Reslaj: Religion Education Social Laa Roiba Journal
Volume 6 Nomor 7 (2024) 3344 – 3351 P-ISSN 2656-274x E-ISSN 2656-4691
DOI: 10.47476/reslaj.v6i7.3852

Adaptation and Psychometric Properties of the *Posttraumatic Maladaptive Beliefs Scale* (PMBS): Indonesian Version

Hanna Euodia Anggoh[(1)], Urip Purwono[(2)]
[(1), (2)] Fakultas Psikologi, Universitas Padjadjaran, Sumedang, Indonesia
hanna21008@mail.unpad.ac.id

ABSTRACT

The Posttraumatic Maladaptive Beliefs Scale (PMBS) was developed to measure maladaptive beliefs about current life circumstances that may occur following trauma exposure. This scale assesses maladaptive beliefs within three domains: (a) Threat of Harm, (b) Self-Worth and Judgment, and (c) Reliability and Trustworthiness of Others. Items for the PMBS were drawn from a larger preexisting measure that assesses a wide range of personal beliefs and reactions associated with trauma exposure. The construct validity of the PMBS was assessed to 155 adults trauma survivor in Indonesia. This article provides data to support the reliability and validity of the PMBS which has been adapted to Indonesian language. The results of Confirmatory Factor Analysis (CFA) showed that 13 out of 15 PMBS items showed a good goodness of fit model (CFI = 0.956; GFI = 0.927; SRMR = 0.071; TLI = 0.935). It can be concluded that PMBS has good psychometric properties so that it can be used in research and assessment.

Keywords: *posttraumatic, maladaptive beliefs*

ABSTRAK

Post traumatic Maladaptive Beliefs Scale (PMBS) dikembangkan untuk mengukur keyakinan mal adaptif tentang keadaan kehidupan saat ini yang mungkin terjadi setelah paparan trauma. Skala ini menilai keyakinan mal adaptif dalam tiga domain: (a) Ancaman Bahaya, (b) Harga Diri dan Penghakiman, dan (c) Keandalan dan Kepercayaan Orang Lain. Item untuk PMBS diambil dari ukuran yang sudah ada sebelumnya yang lebih besar yang menilai berbagai keyakinan pribadi dan reaksi yang terkait dengan paparan trauma. Validitas konstruk PMBS dinilai kepada 155 penyintas trauma dewasa di Indonesia. Artikel ini menyediakan data untuk mendukung reliabilitas dan validitas PMBS yang telah disesuaikan dengan bahasa Indonesia. Hasil *Confirmatory Factor Analysis* (CFA) menunjukkan bahwa 13 dari 15 item PMBS menunjukkan *good goodness of fit model* (CFI = 0,956; GFI = 0,927; SRMR = 0,071; TLI = 0,935). Dapat disimpulkan bahwa PMBS memiliki sifat psikometri yang baik sehingga dapat digunakan dalam penelitian dan penilaian.

Kata kunci: *post traumatic*, keyakinan mal adaptif

INTRODUCTION

Exposure to traumatic events can cause cognitive impairment in an individual (Kaysen et al., 2005). Such traumatic events can include exposure to death or threat of death, serious injury, sexual violence, natural disasters and physical violence (Ganley, 2008). The Posttraumatic Maladaptive Beliefs Scale (PMBS) is an adaptation of the Personal Beliefs and Reactions Scale (PBRS; Mechanic & Resick, 1993, in Vogt, Shipherd, & Resick, 2012), which is an unpublished but frequently used measure of

Volume 6 Nomor 7 (2024) 3344 – 3351 P-ISSN 2656-274x E-ISSN 2656-4691
DOI: 10.47476/reslaj.v6i7.3852

the range of post-traumatic cognitions with 55 and 50-item questionnaires. With the PMBS, Vogt, Shipherd, & Resick proposed to create a tool that is shorter than the PRBS and can certainly help to measure maladaptive beliefs held by survivors of various types of traumatic events. The PMBS can serve as a bridge between clinical practitioners and researchers.

Cognitive schemas are one of the important factors that enable a person to respond to various events in life, including traumatic events. Mancusco (1977) suggests how schemas work in people to organize, interpret and respond to events that occur in their lives. Schemas organize the input of these events in accordance with the schemas themselves. If the input of events differs from one's schemas, there will be conflict and heightened arousal. Arousal refers to increased cognitive processing of information and increased emotional activity. McCann, Sakheim, & Abrahamson (1988) then suggested that schemas about self and others develop in five aspects, i.e. safety, trust, power/control, esteem, and intimacy. These five aspects later shape a person's responses to events in his or her life. However, a person can develop positive or negative schemas within themselves.

