Revista Brasileira de Psiquiatria. 2017;39:330–336
Associação Brasileira de Psiquiatria
doi:10.1590/1516-4446-2016-2132

ORIGINAL ARTICLE

Brazilian cross-cultural adaptation and validation of the List of Threatening Events Questionnaire (LTE-Q)

Patrícia B. de Abreu,[1,2] Hugo Cogo-Moreira,[1] Regina A. Pose,[3] Ronaldo Laranjeira,[1,2] Raul Caetano,[1,4] Carolina M. Gaya,[2] Clarice S. Madruga[1,2]

[1]*Instituto Nacional de Pesquisa em Álcool e Outras Drogas (INCT INPAD), Universidade Federal de São Paulo (UNIFESP), São Paulo, SP, Brazil.* [2]*Departamento de Psiquiatria, Universidade Federal de São Paulo (UNIFESP), São Paulo, SP, Brazil.* [3]*Escola de Saúde, Universidade Municipal de São Caetano do Sul (USCS), São Caetano do Sul, SP, Brazil.* [4]*Pacific Institute for Research and Evaluation, Oakland, CA, USA.*

Objective: To perform a construct validation of the List of Threatening Events Questionnaire (LTE-Q), as well as convergence validation by identifying its association with drug use in a sample of the Brazilian population.
Methods: This is a secondary analysis of the Second Brazilian National Alcohol and Drugs Survey (II BNADS), which used a cross-cultural adaptation of the LTE-Q in a probabilistic sample of 4,607 participants aged 14 years and older. Latent class analysis was used to validate the latent trait adversity (which considered the number of events from the list of 12 item in the LTE experienced by the respondent in the previous year) and logistic regression was performed to find its association with binge drinking and cocaine use.
Results: The confirmatory factor analysis returned a chi-square of 108.341, weighted root mean square residual (WRMR) of 1.240, confirmatory fit indices (CFI) of 0.970, Tucker-Lewis index (TLI) of 0.962, and root mean square error approximation (RMSEA) score of 1.000. LTE-Q convergence validation showed that the adversity latent trait increased the chances of binge drinking by 1.31 time and doubled the chances of previous year cocaine use (adjusted by sociodemographic variables).
Conclusion: The use of the LTE-Q in Brazil should be encouraged in different research fields, including large epidemiological surveys, as it is also appropriate when time and budget are limited. The LTE-Q can be a useful tool in the development of targeted and more efficient prevention strategies.

Keywords: Brazil; validation; epidemiology; adverse life events assessment

Introduction

It is widely accepted that the development of mental disorders involves a complex combination of biological and environmental factors.[1,2] A large body of evidence shows that exposure to threatening events is a key predictor of several psychiatric disorders, such as antisocial behavior,[3] mood and anxiety disorders,[4,5] and especially use of psychoactive drugs and addiction.[1,6] Events such as natural disasters, being the victim of severe violence, losing a close relative, or even losing a job can lead to emotional reactions that contribute to depression, suicide, post-traumatic stress, and abuse of alcohol and other drugs.[7,8] There is also evidence that events such as job loss, relationship issues, and serious financial problems are associated with excessive alcohol consumption and development of alcohol-related disorders.[9] Even though the trigger thresholds are individual and multifactorial,[10,11] it is useful to understand how threatening environmental experiences can predict certain disorders at the population level, facilitating efforts to prevent their occurrence (where possible) and encouraging early treatment initiatives. This knowledge can contribute to the development of mental health care and prevention strategies tailored to inhibit the progress of such disorders within the most vulnerable populations.

The use of validated instruments adapted to specific sociocultural contexts is imperative for clinical and epidemiological research. So far, the only available tool to assess stressful life events in Brazil is the Scale of Adverse Events, a 36-item inventory developed by Santos et al.[12-14] The inventory covers a list of adverse situations that may occur in different areas of life, based on existing instruments to investigate childhood life events.[15,16] The lack of formal validation, as well as the need for an extensive interview to perform it, limits its use in large epidemiological surveys.

