

**Validity and Reliability Test of the Indonesian Version of the Boredom Prone Scale
(BPS) in Medical Student**

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ABSTRACT

Introduction. Boredom is defined as a state of relatively low arousal and dissatisfaction, which is attributed to inadequately stimulating situations. Everyone tends to experience boredom. Boredom Proneness Scale is one of many scales that can measure boredom proneness. BPS hasn't been adapted from the original language (English) in Indonesia.

Methods. This study uses validity and reliability approach. Process of education divided into the adaptation process and psychometric analysis process. Psychometric analysis of the BPS Indonesian Version consists of Item Content Validity Analysis (I-CVI) & Scale Content Validity Index (S-CVI). BPS Indonesian Version was spread twice amongst students of Medicine Program Faculty of Medicine Batch 2016–2018. Psychometric analysis of Boredom Proneness Scale Indonesian Version as the Guttman Scale was done by counting the coefficient of reproducibility (CR) and coefficient of scalability (CS). The adaptation process obtained BPS Indonesian Version.

Results. Based on nine experts' appraisal in experts panel, minimum I-CVI is 0,83 (minimally accepted index 0,78) on the 10th scale, and S-CVI is 0,98 (minimally accepted index 0,90). CR of BPS Indonesian Version is 0,589 (first) and 0,594 (second) which defines BPS Indonesian Version is not valid. CS of BPS Indonesian Version is obtained as 0,177 (first) and 0,188 (second) which defines BPS Indonesian Version is not appropriate to be used in the study.

Conclusion. BPS Indonesian Version is not appropriate to be used in measuring boredom proneness in students.

Keywords: Boredom, psychometrics, reproducibility of results, emotion, students.

Introduction

Saturation is defined as a state of relatively low arousal and dissatisfaction caused by an inadequately stimulating situation¹. Based on a survey conducted by *The National Center on Addiction and Substance Abuse* in 2003, 91% of young people in North America reported experiencing burnout². In a study on the incidence of saturation in the adult population in America, 63% of the 3,867 participants reported experiencing overload at least once during the 10-day *sampling* period³. Meanwhile, data on the level of congestion in Indonesia is still minimal.

Saturation is still a phenomenon that cannot be fully understood even though continuous research has been carried out in this regard. Burnout has been shown to be linked to behavioural dysfunction and mental health problems. As a psychological issue, saturation has become a quite widespread and significant problem. Boredom and curiosity are expressed as causes of drug abuse. Similarly, burnout was associated with diet in both the obese and non-obese population. According to Hamilton (1984), there is evidence that saturation has an impact on the difficulty of being able to adapt to the environment. And most importantly, the relationship to education saturation is that bored students report their view of school as useless and tend to show high truancy⁴.

Almost everyone tends to experience burnout depending on differences in the character of each individual. A person's tendency to experience burnout can be assessed using several measuring instruments, one of which is the *Boredom Proneness Scale* (BPS; Farmer and Sunberg, 1986). BPS is self-report⁵ and is a broad scale that attempts to capture the phenomenon of the tendency to experience burnout⁶ comprehensively. BPS has an internal consistency reliability value ($\alpha = 0.79$) and a test-retest reliability ($r = 0.83$) and a criterion validity value ($\alpha = 0.67$)⁴. As for Indonesia, there has never been any research on the adaptation of BPS and testing the validity and reliability of the BPS into Indonesian. Therefore the researcher feels it is necessary to research the validity and reliability of the Indonesian version of BPS.

METHOD

This type of research is a validity and reliability test. The population in this study were all students of the Medical Education Study Program, Faculty of Medicine, Universitas Sriwijaya. This study uses a total sampling technique. This study uses an entire sampling technique. The inclusion criteria in this study were all students of the Medical Education Study Program who

were Indonesian citizens who were willing to take part in the research and signed *informed consent*. There were no exclusion criteria in this study.

RESULTS

Research on the validity and reliability of the Indonesian version of BPS has been carried out in the Medical Education Study Program of the Faculty of Medicine, Sriwijaya University. The results of this study were obtained from primary data in the form of distributing the Indonesian version of the BPS questionnaire to all students of the Medical Education Study Program, Faculty of Medicine, Universitas Sriwijaya. Six hundred eighty-three respondents met the inclusion criteria of this study. However, the data that can be analyzed on the Guttman scale application program (*SKALO*) is only 250 data. Therefore, the random selection of data from each class was carried out (*stratified random sampling*).

