excellent fit. RMSEA (Root Mean Square of Approximation) = .07, CFI (Comparative Fit Index) = .92, GFI (Goodness of Fit Index) = .98, NFI (Normed Fit Index) = .93, TLI (Tucker Lewis Index) = .90, SRMR (Standardized Root Mean Square Residual) = .07, and AIC (Akaike Information Criterion) = 12920 (Table 3). Taken together, these results show that the established measurement model provided a high level of fit (36).

To evaluate construct validity, participants were

Table 2. Exploratory Factor Analysis Factor Loadings for the S-UPPS-P

Items	Factor Loadings	Commu nalities	Item-Total Correlation	Mean	SD
Factor 1: Negative Urgency (Cronbach alfa= .78)					
4. When I am upset I often act without thinking.	.805	.649	.508	2.20	.972
7. In the heat of an argument, I will often say things that I later regret.	.491	.410	.437	2.14	.907
12. I often make matters worse because I act without thinking when I am upset.	.862	.751	.569	2.10	.923
17. When I feel rejected, I will often say things that I later regret.	.755	.580	.505	1.95	.929
Factor 2: Lack of Premeditation (Cronbach alfa= .84)					
1. I usually think carefully before doing anything.	.891	.730	.506	3.30	.628
6. My thinking is usually careful and purposeful.	.613	.655	.486	3.14	.734
13. I usually make up my mind through careful reasoning.	.853	.782	.584	3.20	.746
19. Before making up my mind, I consider all the advantages and disadvantages.	.809	.657	.446	3.17	.731
Factor 3: Lack of Perseverance (Cronbach alfa= .85)					
5. I generally like to see things through the end.	.439	.484	.513	3.49	.670
8. I finish what I start.	.814	.803	.500	3.11	.822
11. Once I start a project, I almost always finish it.	.894	.806	.471	2.80	.849
16. I am a productive person who always gets the job done.	.891	.806	.468	2.78	.865
Factor 4: Sensation Seeking (Cronbach alfa= .74)					
3. I sometimes like doing things that are a bit frightening.	.646	.668	.586	2.09	.912
9. I quite enjoy taking risks.	.798	.686	.566	2.26	.921
14. I generally seek new and exciting experiences and activities.	.698	.712	.630	2.71	.880
18. I welcome new and exciting experiences and sensations, even if they are a little frightening and unconventional.	.765	.740	.639	2.82	.897
Factor 5: Positive Urgency (Cronbach alfa= .72)					
2. When I am really excited, I tend not to think on the consequences of my actions.	.413	.520	.434	2.54	.881
10. When overjoyed, I feel like I can□t stop myself from going overboard.	.591	.486	.437	2.28	.960
15. I tend to act without thinking when I am really excited.	.494	.653	.586	2.33	.885
20. When I am very happy, I feel like it is OK to give in to cravings or overindulge.	.777	.640	.598	2.65	.959

Note. S-UPPS-P: Short Form of the UPPS-P Impulsive Behavior Scale; SD: Standard deviation.

Table 3. Model Fit Indices for the S-UPPS-P

	x†	df	x†/df	CFI	GFI	TLI	SRMR	RMSEA	90% CI	AIC
Model 1	467	155	3.01	.88	.94	.85	.07	.08	.07;.09	13017
Model 2	365	152	2.40	.92	.98	.90	.07	.07	.06;.08	12920

Note. S-UPPS-P: Short Form of the UPPS-P Impulsive Behavior Scale; x†: Chi-square; df: Degrees of freedom; CFI: Comparative Fit Index; GFI: Goodness-of-Fit Index; TLI: Tucker-Lewis Index; SRMR: Standardized Root Mean Square Residual; RMSEA: Root Mean Square Error of Approximation; 90% CI: 90% Confidence Interval; AIC: Akaike Information Criterion.

asked whether they experienced loss of control while eating, and their responses were compared with S-UPPS-P scores using independent-samples t-tests. Individuals reporting loss of control scored significantly higher on the total score and on all subscales ($p < .05$) except "sensation seeking". These results support the discriminant validity of the scale (Table 4).