The List of Threatening Events Questionnaire (LTE-Q) was developed by Brugha et al.[17] in 1985. This comparatively short instrument – composed of 12 items focusing on negative adverse events that happened over the past 12 months – has been shown to have high specificity and sensitivity on concurrent validation with the Life Events

Correspondence: Clarice S. Madruga, Instituto Nacional de Ciência e Tecnologia para Políticas Públicas do Álcool e Outras Drogas (INPAD), Departamento de Psiquiatria, Universidade Federal de São Paulo (UNIFESP), Rua Borges Lagoa 570/82,CEP 04038-000, Vila Clementino, São Paulo, SP, Brazil.
E-mail: clarice@uniad.org.br
Submitted Oct 04 2016, accepted Nov 29 2016, Epub May 22 2017.

and Difficulties Scale (LEDS).[18] The LTE-Q has been recommended for use in psychiatric, psychological, and social studies in which resources do not allow for the use of extensive interview measures of stress. A shorter version of this instrument, called Adverse Life Events Questionnaire (ALE-Q), was also used in three waves of the English Mental Health and Comorbidity Survey.[19]

The growing interest in deepening the information obtained in large population studies in Brazil has created an increasing demand for short, sensitive, and validated epidemiological instruments. Therefore, the present study aims to describe the cross-cultural adaptation of the LTE-Q and to validate this tool through exploratory and confirmatory analysis using a representative sample of the Brazilian population. Further, a convergence validation will be performed[20,21] by testing the association of the latent construct adversity with drug use.

Methods

Cross-cultural adaptation

Before being used in the Second Brazilian National Alcohol and Drugs Survey (II BNADS), the LTE-Q was cross-culturally adapted to Brazilian Portuguese[22,23] and named Lista de Eventos Adversos Recentes. The cross-cultural adaptation was conducted in five stages: i) investigation of conceptual and item equivalence; ii) translation and back translation; iii) cognitive interviewing; iv) piloting; and v) assessment.

Investigation of conceptual and item equivalence

This step involved literature review and discussion with experts in the field and members of the target population. An expert committee was formed, including i) an expert in mental health epidemiology; ii) an expert in Brazilian public addiction and treatment policies; and iii) an expert in instrument validation in psychiatry.

Forward translation

Two native speakers of Brazilian Portuguese with fluency in English translated the list of 12 events independently and merged the translations into a single Portuguese version. Afterwards, one native speaker of English with fluency in Brazilian Portuguese back-translated this version. After reaching a consensus, the group of translators produced the final version.

Cognitive interview

Cognitive interviewing aims to detect items that are not understood by respondents as intended by the survey developers.[24] Thus, 30 Brazilian Portuguese speakers were interviewed to evaluate comprehension of the translated questions. The interview covered comprehension or interpretation, information retrieval, judgment formation, and response editing. According to Beatty,[24] cognitive interview results can be used to revise or develop new items, so that they are appropriate to the cultural context and lifestyle of respondents.

Pilot testing

The pilot was performed to evaluate the interviewer's ability to spot possible inconsistencies in the complete version of the questionnaire (jumps and answer-cards). The pilot was also performed to estimate the average length of the interview. Ten interviews were carried out in the city of São Paulo, Brazil. No changes in the LTE-Q list were performed at this stage.

Assessment in the BNADS

The final revised version of the questionnaire was used in the II BNADS, in 2012. A national probabilistic sample of 4,607 Brazilians aged $\geqslant$14 years answered the questionnaire.

Sampling and procedures

The II BNADS was conducted in 2012. A multistage cluster sampling procedure was used to select 4,607 individuals aged $\geqslant$14 years, including an oversample of 1,157 adolescents (14 to 18 years old) from all regions of the Brazilian household population. The global response rate was 77%. The oversample response rate was 79%. Sampling involved three stages: i) selection of 149 municipalities using probability proportional to size sampling (PPS); ii) selection of two census tracts in each county, with the exception of the 14 largest counties selected, totaling 375 census tracts, also using PPS; and iii) within each census tract, eight households were selected by simple random sampling, followed by selection of a household member to be interviewed using the ''the closest future birthday'' technique. Face-to-face interviews of approximately 1 hour were conducted at the respondent's home by trained interviewers using a standardized questionnaire.