Table 1. Results of the I-CVI and S-CVI Analysis of the Indonesian Version of the Boredom Proneness Scale

Item	Number of Agreement		I-CVI	S-CVI (Ave/UA)	Total Agreement
Item 1	18	1		0,98/0,79	20
Item 2	18	1			
Item 3	18	1			
Item 4	18	1			
Item 5	16	0,89			
Item 6	18	1			
Item 7	18	1			
Item 8	18	1			
Item 9	18	1			
Item 10	15	0,83			
Item 11	18	1			
Item 12	18	1			
Item 13	18	1			
Item 14	18	1			

Item 15	18	1
Item 16	18	1
Item 17	17	0,94
Item 18	18	1
Item 19	17	0,94
Item 20	18	1
Item 21	17	0,94
Item 22	18	1
Item 23	18	1
Item 24	18	1
Item 25	18	1
Item 26	18	1
Item 27	18	1
Item 28	17	0,94

Based on the results of the expert judgment of 9 experts on the expert panel by comparing the effects of *back translate one* and *back translation two* against the original scale, the minimum *Item Content Validity Index* is 0.83 (minimum agreement value 0.78) in point 10 and the *Content Scale Validity Index* of 0.98 (minimum agreement value of 0.90). *Item Content Validity Index* and *Scale Content Validity Index* have met the minimum requirements⁷.

Table 2. The results of the analysis of the BPS First Deployment Indonesian Version

Measuring value	Value
Error	7000
Potential error	2880
Reproducibility coefficient	0,589
Scalability coefficient	0,177

The Indonesian version of BPS in the first deployment has a reproducibility coefficient of 0.589 and a scalability coefficient of 0.177. The Indonesian version of BPS is invalid and cannot be distributed for research⁸.

Table 3. Results of analysis of the Second Distribution Indonesian Version of BPS

Measure Value	Value
Error	7000
Potential error	2842
Reproducibility coefficient	0,594
Scalability coefficient	0,188

The Indonesian version of BPS in the first deployment has a reproducibility coefficient of 0.594 and a scalability coefficient of 0.188. The Indonesian version of BPS is invalid and cannot be distributed for research⁸.

DISCUSSION

The minimum value of the BPS Indonesian Version of the Item Content Validity Index is 0.83 (minimum agreement value 0.78) in item 10, and the Scale Content Validity Index is 0.98 (minimum agreement value 0.90). Item Content Validity Index and Scale Content Validity Index have met the minimum requirements⁷.

The Indonesian version of BPS distributed to 683 students of the Medical Education Study Program of the Faculty of Medicine, Universitas Sriwijaya, has a reproducibility coefficient of 0.589 in the first deployment and a reproducibility coefficient of 0.594 in the second distribution which states that the BPS Version Indonesian does not measure what should be measured (invalid). A scalability coefficient of 0.177 on the first deployment and a scalability coefficient of 0.188 on the second deployment states that the Indonesian version of BPS is not feasible to be distributed in research.

So far, there has been no adaptation journal and the BPS validity test using the Guttman scale analysis method (reproducibility coefficient and scalability coefficient). Several journals that discuss the adaptation and validity test of BPS using the analysis method of the validity of the *Pearson's correlation* and the analysis of the reliability of *alpha Cronbach / KR-20 & test-retest* reliability.

In the original study by Richard et al. (1986), BPS has a validity value (r) of 0.67 and a significance level ($p < 0.01$) when compared with the self-rating score and the internal consistency score ($\alpha = 0.79$) and the test-retest reliability value ($r = 0.83$). As for further

research conducted on the Boredom Proneness Scale Short Form by Pinar Dursun et al. (2013), BPS-SF measures two factors, namely internal stimulation factors and external stimulation factors. The BPS-SF internal stimulation dimension had a significant positive correlation with loneliness ($r = .50$), some personality traits of conscience ($r = .54$) and neuroticism ($r = .54$), obsessive-compulsive disorder ($r = .35$), depression ($r = .35$), interpersonal sensitivity ($r = .23$), and significantly negatively correlated with experience ($r = -.35$) and psychoticism ($r = -.28$). Stimulation dimension external BPS-SF has a significant positive correlation only with obsessive-compulsive psychological symptoms ($r = .34$), depression ($r = .29$), paranoid ideas ($r = .27$), anxiety ($r = .24$), and negatively correlated with somatization ($r = -.26$). The results of the analysis of alpha Cronbach BPS-SF amounted to 0.63 for internal stimulation and alpha Cronbach of 0.37 for external stimulation⁹. Thus, this can be caused by differences in analysis methods¹⁰.

CONCLUSION

BPS based on the Guttman scale analysis method (reproducibility coefficient and scalability coefficient) produces the first spread reproducibility coefficient of 0.589 (invalid) and the second spread reproducibility coefficient of 0.594 (invalid) and the first spread scalability coefficient of 0.177 (not feasible to spread) and the scalability coefficient the second spread of 0.188 (not worth spreading). The Indonesian version of BPS is not workable to assess vulnerability to burnout in students of the Medical Education Study Program, Faculty of Medicine, Universitas Sriwijaya.

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