The information processing model of trauma states that traumatic events are encoded and processed differently from normal events (Foa & Kozak, 1986, in Vogt, Shipherd, & Resick, 2012). Not only that, when a memory of trauma is activated, it is used to interpret new input stimuli in order to choose an appropriate response to a situation (Beck, Rush, Shaw, & Emery, 1979, in Vogt, Shipherd, & Resick, 2012). These interpretations by trauma memory can lead to maladaptive responses and beliefs about daily life (Sobel, Resick, & Rabalais, 2009) in five aspects proposed by McCann, Sakheim, & Abrahamson (1988). Vogt, Shipherd, & Resick (2012) then categorized the five aspects into three larger domains of maladaptive beliefs possessed by a person after experiencing a traumatic event. First, “threat of harm (TH)” which reflects beliefs that the world is a dangerous or a threatening place. Second, “self-worth and judgment (SWJ)” which reflects one's beliefs about one's ability to manage daily life challenges. Third, “reliability and trustworthiness of others (RTO)” which reflects beliefs whether others can be trusted in interpersonal relationships.

In the context of trauma that can be experienced by anyone, the maladaptive beliefs that a person holds after experiencing a traumatic event are important to assess or recognize. Having a psychometrically solid measure of posttraumatic maladaptive beliefs can increase our understanding of the consequences of trauma exposure that can be applied to improve the outcome of any interventions. The psychometric quality of this measurement tool has met the reliability coefficient criteria of Gudmundsson (2009), with a reliability value for overall items of .82, threat of harm dimension items of .76, self-worth and judgment dimension items of .71 and reliability and trustworthiness of others dimension items of .72.

Gudmundsson (2009) stated that the first step in choosing a measuring instrument to adapt is to look at the reliability of the measuring instrument in the

Volume 6 Nomor 7 (2024) 3344 – 3351 P-ISSN 2656-274x E-ISSN 2656-4691
DOI: 10.47476/reslaj.v6i7.3852

original language. Measuring instruments with reliability coefficients below .65 to .60 will certainly cause problems for researchers to interpret the instrument scores in a clinical context. The minimum requirement for the coefficient of reliability of a measuring instrument is .80; in any translation project somewhat lower reliability coefficients should be expected for an instrument's subtests and composites in the target language than in the primary language (Gudmundsson, 2009).

There are other measurement tools that measure trauma-related cognitions, such as the PRBS (Mechanic & Resick, 1993, in Vogt, Shipherd, & Resick, 2012), the Trauma and Attachment Belief Scale (TABS; Pearlman, 1996, 2003), the World Assumptions Scale (WAS; Janoff-Bulman, 1992, 1996), the Posttraumatic Cognitions Inventory (PTCI; Foa et al., 1999), the Trauma Relevant Assumptions Scale (TRAS; Buck et al., 2008) and two scales called the Cognitive Distortions Scale (CDS-1; Biere, 2000 and CDS-2; Najavits, 1993). These measures have expanded understanding in the cognitive functional domain post-trauma, but there are still limitations to the measures (Vogt, Shipherd, & Resick, 2012).

Firstly, most of these measures are complex as they have items from 31 to 84, thus not being practical for use in a clinical context. Secondly, some of the measurement tools are not publicly available, making them difficult to access. Third, some of the measures are not generalized and are only relevant for certain populations and types of trauma. Fourth, most of these tools cannot distinguish between cognitive distortions caused by the traumatic event and cognitive distortions caused by the current life situation. Fifth, the psychometric properties of some of the measures are not published, making it difficult to evaluate the psychometric quality of the measures. Therefore, PMBS is the most appropriate measurement tool to be adapted to Indonesian.

METHODS

The purpose of this instrument is to measure maladaptive assumptions and general beliefs about life circumstances that may occur after exposure to traumatic events. This study aims to adapt the PMBS into Bahasa (Indonesian language) since no one has adapted the PMBS into Bahasa. Researchers also need the adaptation of PMBS to be used for further research.

Data collection in this study utilized convenience sampling techniques. The adaptation process of the PMBS was conducted through several stages, which are pre-condition, test development, translation synthesis, expert judgment and peer review, and readability testing.

After obtaining permission from the owner of the measuring instrument, Dr. Dawne Vogt, the translation stage is conducted. This stage aims to translate the original language of the PMBS measuring instrument from English to Bahasa by using the forward and backward translation process.

Volume 6 Nomor 7 (2024) 3344 – 3351 P-ISSN 2656-274x E-ISSN 2656-4691
DOI: 10.47476/reslaj.v6i7.3852

The study then continued with synthesizing the results of the backward translation with the original items. At this stage, researchers see whether there are still items resulting from backward translation that have different translations from the original items. The synthesis results showed that there was no significant difference between the original items and the results of the backward translation performed by two translators with an adequate understanding of English (TOEFL score above 550).

The development stage of the test tool is then continued with peer review and expert judgements method. Each number of reviewers and experts is three people. The selection of the number of three people (odd number) is expected to facilitate researchers in determining the final decision from the assessment of reviewers and experts. Peer review was conducted by three students of the Master of Professional Psychology of Padjadjaran University who already have a Bachelor of Psychology degree. Expert judgements were carried out by three psychologists with a background in Clinical Psychology from a Psychology Bureau called Charisma Consulting. The peer and experts expected to review the items based on their relevance with the construct and language of the PMBS. Using a Likert scale of 1-4 (1 = not relevant, 2 = somewhat relevant, 3 = quite relevant, 4 = very relevant), the review was conducted through the method of content validity index according to Polit and Beck (2006).