Other measures from II BNADS

Sociodemographic variables

Sociodemographic variables included gender, age, education (illiterate, primary education, secondary education, technical/academic degree and above), personal income (continuous variable), and marital status (single, married/cohabiting, widow, divorced, separated).

Substance use assessment

Binge drinking. The definition of binge drinking proposed by the National Advisory Council to the National Institute on Alcohol Abuse and Alcoholism (NIAAA) in 2004 was adopted. This definition considers a pattern of drinking that raises blood alcohol concentration to 0.08 g percent or above.[25]

Cocaine use. Self-reported lifetime and previous year use of all forms of cocaine (smoked and snorted) was assessed. The measure was self-reported in order to guarantee confidentiality and reduce false negative answers. The questions regarding cocaine use were not included in the face-to-face interview. Rather, they were part of a written questionnaire filled by each participant individually

in a separate room and returned to the interviewer in a sealed envelope.

Exploratory analysis

The alpha-Cronbach analysis was performed to test the reliability of the scale, following the protocol suggested by Maroco & Garcia Marques.[26]

Construct validity using latent class analysis model

Adversity latent factor

An adversity factor was constructed considering the number of events from the list of 12 item in the LTE experienced by the respondent in the previous year.

Goodness of fit for the trait

The goodness of fit of the latent trait was assessed through the statistical package M-Plus using the following fit indexes: chi-square, weighted root mean square residual (WRMR), confirmatory fit indices (CFI), the Tucker-Lewis index (TLI), and root mean square error approximation (RMSEA). The following cutoff criteria were used to determine a good model fit: chi-square with no statistical significance (> 0.05), WRMR near or less than 0.95, a RMSEA near or less than 0.06, and CFI and TLI near or greater than 0.95.[27] For the latent trait evaluation, the weighted least squares mean and variance adjusted (WLSMV) estimator was used.

Predictive value of the latent trait

The LTE-Q, a continuous latent variable, was regressed on cocaine consumption in the past year and alcohol use disorder, both of which are dichotomous variables. In logistic regressions (i.e., under maximum likelihood as estimator), missing data were addressed via full information maximum likelihood assuming a missing at random (MAR) mechanism. The impact of the continuous latent variable on the dichotomous variables was expressed in terms of the odds ratio (OR) with an adopted significance level of 0.05; the significance of the LTE-Q trait was assessed using the Wald Test.

Associations with substance use

Following validation, models of logistic regression were performed to assess possible associations between psychoactive substance use (binge drinking and cocaine use) and the indicators of threatening experiences detected/measured by the instrument. The model was adjusted by sociodemographic variables sex, age, and education.

Results

Cross-cultural adaptation: investigation of conceptual and item equivalence

The original LTE-Q consists of 12 common life events that are highly likely to be threatening, such as bereavement or being sacked from a job[18] (Table 1).

Table 1 Original version of the List of Threatening Events Questionnaire (LTE-Q) developed by Brugha et al.[17]

Item	Question
1	You yourself suffered a serious illness, injury, or an assault
2	A serious illness, injury, or assault happened to a close relative
3	Your parent, child, or spouse died
4	A close family friend or another relative (aunt, cousin, grandparent) died
5	You had a separation due to marital difficulties
6	You broke off a steady relationship
7	You had a serious problem with a close friend, neighbor, or relative
8	You became unemployed or you were seeking work unsuccessfully for more than one month
9	You were sacked from your job
10	You had a major financial crisis
11	You had problems with the police and a court appearance
12	Something you valued was lost or stolen

Four items were added to the list of threatening events following consultancy with the three experts: you were forced to move out of your house; you lost custody of a child; you lost your home in natural disaster; you were the victim of armed robbery/abduction.

The inclusion of these items was considered crucial by the experts because of their relevance for the present socioeconomic context of Brazil.[28-30] Further, the country's lack of public welfare support led the committee to agree that item 8 (''Unemployed/seeking work for more than one month'') was better related to ''Job insecurity'' in the Brazilian context. Therefore, item 8 was replaced with ''Job insecurity.'' In order to ensure that the questionnaire would not become exceedingly long, the committee also recommended merging original items 3 and, 4 as they overlap (Death of a close friend or family member). In addition, items 7 and 12 (''Serious problem with a close friend, neighbor or relative'' and ''Something valuable lost or stolen'') were removed.

