Author’s response to reviews

Title: Validation of a Short Arabic UPPS-P Impulsive Behavior Scale

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Author’s response to reviews:

Dear Editorial Board of BMC Psychiatry

and Matthew Hickey:

Thank you very much for your report. In accordance with your recommendations, we have reworded the Statistical Analyses section of our paper and parts of the Results, Discussion, and Abstract, as well as the Figure 1 caption. The figures shown in Figure 1 are different from those in other studies for the same S-UPPS-P scale; therefore, although we have modified the caption, we have not adjusted the figure itself.

The authors’ contributions are detailed in the contributions section. Ethics approval and consent to participate have also been reported in this section.

The modifications made to the revised manuscript are described below. Please contact me again if you have any further questions.

1. The Statistical Analyses section was modified as follows:

Statistical Analyses

To assess the factor structure of the Arabic S-UPPS-P, we used SAS 9.3 (SAS Institute, Inc., Cary, NC, USA) to perform a confirmatory factor analysis (CFA) and LISREL 8.80 for Windows (Jöreskog and Sörbom 2006) to analyze the covariance matrix. We ran three models: a single unitary impulsivity construct, a model with five interrelated constructs, and a model that
involves three interrelated constructs (urgency: negative and positive, conscientiousness: lack of premeditation and lack of perseverance, and sensation seeking).

We assessed goodness of fit by using the \( \chi^2 \) statistic, where acceptable fit is indicated by a nonsignificant value. This statistic spreads, however, with sample size; furthermore, it is rarely nonsignificant when CFAs are carried out on self-administered questionnaires [31]. Therefore, we reported the following additional indices: the ratio of \( \chi^2 \) to degrees of freedom (df), the root mean square error of approximation (RMSEA), the comparative fit index (CFI), the adjusted goodness-of-fit index (AGFI), the normed fit index (NFI), and the non-normed fit index (NNFI). A \( \chi^2/df < 5 \), RMSEA < .08, CFI > .95, AGFI > .85, NFI > .90, and NNFI > .95 are considered excellent fit. In addition, we computed the expected cross-validation index (ECVI) in order to compare the three models. The ECVI evaluates whether a given model has similar validation in different samples of the same population of the same size. A small ECVI indicates good likelihood of replication.

Two-tailed Pearson correlations were furthermore performed to assess the links between the five UPPS-P dimensions and the Arab CIUS.

2. The Results section was modified as follows:

Results

We found that the one-factor model had a poor fit (\( \chi^2 (169) = 1658.95, p < .001, \chi^2/df = 9.82, \) RMSEA = .1166, CFI = .453, AGFI = .681, NFI = .4303, NNFI = .3846), whereas the five-factor model (intercorrelated) had an excellent fit (\( \chi^2 (155) = 439.4, p < .001, \chi^2/df = 2.84, \) RMSEA = .0532, CFI = .8955, AGFI = .9146, NFI = .9491, NNFI = .8719) and the three-factor model (intercorrelated) had an adequate fit (\( \chi^2 (164) = 601.7, p < .001, \chi^2/df = 3.67, \) RMSEA = .0642, CFI = .8392, AGFI = .8855, NFI = .7933, NNFI = .8137).

According to the ECVI statistics, the five-factor model is more adequate (ECVI = 0.8536) than the three-factor model (ECVI = 1.0754). The one-factor model is least adequate (ECVI = 2.6909).

The retained model, item loadings, and intercorrelations are reported in Figure 1. The number of participants (N), means, and standard deviations are reported for the five UPPS-P facets and for the CIUS in Table 1. As shown, Cronbach's \( \alpha \) ranged from .58 to .81, indicating good internal consistency, as found in previous assessments of the characteristics of the S-UPPS-P [22, 25]. Between-variable correlations are also specified in Table 1.
3. Part of the Discussion from “We used CFA to ...(slightly lower Cronbach’s α)” was modified as follows:

Discussion

...

The psychometric properties of the S-UPPS-P have been repeatedly assessed in different linguistic versions. Thus, from the results of previous studies, we chose to use CFA analyses rather than exploratory analyses because of the availability of a priori hypotheses.

The main findings of our study are as follows. First, the Arab S-UPPS-P displayed the same factor structures as those reported in earlier S-UPPS-P validation studies. Second, the internal consistency of the five S-UPPS-P subscales had a similar range to that found in the other studies, except for the lack of premeditation subscale (slightly lower Cronbach’s α).

4. Part of the Discussion from “the results to …meta-analyses” was modified as follows:

The results of our study, similar to those of other studies related to the validation of the S-UPPS-P [22, 24, 25], show that a three-factor model—urgency (negative and positive), lack of conscientiousness (lack of premeditation and lack of perseverance), and sensation seeking—fits the data well, but to a lesser extent than the five-factor model. This result is in concordance with the findings of a number of studies and meta-analyses [12].

5. The caption for Figure 1 was modified as follows:

Figure 1. The five-factor model is presented. Error variance and factor loadings are shown with one-way arrows. Correlations between variables (taking into account covariance between items) are shown via two-way arrows. NEGATIVE = negative urgency; POSITIVE = positive urgency; PREMED = lack of premeditation; PERSEV = lack of perseverance; SEEKING = sensation seeking.

6. The sentence from the Background section, “A similar pattern of correlations was found with the positive urgency pathway, demonstrating a pattern of correlations similar to that of negative urgency,” was modified as follows:

“A similar pattern of correlations was found with positive urgency, showing similarities to those displayed with negative urgency.”
7. The Abstract was modified as follows:

Abstract

Background: Impulsivity is involved in numerous psychiatric and addictive disorders, as well as in risky behaviors. The UPPS-P scale highlights five complementary impulsivity constructs (i.e., positive urgency, negative urgency, lack of perseverance, lack of premeditation, and sensation seeking) that possibly work as different pathways linking impulsivity to other disorders. In this study, we aimed to evaluate the psychometric properties of the Arab language short 20-item UPPS-P scale and to eventually validate it.

Methods: Participants were recruited online through e-mail invitations. After online informed consent was obtained, the questionnaires (the UPPS-P and the Compulsive Internet Use Scale [CIUS]) were completed anonymously. The five dimensions of the Arab UPPS-P model were assessed in a sample of 743 participants.

Results: As in other linguistic assessments of the UPPS-P, confirmatory factor analysis showed the validity of a model with five different, but nonetheless interrelated, facets of impulsivity. A three-factor model with two higher order factors—urgency (negative and positive) and lack of conscientiousness (lack of premeditation and lack of perseverance)—and a third sensation seeking factor fit the data well, but to a lesser extent. The results suggested good internal consistency, with external validity shown from correlations between some of the UPPS-P components and a measure of addictive Internet use (the CIUS). Conclusion: The Arab short UPPS-P is a valid assessment tool with good psychometric properties and is suitable for online use.