To further support construct validity, participants were asked questions related to eating, shopping, and planned behaviors, and the relationships between the answers given and the S-UPPS-P scores were examined with Pearson correlation analysis (see Table 5). The frequency of loss of control while eating correlated positively with the total score and all subscales ($p < .05$) except "sensation seeking". Unplanned shopping correlated positively with all subscales ($p < .05$) except "lack of premeditation". The frequency of weekly planning correlated negatively with "lack of perseverance," "lack of premeditation," and the total score, whereas the level of adherence to plans correlated negatively with all subscales and the total score ($p < .001$). These findings indicate that the scale is consistent with everyday impulsive behaviors and demonstrates discriminant validity.

Table 4. Comparison of S-UPPS-P subscale and total scores by presence of loss of control while eating

Have you ever experienced loss of control while eating?		*N*	*Mean*	*SD*	*t*	*p*
Negative Urgency	No	175	1.93	.64	-5.18	< .001
	Yes	129	2.35	.77		
Sensation Seeking	No	175	2.43	.68	-1.11	.270
	Yes	129	2.59	.66		
Positive Urgency	No	175	2.37	.64	-2.79	.006
	Yes	129	2.59	.70		
Lack of Premeditation	No	175	1.74	.54	-2.47	.014
	Yes	129	1.91	.63		
Lack of Perseverance	No	175	1.85	.65	-3.27	.001
	Yes	129	2.10	.68		
S-UPPS-P Total Score	No	175	2.06	.39	-4.67	< .001
	Yes	129	2.29	.46		

Note. S-UPPS-P: Short Form of the UPPS-P Impulsive Behavior Scale; SD: Standard deviation.

Criterion Validity

Criterion validity was evaluated via correlations with the BSSS-8 and the BIS-11-SF (Table 6). BSSS-8 scores correlated positively with the S-UPPS-P total score ($r = .437$, $p < .001$) and with each subscale, with the most notable association for "sensation seeking" ($r = .646$, $p < .001$); the lowest correlation was observed for "lack of perseverance" ($r = .116$, $p < .05$).

Significant positive correlations were observed between the BIS-11-SF non-planning subscale and the S-UPPS-P total score ($r = .199$, $p < .001$), "negative urgency" ($r = .222$, $p < .001$), "sensation seeking" ($r = .179$, $p < .001$), and "positive urgency" ($r = .283$, $p < .001$), but not with "lack of premeditation" or "lack of perseverance" ($p > .05$). The BIS-11-SF motor impulsiveness subscale correlated positively with the S-UPPS-P total score ($r = .549$, $p < .001$) and with all subscales. Within the attentional impulsiveness subscale, the strongest correlation was with "sensation seeking" ($r = .269$, $p < .001$); significant positive correlations were also found with "negative urgency" ($r = .115$, $p < .05$), "lack of premeditation" ($r = .201$, $p < .001$), and "positive urgency" ($r = .166$, $p < .001$), while correlations with the total score and with "lack of

Table 5. Correlations between S-UPPS-P scores and everyday impulsive behaviors

	Negative Urgency	Lack of Premeditation	Lack of Perseverance	Sensation Seeking	Positive Urgency	S-UPPS-P Total Score
Frequency of loss of control while eating	.305**	.171**	.257**	.003	.146*	.268**
Unplanned shopping behavior	.192**	.108	.173**	.132*	.192**	.248**
Weekly planning frequency	-.082	-.263**	-.346**	.074	-.013	-.186**
Adherence to weekly plans	-.163**	-.307**	-.433**	-.127*	-.168**	-.283**

Note: *p < .05. **p < .001. S-UPPS-P: Short Form of the UPPS-P Impulsive Behavior Scale.