Forward translation

Following cross-cultural adaptation, the questionnaire was translated into Brazilian Portuguese using the forward translation method. Table 2 shows the Brazilian Portuguese version of the LTE-Q (Table 2).

Cognitive interview

The cognitive interview method led to the modification of a few items, as follows:

1) Items 5 and 6 were merged: both questions were regarding separation and most participants asked the difference between them.

2) Item 3 ''Death of a close friend or family member'' was also modified, as participants frequently asked ''which level of friendship closeness'' they should consider. Therefore, the term ''close friend'' was deleted. The final version was edited to: ''Death of a member of your family.'' Table 3 shows the final version of the Brazilian Portuguese version of the LTE-Q and the back translation into English.

Pilot testing

The final version of the questionnaire was piloted in 10 individuals. The pre-test did not lead to further modifications of the instrument. The pilot allowed the team to estimate the total duration of the interview (58 minutes) and to complete the interviewers training.

Validation

Exploratory analysis

The LTE questionnaire's internal consistency measured by Cronbach's alpha was 0.86 for the 12 items of the questionnaire.

Confirmatory factor analysis

The initial factor analysis showed that item 9 is an empty cell when compared to other items (Figure 1). There was an adjustment (patch) of item 3 to item 2. After these corrections the data were re-analyzed with results shown in Table 4. The model with correction proved to be adjusted to adversity latent trait. Confirmatory factor analysis returned a chi-square of 108.341 with p-value = 0.0000, WRMR of 1.240, CFI = 0.970 (values greater than 0.95 are desired), TLI = 0.962 (values greater than 0.90 are desired), and RMSEA of 1.000 (expected value for reasonable adjustment to the model below 0.06), showing adjustment after correction of the list of the model to adversity latent trait.

Multivariate analysis

The latent variable adversity was regressed on binge drinking and cocaine use. We adjusted this model for sociodemographic variables sex, age, and educational level. Being exposed to adverse events increased the chances of binge drinking by 1.31 times (OR = 1.31; 95% confidence interval [95%CI] 1.18-1.47), even after control for all these sociodemographic variables. Exposure to adverse events also doubled the likelihood of using cocaine in the previous year (OR = 2.26; 95%CI 1.55-3.32) independent of sociodemographic variables (Table 5).

Table 2 Brazilian Portuguese version of the List of Threatening Events Questionnaire (LTE-Q) developed by Brugha et al.[17]

Items	Questions
1	*Você já sofreu uma doença grave, lesão ou uma agressão*
2	*Uma doença grave, lesão ou agressão aconteceu com um parente próximo*
3	*Morte de um amigo próximo ou membro da família*
4	*Você teve uma separação devido a dificuldades conjugais*
5	*Você rompeu um relacionamento estável*
6	*Sentimento de insegurança no trabalho*
7	*Você foi demitido de seu emprego*
8	*Você teve uma grande crise financeira*
9	*Você teve problemas com a polícia e uma audiência no tribunal*
10	*Perdeu a guarda de um filho*
11	*Perdeu moradia em desastre natural*
12	*Sofreu assalto à mão armada/sequestro*

Discussion

The use of culturally adapted instruments in epidemiology research is essential, especially in countries with marked social and ethnic differences like Brazil. Mental health studies in Brazil and other Latin countries are often challenged by the lack of validated tools. Frequently, the results of these studies are limited by the use of instruments that have not undergone adequate cross-cultural adaptation, leading to a biased interpretation of findings. Specifically regarding the development of an environmental stress indicator, not only is it useful to investigate how stressful events trigger and worsen mental health disorders, but also to guide the development of more efficient prevention initiatives.

