

# Portuguese Version of the Alcohol Craving Questionnaire Short-Form - Revised: Validation and Reliability Assessment

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## Scientific Background

Alcohol craving (AC) is defined as a strong subjective desire for alcohol intake (Tiffany & Conklin, 2000), which has been considered a multifaceted phenomenon, with tendency to be situational specific and often associated with psychological cues (Heinz, Beck, Grüsser, Grace, & Wrase, 2009).

This urge for alcohol consumption has often been depicted as one of the main causes for acquisition and maintenance of alcohol use disorder (AUD), representing a detrimental factor for relapse, presented in approximately 70% of recovering patients (Franken, 2002; Myrick et al, 2004).

Despite the fact that Portugal exhibits high rates of problems associated with alcohol consumption (Balsa, Vital, & Urbano, 2018) and AC is a relevant target in the treatment of AUD (Rodd, Bell, Sable, Murphy, & McBride, 2004), to our knowledge, Penn Alcohol Craving Scale (PACS), a unifactorial scale, is the only measurement of alcohol craving that has been validated to a Portuguese sample.

Bearing in mind the complexity and changeability of the construct, the validation of a multifactorial scale that assesses acute levels of craving seemed meaningful. For this reason, given the characteristics of the existing scales and questionnaires of alcohol craving measurement, the Alcohol Craving Questionnaire Short-Form - Revised (ACQ-SF-R) was selected with the intent of overcoming these limitations.

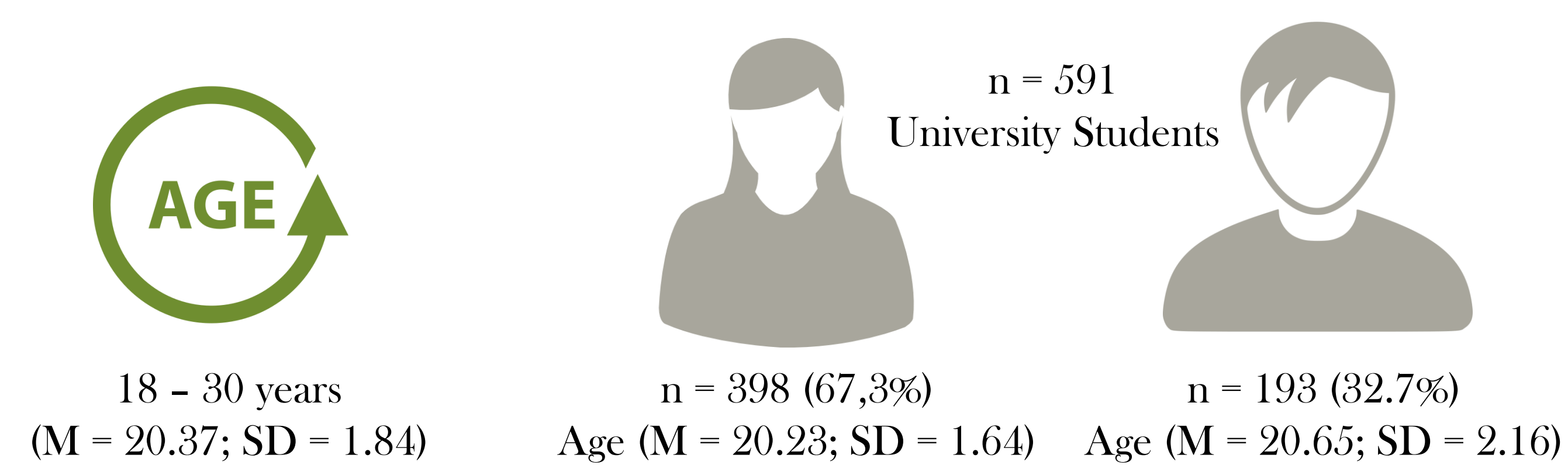
## Aims

Validate a multifactorial scale that assesses acute levels for the Portuguese population, through the translation and validation of ACQ-SF-R. Furthermore, we aimed to assess which model better fits the aimed population; testing the original 4 factor model as well as to conduct an exploratory factor analysis to understand how the scale behaves in the adapted version.

