and easily accessible, is the widespread psychotropic substance. Tolerance to alcohol can take place in many behavioral tests. However, the structure of the sleep-wakefulness cycle (SWC) is not taken into account, despite the fact that the structure of the SWC is sensitive to a variety of actions (pharmacological and non-pharmacological) and, can be considered as valid model to study them, including ethanol administration. Therefore the question whether tolerance to ethanol might be reflected in changes of the structure of SWC is relevant in the sense that these alterations might be primary risk- indicators at alcohol consumption. Reasoning from the above mentioned, the purpose of the present work was to study the effects of tolerance to ethanol on the SWC structure.

Materials and methods: Experiments were carried out on the adult cats (n = 5). The following methods were used: the stereotaxic; polysomnographic. Alcoholization (0.2–2.5 g/kg 25% ethanol solution) was conducted by i/p injections, that lasted for two weeks. The obtained results were processed statistically and significance of the changes was determined by the Student t-test.

Results: Low single doses of ethanol (0.2–0.5 g/kg) did not induce any significant changes in the structure of the SWC. While using doses of 0.6 g/kg it was noted only increasing of the latent period of the onset of sleep. However, the structure of the SWC recovered within 1–2 h after injection. Increasing the dose to 1 g/kg caused severe intoxication, which reflected in a behavioral (anxiety, tremor, vocalizations) and autonomic (vomiting and frequent urination) disorders. Against the background of restless behavioral wakefulness recurrent synchronization, that is the EEG correlate of light slow-wave sleep, developed. The total volume of deep slow-wave sleep was significantly decreased and the latent period of the onset of paradoxical sleep was increased. The structure of sleep was fragmented, coursed by frequent awakenings. For the fifth-eighth day of alcoholization the structure of the SWC restored, behavioral and vegetative signs of intoxication moved out.

Conclusion: The obtained results signify that development of tolerance to ethanol can be reflected in the alteration of the structure of SWC.

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Diurnal type in children: preliminary results about the European Portuguese version of the CCTQ

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Introduction: Few tools exist to measure morningness–eveningness in young children. Recently, Werner, LeBourgeois, Geiger and Genni published the Children Chronotype Questionnaire (CCTQ), a parental 27 item questionnaire designed to extract three chronotype measures, in 4–11 years old children. The aim of the present study was to develop an European Portuguese version [PT] of the CCTQ and to examine its psychometric properties.

Materials and methods: A permission request to develop a Portuguese version was sent to the CCTQ authors. A first translation draft was generated; next it was examined by experts; the resulting version was after that tested using "thinking aloud" procedures, and then an experimental CCTQ [PT] version was defined. This version was completed by a sample of parents/tutors of 397 children (47.1% boys), 4−11 yrs-old. Based on their answers, three chronotype measures were computed: the morningness/eveningness scale score (M/E); the midsleep point on free days (MSF); the five point chronotype score (CT).

Results: As to internal consistency, Chronbach alpha for the M/E scale was 0.71. Corrected item-total correlations ranged from .28 to .55, with an average of .39. With regard to the chronotype measures, scores on the M/E scale showed a gaussian distribution with a mean of 28.2 (SD = 6.0, Min = 15 and Max = 44); for MSF a mean of 3:47 (SD = 44 min) was obtained; and at the CT measure a median of 2 was found. Correlation coefficients between the chronotype measures revealed moderate to strong associations (from rs = .34 to r = .54).

Conclusion: These preliminary results found in our sample for the Portuguese CCTQ were similar to the ones obtained on the original CCTQ, for the M/E scale. However, our children showed later schedules, as expressed by MSF. This first Portuguese study, together with the authors' comments on the back translation, highlighted the strengths of our experimental version, but also some aspects to refine, which led us to define the final Portuguese version of the CCTQ. A study in a larger national sample is now needed.

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Brief Insomnia and Quality of Sleep Scale (BIQSS): reliability and validity in higher education students

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Introduction: The present work aims to characterize in higher education students the reliability and validity of a brief self-reported measure to assess insomnia complaints and perceived sleep quality (Gomes et al., 2001, 2005, 2011), used from more than a decade by our research team members, and henceforth labeled the Brief Insomnia and Quality of Sleep Scale (BIQSS).

Materials and methods: In study 1, the 7-items scale now termed BIQSS was developed, as part of a larger self-response questionnaire on higher education sleep-wake patterns, and its internal consistency and item homogeneity were analyzed based on the answers of 1654 undergraduates. In study 2, focused mainly on validity, 323 undergraduate and master degree students completed the BIQSS together with the PSQI (Buysse et al., 1989). Using an additional question on perceived sleep problems, item discriminative power and ROC analyses were also performed. Higher BIQSS scores equate to poorer sleep, and each item is rated in a 5 point scale from 0 to 4 (or in reversed way when appropriate), thus total score may range from 0 to 28.