The LTE-Q developed by Brugha & Cragg[18] was initially used as an interviewing tool for mental health patients, demonstrating excellent psychometric properties, with sensitivity and specificity of 80% or higher.[31] Even though the instrument was conceived for the clinical setting, it was later used in nationwide epidemiologic surveys such as the English Mental Health and Comorbidity Surveys.[19] In fact, the assessment of environmental stressful events has been used in several household national surveys to validate predictors of mental health disorders such as post-traumatic stress, depression, and anxiety disorders, as well as addictive disorders.[32,33]

In this study, we also validated the LTE-Q using the latent class analysis method, allowing the estimation of the latent construct adversity with binge drinking and cocaine use.

Table 3 Final version of the List of Threatening Events Questionnaire (Lista de Eventos Adversos Recentes) in Brazilian Portuguese with back translation into English

Item	Portuguese	Item	English
1	*Você teve uma doença grave*	1	Had a serious disease
2	*Doença grave de um membro da família*	2	Serious disease of a family member
3	*Morte de um membro da família*	3	Death of a family member
4	*Divórcio ou separação*	4	Divorce or separation
5	*Forçado a mudar de casa*	5	Forced to move house
6	*Ser demitido*	6	Sacked from your job
7	*Sentimento de insegurança no trabalho*	7	Job insecurity
8	*Problema financeiro grave*	8	Serious financial problem
9	*Está sendo processado*	9	Police record or court appearance
10	*Perdeu a guarda de um filho*	10	Lost custody of a child
11	*Perdeu moradia em desastre natural*	11	Lost house in natural disaster
12	*Sofreu assalto à mão armada/sequestro*	12	Was a victim of assault or kidnapping

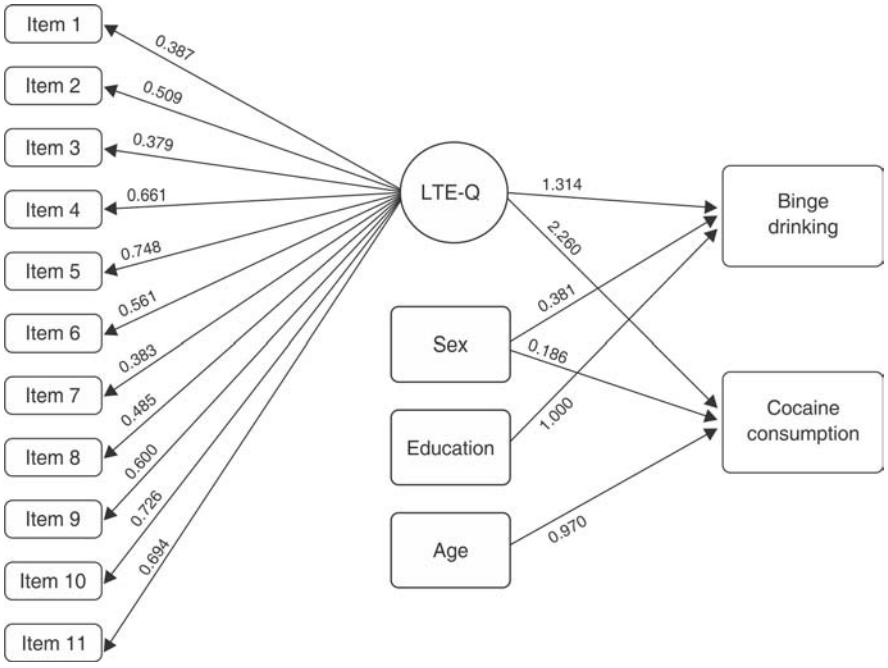


Figure 1 Model illustrating the adversity latent trait formed by the list of 11 items (since item 9 was an empty cell) and its association with binge drinking and cocaine consumption. LTE-Q = List of Threatening Events Questionnaire.

Table 4 Statistical indicators before and after correction

χ^2	RMSEA	CFI/TLI	WRMR
Value = 261.519 df = 54 p-value = 0.0000	Estimate = 0.029 90%CI = 0.025; 0.032 Probability RMSEA $\leqslant$ 0.05 = 1.000	CFI = 0.907 TLI = 0.886	Value = 1.843
After correction			
Value = 108.341 df = 43 p-value = 0.0000	Estimate = 0.018 90%CI = 0.014 to 0.022 Probability RMSEA $\leqslant$ 0.05 = 1.000	CFI = 0.970 TLI = 0.962	Value = 1.240

90%CI = 90% confidence interval; χ^2 = chi-square; CFI = confirmatory fit indices; df = degree of freedom; RMSEA = root mean square error approximation; TLI = Tucker-Lewis index; WRMR = weighted root mean square residual.