## Conclusion

Portuguese version of ACQ-SF-R shows a high degree of internal consistency and a good convergent validity with the PACS. Factorial analysis triggered 3 factors (Expectancy/Emotionality; Predisposition/Opportunity; Compulsivity), which accounted for 60.64% of the total variance of the questionnaire, with a strong comparative fit index. Considering AIC for the comparisons between different models, where smaller values represented the best model, the 3-factor model seems to have a better fit for the Portuguese population. In conclusion, the Portuguese version of ACQ-SF-R revealed appropriate psychometric properties, suggesting that this questionnaire can be used by researchers/clinicians to assess alcohol craving in the Portuguese population.

## Participants



## Method

### 1<sup>st</sup> Step

### Translation

- AQC-SF-R translation from English to Portuguese
- Back-translation

### 2<sup>nd</sup> Step

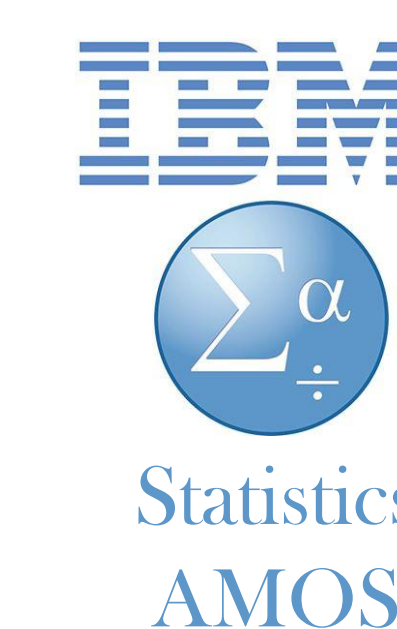
### Sample Collection

- Classroom → University Students
- AQC-SF-R
- PACS
- Demographic data

### 3<sup>rd</sup> Step

### Statistical Analysis

- Exploratory Factor Analysis
- Confirmatory Factor Analysis
- Reliability



## Results

**Factor Analysis**

- Expectancy/Emotionality
- Predisposition/Opportunity
- Compulsivity

**Internal Consistency**

Cronbach  $\alpha = 0,836$   
 Mean inter-item correlation = .32

**VS**

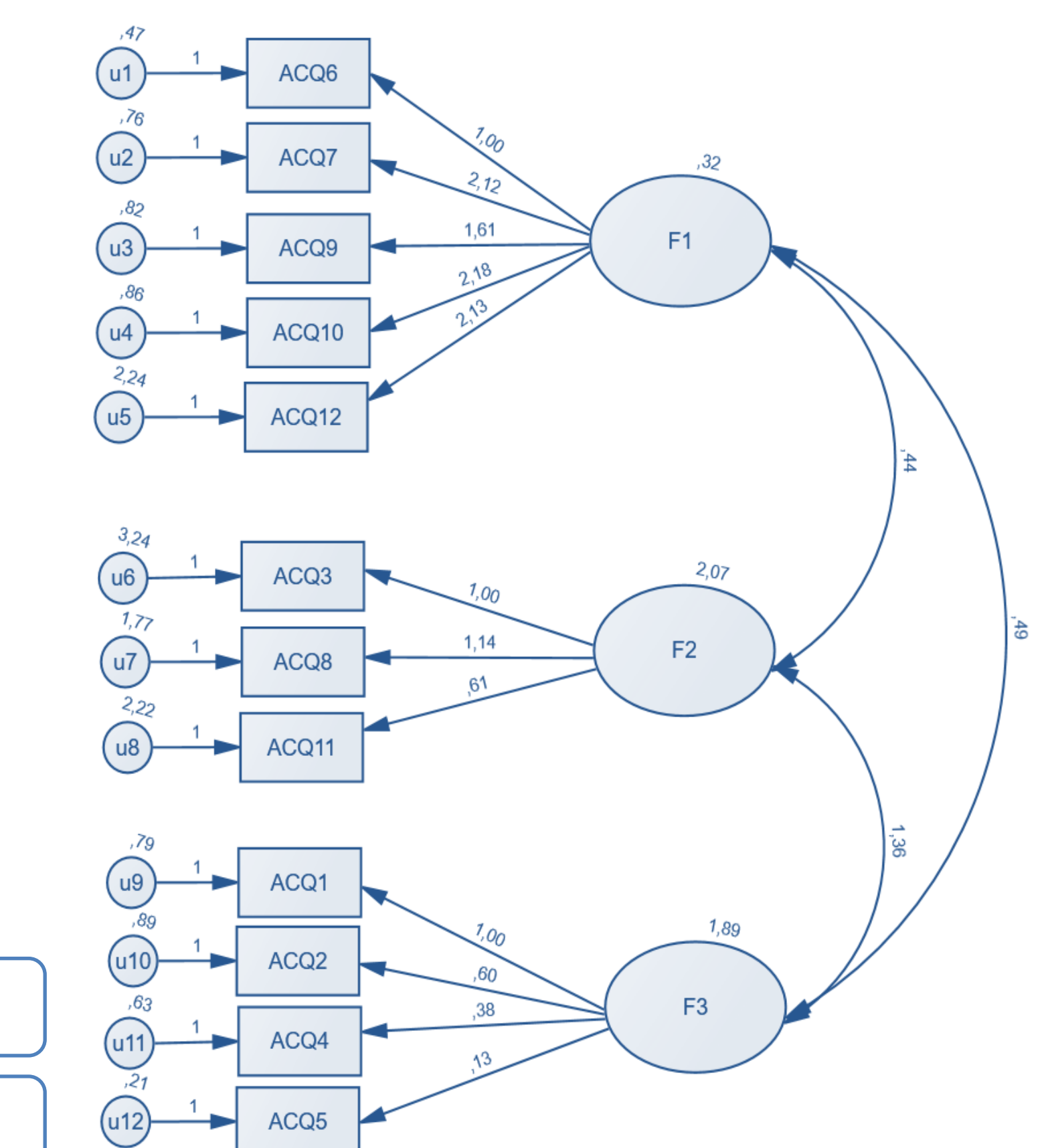
Spanish Version  $\alpha = 0,82$   