Results: Internal consistency was assessed by Chronbach alpha, which was.73 in study 1 and .78 in study 2. Corrected item-total correlations ranged from .32 to .57 (study 1), and from .40 to .60 (study

2). All items contributed to the internal consistency of the scale, as shown by drops in Chronbach alpha values when excluding each item. As to validity (study 2), the correlation coefficient between the BIQSS and the PSQI score was $r = 0.65$ ($p < 0{,}001$). Students that reported a sleep problem ($n = 40$) obtained significantly higher BIQSS scores in comparison to those who deny having any sleep problem, and all items were able to discriminate between them. In ROC analysis, the Area Under the Curve (AUC) was .832, indicating moderate precision/acuity.

Conclusion: The BIQSS is composed by a small number of items, is very easy to administer in higher education students, and seems to possess reasonable reliability, validity, and acuity. Therefore, it may constitute a convenient tool to screen for insomnia and poor sleep complaints, both for research purposes and in clinical settings. Further studies are now needed in other samples.

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Reliability and initial validation of the Pittsburgh Sleep Quality Index, European Portuguese version: a preliminary study in a sample of higher education students

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Introduction: The Pittsburgh Sleep Quality Index (PSQI) is probably the most used self-response scale to measure sleep quality worldwide. However, surprisingly, in our country we are still lacking data on the metric characteristics of the European Portuguese version of this tool, which limits its use both in research and especially in clinical practice. The aim of the present study was thus to examine the psychometric properties of the official European Portuguese (PT) version of the PSQI.

Materials and methods: After having Dr. Buysse (U. Pittsburgh) permission to use the European Portuguese version of the PSQI, we recruited a sample of 355 undergraduates and master degree students of both sexes, who completed a set of demographic questions, selected items from a previously validated undergraduate sleep-wake questionnaire containing a Sleep Quality Index (SQI), and the PSQI [PT].

Results: The reliability coefficients concerning internal consistency were satisfactory: Cronbach's alpha = .65 for the PSQI [PT] components, and .74 considering the PSQI [PT] items. Comparing groups who did versus who did not consider having any sleep problems, the formers obtained significantly higher scores in all items of the PSQI [PT], meaning poorer sleep quality, which supports the discriminative power of each item. The computation of the cut-off point using ROC curve for this sample was 6, which is similar to the one found in the original study (i.e., 5). The PSQI [PT] scores were significantly correlated with the SQI (Spearman rs = .59; $p < 0.001$), which indicates convergent validity.

Conclusion: The official European Portuguese version of the PSQI, despite its limitations, seems to be an instrument with adequate reliability and validity for assessing self-reported sleep quality, at least in Portuguese higher education students. However, it is necessary to replicate these analyses using larger and clinical samples.

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Quality of sleep and quality of life in higher education students

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Introduction: Numerous studies exist about the associations between sleep and quality of life (QoL), in samples with diagnosis of sleep disorders (e.g., insomnia, sleep apnea) or other medical conditions (e.g., cancer). However, very few studies have examined community samples. The purpose of the present work was to analyze the associations between subjective sleep quality and several dimensions of QoL in higher education students. A secondary specific aim was to examine whether or not sleep quality would be a significant predictor of QoL after statistically controlling for psychopathological symptoms.

Materials and methods: A sample of 324 undergraduate and master degree students completed the Portuguese versions of the Pittsburgh Sleep Quality Index (PSQI), WHOQOL-Bref to measure QoL, and Brief Symptom Inventory (BSI) to measure psychopathological symptoms.

Results: All PSQI components were significantly associated (at least $p < .05$) with the QoL General Facet, and with the Psychological and Physical QoL domains. As to the Environment QoL domain and the PSQI components, four statistically significant associations emerged; as to the Social Relationships QoL domain and the PSQI components, only two significant associations emerged. The strongest associations found were between the PSQI Component 1-Subjective Sleep Quality, and the Psychological QoL domain ($r = -.546$, $p < .0001$), followed by the Physical QoL domain ($r = -.446$, $p < .0001$). Two PSQI components, C1-Subjective Sleep Quality and C7-Daytime Dysfunction, were systematically associated with all WHOQOL-Bref domains and general facet. Hierarchical regression analyses showed that the PSQI components added significant contributions to the general QoL facet, and to the Psychological and Physical QoL domains, after controlling for psychopathological symptoms.

Conclusion: Our results suggest that in non-clinical samples composed of predominantly healthy and young adults, there are numerous significant associations between several components of sleep quality and different facets of quality of life, and that these associations emerge regardless of psychopathological symptoms.

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Sleep differences in auto-adjustable CPAP devices and manual standard CPAP titration in a sleep laboratory