Table 5 Association between the latent variable adversity, binge drinking, and cocaine use adjusted by sociodemographic variables (logistic regression model)

Adversity	OR (95%CI)
Binge drinking	**1.31 (1.18-1.47)***
Sex	0.38 (0.33-0.44)*
Age	1.00 (0.99-1.00)*
Education	1.00 (1.00-1.01)*
Cocaine use	**2.26 (1.55-3.18)***
Sex	0.19 (0.99-0.35)*
Age	0.97 (0.95-0.99)*
Education	0.99 (0.96-1.03)*

95%CI = 95% confidence interval; OR = odds ratio.

The cross-cultural adaptation of the questionnaire has shown to be effective by its statistical validation. The instrument's internal consistency coefficient of 0.86 was considered satisfactory, as the minimum acceptable value for alpha is 0.70.[34] A satisfactory Cronbach alpha was expected, since the instrument's reliability level is artificially high due to a robust sample.[35] The confirmatory analysis also presented satisfactory indexes after the removal of one of the items due to empty cell.

Logistic analysis showed a positive association between the latent trait adversity and use of cocaine and binge drinking. The association with substance use provides a convergent validation to the tool, as it is in agreement with a large body of evidence, which shows the relationship between environmental stress and substance use disorders.[36,37] Experiencing adversity seems to be a risk factor for the development of addiction of other substances as well, such as methamphetamine, opiates, and nicotine.[38] It is agreed that physiological stress responses may lead to increased alcohol consumption and the search for other psychotropic substances in the pursuit of self-emotional regulation. This reaction might be grounded in the belief that the rapid effects of intoxication would promote well-being and self-control, with no need for special effort or skills.[39] It is widely agreed that adverse events may

contribute to the initiation, acceleration, or chronicity of alcohol-related problems and the use of other substances. It must be pointed out, however, that a causal relationship between adverse events and harmful patterns of drinking or cocaine use cannot be inferred from the associations identified herein because of the study's cross-sectional design. It is also relevant to highlight that the identification of the adversity latent trait will depend on the use of sophisticated statistical analysis allowing the performance of latent class analysis. When not followed by such analysis, the use of the adversity trait is limited to measure the level of exposure to adversity (threatening events) by summing up its items.

The applicability of this knowledge depends on the ability to develop specific prevention strategies among individuals or populations exposed to stressful events, such as bereavement, natural disasters, socioeconomic restraints, or higher exposure to urban violence for instance. The identification of high-risk groups can allow the development of more efficient, targeted, and tailored prevention strategies. The need for continued mental health treatment, however, is essential in cases where post-traumatic stress becomes chronic, leading to the development of other severe psychiatric disorders.[40]

Therefore, it is expected that the availability of a validated tool for the assessment of LTE-Q in Brazil can assist in the investigation of mental disorders in clinical and epidemiological studies in the country. The LTE-Q is a useful tool in studies where time and budget are limited. This tool should be free and available for use in different fields of research in Brazil, including large epidemiological surveys.

Acknowledgements

This study was supported by grants from Conselho Nacional de Desenvolvimento Científico e Tecnológico (CNPq) during the design and conduct of the survey and from Coordenação de Aperfeiçoamento de Pessoal de Nível Superior (CAPES) during the stages of data analyses and interpretation.

Disclosure

The authors report no conflicts of interest.