Table 6. Correlations Between S-UPPS-P Subscales and Other Measures of Impulsivity

	BSSS-8 Total Score	BIS-11-SF Non-Planning Impulsiveness	BIS-11-SF Motor Impulsiveness	BIS-11-SF Attentional Impulsiveness	BIS-11-SF Total Score
S-UPPS-P Total Score	.437**	.199**	.549**	.105	.342**
Negative Urgency	.196**	.222**	.509**	.115*	.308**
Lack of Premeditation	.179**	.066	.290**	.201**	.103
Lack of Perseverance	.116*	.005	.248**	.047	.143*
Sensation Seeking	.646**	.179**	.251**	.269**	.254**
Positive Urgency	.279**	.283**	.472**	.166**	.283**
BSSS-8 Total Score		.160**	.304**	.185**	.246**
BIS-11-SF Non-Planning Impulsiveness			.370**	.495**	.040
BIS-11-SF Motor Impulsiveness				.459**	.795**
BIS-11-SF Attentional Impulsiveness					.711**

Note: *p < .05. **p < .001. S-UPPS-P: Short Form of the UPPS-P Impulsive Behavior Scale; BSSS-8: Brief Sensation Seeking Scale; BIS-11-SF: Barratt Impulsiveness Scale-11 Short Form.

perseverance" were not significant (p > .05). Finally, the BIS-11-SF total score correlated positively with the S-UPPS-P total score (r = .342, p < .001), with significant correlations for all subscales except "lack of premeditation" (Table 6).

Reliability Analysis

The reliability of the S-UPPS-P scale was evaluated through the internal consistency coefficient (See Table 2). Internal consistency for the 20-item total score was α = .85, which exceeds the conventional .70 criterion, indicating a good level of internal consistency (39). Cronbach's alpha coefficients for the subscales also indicated high reliability ["negative urgency" (α = .78), "lack of premeditation" (α = .84), "lack of perseverance" (α = .85), "sensation seeking" (α = .74), and "positive urgency" (α = .72)]. Item-deletion diagnostics indicated that removing any item would not increase reliability; therefore, the factor structure was retained. Split-half reliability further supported precision; the correlation between odd- and even-item halves was r = .83 (p < .001), yielding a Spearman–Brown coefficient of .91.

DISCUSSION

The purpose of this study was to adapt the S-UPPS-P scale into Turkish and to examine its validity and reliability in a Turkish sample. The exploratory factor analysis conducted with adults of varying ages was consistent with the original five-factor structure of the scale (21). The confirmatory factor analysis showed that the model demonstrated excellent fit (36). Cronbach's alpha coefficients above .70 for the total score and for each subscale support high internal consistency (39).

Findings regarding construct validity were examined using both exploratory and confirmatory factor analyses, and the resulting 20-item, five-factor structure was found to be consistent with the original instrument at both statistical and content levels. These findings align with validity and reliability studies conducted in diverse cultural contexts. In Western and Northern European countries, for example, studies in France (21), Sweden (40), Germany (18), Italy (41), Spain (42), and Hungary (43) have consistently replicated the five-factor structure; similar results have been reported in Eastern Europe (e.g., Poland (44)), in Asia (Japan (23), Iran (45)), and in Latin America (Brazil (8)). Together, these results suggest that the S-UPPS-P is a valid and reliable measure across cultures and that impulsivity can be assessed along five core dimensions. This supports not only local validity and reliability but also the cross-cultural measurement equivalence of the scale. However, the fact that the model obtained in Turkey required error correlations for some items is noteworthy in terms of cultural differences. Specifically, the need to correlate error terms between Items 10 and 15 and between Items 7 and 8 suggests that these items may carry overlapping meanings in the Turkish culture. The strong association observed between the "negative urgency" and "positive urgency" dimensions points to emotion-regulation difficulties as a salient indicator of impulsivity in this sample, consistent with previous studies (18-20). The results of the exploratory factor analysis indicated that the S-UPPS-P items loaded onto five factors with high factor loadings. Higher factor loadings indicate a stronger association between an item and its factor, and values ≥ .30 are generally considered sufficient

(34). In the present analysis, the lowest loading was .41 (Item 2).

In the confirmatory factor analysis, the model was improved by correlating the error variances that the modification indices indicated would contribute most to fit (46). A commonly used criterion is the ratio of the chi-square value to degrees of freedom (χ^2/df). According to Hu and Bentler (38), a ratio below 5 is acceptable, and below 3 indicates an excellent fit. Additional fit indices include CFI, TLI, GFI, NFI, AIC, and RMSEA; RMSEA values ≤ .08, CFI/TLI/NFI ≥ .90 (47), and GFI ≥ .95 (47, 48) are typically considered acceptable or excellent. In the current study, the χ^2/df ratio and GFI value indicated excellent fit, and the other indices were within acceptable ranges.