 Original Version  $\alpha = 0,77 - 0,86$

**Convergent Validity**

$p < 0,001, r = 0,653$

- F1**
- Q6, Q7, Q9, Q10, Q12 -  $\alpha = 0,82$
  - Explained Variance = 38,58%
- F2**
- Q3, Q8, Q11 -  $\alpha = 0,66$
  - Explained Variance = 12,03%
- F3**
- Q1, Q2, Q4, Q5 -  $\alpha = 0,68$
  - Explained Variance = 10,03%

Confirmatory factor analysis for the 3-factor model



Total Explained Variance from a Factor Analysis

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	Variance %	Cumulative %	Total	Variance %	Cumulative %	Total	Variance %	Cumulative %
1	4.628	38.567	38.567	4.628	38.567	38.567	3.037	25.312	25.312
2	1.453	12.107	50.674	1.453	12.107	50.674	2.381	19.842	45.153
3	1.201	10.011	60.685	1.201	10.011	60.685	1.864	15.532	60.685
4	.762	6.350	67.035						
5	.710	5.913	72.948						
6	.624	5.198	78.146						
7	.585	4.879	83.025						
8	.538	4.487	87.512						
9	.456	3.803	91.315						
10	.413	3.444	94.759						
11	.360	3.001	97.760						
12	.269	2.240	100.000						

Model Fit Indexes - 3-factor VS 4-factor								
Model	$\chi^2$	df	$\chi^2/df$	NFI	CFI	GFI	RMSEA	AIC
3-factor	253	51	4.98	.90	.92	.94	.08	307.7
4-factor	312	48	6.50	.87	.89	.91	.10	372.1

Note:  $\chi^2$  - Chi-Square; df - degrees of freedom; AIC - Akaike Information Criterion; NFI - Normed Fit Index; CFI - Comparative Fit Index; GFI - Goodness-of-Fit Index; RMSEA - Root Mean Square Error of Approximation.

## References

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