References

1 Andersen SL, Teicher MH. Desperately driven and no brakes: developmental stress exposure and subsequent risk for substance abuse. Neurosci Biobehav Rev. 2009;33:516-24.
2 Tyrka AR, Price LH, Gelernter J, Schepker C, Anderson GM, Carpenter LL. Interaction of childhood maltreatment with the corticotropin-releasing hormone receptor gene: effects on hypothalamic-pituitary-adrenal axis reactivity. Biol Psychiatry. 2009;66:681-5.
3 Schilling EA, Aseltine RH Jr, Gore S. Adverse childhood experiences and mental health in young adults: a longitudinal survey. BMC Public Health. 2007;7:30.
4 Douglas KR, Chan G, Gelernter J, Arias AJ, Anton RF, Weiss RD, et al. Adverse childhood events as risk factors for substance dependence: partial mediation by mood and anxiety disorders. Addict Behav. 2010;35:7-13.
5 Hosang GM, Korszun A, Jones L, Jones I, Gray JM, Gunasinghe CM, et al. Adverse life event reporting and worst illness episodes in unipolar and bipolar affective disorders: measuring environmental risk for genetic research. Psychol Med. 2010;40:1829-37.
6 Clark DB, Lesnick L, Hegedus AM. Traumas and other adverse life events in adolescents with alcohol abuse and dependence. J Am Acad Child Adolesc Psychiatry. 1997;36:1744-51.
7 Serretti A, Souery D, Antypa N, Calati R, Sentissi O, Amital D, et al. The impact of adverse life events on clinical features and interaction with gene variants in mood disorder patients. Psychopathology. 2013;46:384-9.
8 Andreoli SB, Ribeiro WS, Quintana MI, Guindalini C, Breen G, Blay SL, et al. Violence and post-traumatic stress disorder in Sao Paulo and Rio de Janeiro, Brazil: the protocol for an epidemiological and genetic survey. BMC Psychiatry. 2009;9:34.
9 Lloyd DA, Turner RJ. Cumulative lifetime adversities and alcohol dependence in adolescence and young adulthood. Drug Alcohol Depend. 2008;93:217-26.
10 Patton GC, Coffey C, Posterino M, Carlin JB, Bowes G. Life events and early onset depression: cause or consequence? Psychol Med. 2003;33:1203-10.
11 Ducci F, Goldman D. Genetic approaches to addiction: genes and alcohol. Addiction. 2008;103:1414-28.
12 Santos L. Crianças com dificuldade de aprendizagem: um estudo de seguimento [dissertation]. Ribeirão Preto: Universidade de São Paulo; 1999.
13 Marturano EM. Recursos no ambiente familiar e dificuldades de aprendizagem na escola. Psic Teor Pesq. 1999;15:135-42.
14 Ferreira MdCT, Marturano EM. Ambiente familiar e os problemas do comportamento apresentados por crianças com baixo desempenho escolar. Psicol. Reflex. Crit. 2002;15:35-44.
15 Rende RD, Plomin R. Child and parent perceptions of the upsettingness of major life events. J Child Psychol Psychiatry. 1991;32:627-33.
16 Berden GF, Althaus M, Verhulst FC. Major life events and changes in the behavioural functioning of children. J Child Psychol Psychiatry. 1990;31:949-59.
17 Brugha T, Bebbington P, Tennant C, Hurry J. The List of Threatening Experiences: a subset of 12 life event categories with considerable long-term contextual threat. Psychol Med. 1985;15:189-94.
18 Brugha TS, Cragg D. The List of Threatening Experiences: the reliability and validity of a brief life events questionnaire. Acta Psychiatric Scand. 1990;82:77-81.
19 NHS Information Centre. Adult psychiatric morbidity in England, 2007: results of a household survey [Internet]. 2009 [cited 2016 Dec 12]. content.digital.nhs.uk/catalogue/PUB02931/adul-psyc-morb-res-hou-sur-eng-2007-rep.pdf
20 Cronbach LJ, Meehl PE. Construct validity in psychological tests. Psychol Bull. 1955;52:281-302.
21 Campbell DT, Fiske DW. Convergent and discriminant validation by the multitrait-multimethod matrix. Psychol Bull. 1959;56:81-105.
22 Pires T, Assis SG, Avanci JQ, Pesce RP. Cross-Cultural adaptation of the General Functioning Scale of the Family. Rev Saude Publica. 2016 Jun 27;50. doi: 10.1590/S1518-8787.2016050005832.
23 Gjersing L, Caplehorn JR, Clausen T. Cross-cultural adaptation of research instruments: language, setting, time and statistical considerations. BMC Med Res Methodol. 2010;10:13.
24 Beatty P. The dynamics of cognitive interviewing. In: Presser S, Rothgeb JM, Couper MP, Lessler JT, Martin E, Martin J, et al., editors. Methods for testing and evaluating survey questionnaires. New Jersey: Wiley; 2004. p. 45-66.
25 U.S. Department of Health and Human Services. NIAAA council approves definition of binge drinking. NIAAA Newsletter. 2004;3:3. [cited 2016 Dec 12]. pubs.niaaa.nih.gov/publications/Newsletter/winter2004/Newsletter_Number3.pdf
26 Maroco J, Garcia-Marques T. Qual a fiabilidade do alfa de Cronbach? Questões antigas e soluções modernas? Lab Psicol. 2013;4:65-90.
27 Hu L, Bentler PM. Cutoff criteria for fit indexes in covariance structure analysis: conventional criteria versus new alternatives. Struct Equ Modeling. 1999;6:1-55.
28 Waiselfiz JJ. Mapa da violência: Mortes matadas por armas de fogo. Brasília: Flacso; 2015.
29 Brasil, Secretaria Nacional da Defesa Civil (SEDEC). Anuário Brasileiro de Desastres Naturais 2013 [Internet]. 2014 [cited 2016 Dec 12]. mi.gov.br/c/document_library/get_file?uuid=fee4007a-ab0b-403e-bb1a-8aa00385630b&groupId=10157
30 Ministério da Saúde, Fiocruz, Instituro Brasileiro de Geografia e Estatística (IBGE), Ministério do Planejamento, Orçamento e Gestão.