To evaluate construct and discriminant validity, relationships between S-UPPS-P scores and everyday behaviors (loss of control while eating, unplanned shopping, frequency of weekly planning, adherence to plans) were examined. Individuals reporting loss of control while eating scored significantly higher on the total score and on all subscales except "sensation seeking." Moreover, the frequency of loss of control while eating correlated positively with all subscales except "sensation seeking," a pattern consistent with prior work linking impulsivity to eating behaviors (6, 7). Unplanned shopping correlated positively with the total score and with all subscales except "lack of premeditation." Weekly planning frequency correlated negatively with "lack of perseverance," "lack of premeditation," and the total score, whereas adherence to plans correlated negatively with all subscales and with the total score. These findings indicate that the S-UPPS-P is sensitive to everyday impulsive behaviors and demonstrates discriminant validity.

Criterion validity was supported via correlations with the Brief Sensation Seeking Scale (BSSS-8; 32) and the Barratt Impulsiveness Scale–11 Short Form (BIS-11-SF; 30). Stronger associations were observed, in particular, for the BIS-11-SF non-planning and motor impulsivity subscales. The strong relationship between "negative urgency" and motor impulsivity supports the differentiation of impulsivity types relevant to impulse-control disorders (4, 17). The S-UPPS-P subscales and total score were positively correlated with "sensation seeking", non-planning impulsivity, motor impulsivity, and overall impulsivity. Although attentional impulsivity was significantly associated with several subscales ("negative urgency," "sensation seeking," "lack of premeditation," "positive urgency"), it did not correlate with the total score. At the subscale level, "negative urgency," "sensation seeking," and "positive urgency" were related to non-planning, motor, and attentional impulsivity, whereas "lack of premeditation" was related to attentional and motor impulsivity. "Lack of perseverance" showed a positive correlation with motor impulsivity and with general impulsivity. Altogether, these patterns support both construct and criterion validity and indicate that the Turkish S-UPPS-P provides a reliable assessment.

An important finding of this study was that "sensation seeking" showed comparatively weaker associations with the other dimensions. This pattern is consistent with studies from different cultures (18, 19). In the literature, sensation seeking is described as relating less to impulse control per se and more to novelty- and excitement-seeking, which may manifest differently across cultural contexts (3, 22). Because different facets of impulsivity may become more prominent depending on cultural factors (8), we recommend that the Turkish findings on sensation seeking be examined in more detail, including cross-cultural comparisons along the individualism–collectivism dimension.

Reliability analyses indicated that Cronbach's alpha was .85 for the overall scale and ranged from .72 to .85 across subscales. These values indicate adequate internal consistency (39) and are consistent with reliability coefficients reported in previous studies (21, 22).

Nevertheless, this study has limitations. First, due to convenience sampling, generalizability to the broader adult population is limited. Second, exclusive reliance on self-report can introduce social desirability and response biases, and the automatic nature of impulsive behaviors may make accurate self-reflection difficult. Finally, validity analyses were conducted with behavioral tendencies rather

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than with clinically diagnosed groups. Therefore, further studies in clinical samples are needed to establish clinical validity and to determine cutoff scores.

In conclusion, in light of the validity and reliability analyses, the Turkish version of the S-UPPS-P (21) is evaluated as an effective and psychometrically sound tool for measuring the five dimensions of impulsivity. The 45-item, four-subscale version of the scale was adapted into Turkish by Yargıç et al. (27), and the current short form was adapted by Eray et al. (28) for adolescents aged 11–18. Adapting the short version with 20 items and five factors for a Turkish adult sample in the current study shortens administration time and facilitates use. Furthermore, inclusion of the positive urgency dimension allows for a multidimensional assessment of impulsivity. In this respect, it provides a time-efficient assessment tool that is particularly useful in psychiatric evaluations and in clinical and health psychology practice. The preservation of distinct factor structures across the S-UPPS-P subscales allows both the systematic examination of individual differences in research settings and more detailed analyses in clinical evaluations. Disseminating the Turkish-adapted short form by testing it in different populations and cultural groups will make a significant contribution to future research.

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