Pesquisa nacional de saúde 2013. Acesso e utilização dos serviços de saúde, acidentes e violências: Brasil, grandes regiões e unidades da federação [Internet]. 2015 [cited 2016 Dec 12]. biblioteca.ibge.gov.br/visualizacao/livros/liv94074.pdf

31 Mestre-Pinto JI, Domingo-Salvany A, Martin-Santos R, Torrens M; PsyCoBarcelona Group. Dual diagnosis screening interview to identify psychiatric comorbidity in substance users: development and validation of a brief instrument. Eur Addict Res. 2014;20:41-8.

32 Scott KM, Koenen KC, Aguilar-Gaxiola S, Alonso J, Angermeyer MC, Benjet C, et al. Associations between lifetime traumatic events and subsequent chronic physical conditions: a cross-national, cross-sectional study. PLoS One. 2013;8:e80573.

33 Generaal E, Vogelzangs N, Macfarlane GJ, Geenen R, Smit JH, de Geus EJ, et al. Biological stress systems, adverse life events and the onset of chronic multisite musculoskeletal pain: a 6-year cohort study. Ann Rheum Dis. 2016;75:847-54.

34 Cronbach LJ. Coefficient alpha and the internal structure of tests. Psychometrika. 1951;16:297-334.

35 Popa M. ''Infidelităţile'' coeficientului de fidelitate Cronbach alfa. Psihologia Resurselor Umane. 2011;9:85-99.

36 Inder KJ, Handley TE, Fitzgerald M, Lewin TJ, Coleman C, Perkins D, et al. Individual and district-level predictors of alcohol use: cross sectional findings from a rural mental health survey in Australia. BMC Public Health. 2012;12:586.

37 Perreau-Lenz S, Spanagel R. Clock genes x stress x reward interactions in alcohol and substance use disorders. Alcohol. 2015;49:351-7.

38 Cadet JL. Epigenetics of stress, addiction, and resilience: therapeutic implications. Mol Neurobiol. 2016;53:545-60.

39 Clark DB, Lesnick L, Hegedus AM. Traumas and other adverse life events in adolescents with alcohol abuse and dependence. J Am Acad Child Adolesc Psychiatry. 1997;36:1744-51.

40 Ozbay F, Auf der Heyde T, Reissman D, Sharma V. The enduring mental health impact of the September 11th terrorist attacks: challenges and lessons learned. Psychiatr Clin North Am. 2013;36:417-29.