The results of peer reviewer and expert judgments show that all items have an average score of more than 3.5 or can represent aspects of the theory of cognitive schemas or posttraumatic maladaptive beliefs. Based on the suggestions from reviewers and experts, some revision is made for the forward results by changing some word meanings.

The results of the revision of the items were then subjected to a Readability Test. The Readability Test was conducted by respondents who were colleagues of the researcher via Google Form.

The results showed an average score above 4 with the lowest score of 4.1 and the highest score of 4.8. Thus, it can be concluded that the respondents understood the meaning of the instructions and items of the final translation.

RESULTS

Data were collected from 155 Indonesian people consisting of seven (6.36%) men and 103 (93.64%) women. The age range of the participants was 18-25 years old (M: 21.4; SD: 2.4) with 32.72% of the participants between 19 and 25 years old. For domicile, 28.2% of the participants resided in West Java.

Overall, the Indonesian-adapted PMBS measure has good reliability. However, the items on the Threat of Harm and Self-worth and Judgment dimensions still have poor reliability ($\alpha < 0.7$).

Reslaj: Religion Education Social Laa Roiba Journal
Volume 6 Nomor 7 (2024) 3344 – 3351 P-ISSN 2656-274x E-ISSN 2656-4691
DOI: 10.47476/reslaj.v6i7.3852

Table 1. Reliability of Measurement Tools

Variable	Result (α)
Treat of Harm	0,633
Reliability and Trustworthiness	0,701
Self-worth and Judgement	0,671
Total Posttraumatic Maladaptive Beliefs Scale	0,790

Differentiating power aims to see the extent to which the ability of an item can distinguish low score and high score participants (Ebel & Frisbie, 1991). The results of the trial showed that the PMBS consists of 4 reasonably good items, 8 marginal items and 3 poor items.

Previous study conducted by Vogt, Shepherd & Resick (2012) was done to collect the convergent and discriminant validity of the original PMBS by assessing the correlations of PMBS measures and other measures; such as the WAS, Fear of Intimacy (FOI) Scale, Clinician-Administered PTSD Scale (CAPS), Quick Test (QT), Personal Beliefs and Reactions Subscales (PBRS), Schedule for Nonadaptive and Adaptive Personality (SNAP), Revised Adult Attachment Scale (AAS), Posttraumatic Growth Inventory (PTGI), CAPS and State-Trait Inventory (STAI).

To examine the validity of the Bahasa version of PMBS, a factor analysis was conducted using the Confirmatory Factor Analysis (CFA) method. CFA is expected to fulfill 3 of the following 5 criterions. Hooper et al. (2008) stated 5 criterions for a factor to be determined as good and able to measure a construct or dimension; which are chi-square value > 0.05, Comparative Fit Index value close to 1 (0.9 - 1), Tucker-Lewis value close to 1 (0.9 - 1), Tucker-Lewis value close to 1 (0.9 - 1). (0.9 - 1), RMSEA value close to 0 (<0.7), SRMR value close to 0 (<0.7) funds GFI value> 0.9.

Based on the indices value obtained (Table 2), 4 of 6 criteria have been met, which are SRMR = 0,071, CFI = 0,956, TLI = 0,935 and GFI = 0,927.

Table 2. Model Fit Indice

Index		**Criterion**	**Result**	**Remarks**
Absolute Fit Indices	*Chi- Square*	p > 0,05	0,022	Tidak *fit*
	RMSEA	< 0,07	0,051	Tidak *fit*
	SRMR	< 0,07	0,071	*Good Fit*
	GFI	> 0,9	0,927	*Good Fit*
Incremental Fit Indices	CFI	> 0,9	0,956	*Good Fit*
	TLI	> 0,9	0,935	*Good Fit*

Volume 6 Nomor 7 (2024) 3344 – 3351 P-ISSN 2656-274x E-ISSN 2656-4691
DOI: 10.47476/reslaj.v6i7.3852

The criteria that have not been met are chi-square with a value of 0.022 and RMSEA with a value of 0.051. The RMSEA value corrects the complexity of a model, therefore the closer the value is to 0, the simpler the model is (Wetson & Gore, 2006). According to Hooper et al. (2008), the results of chi-square testing on a large sample are almost always rejected even though the model is fit. Thus, it can generally be said that the model of the adapted PMBS measurement tool is fit.

The study showed only one factor loading has a value below 0.5 and is still above 0.4; indicator TH4 or item 4 which measures the Threat of Harms dimension. Other items have factor loading values above 0.5 and all items are declared significant

Table 3. Factor Loading

Factor	Indicator	Estimate (Factor Loading)	Std. Error	p-value
TH	TH1	0.567	0.140	< 0,001
	TH4	0.438	0.133	< 0,001
	TH5	1.028	0.146	< 0,001
	TH8	0.701	0.154	< 0,001
	TH12	1.005	0.154	< 0,001
RTO	RTO2	1.133	0.135	< 0,001
	RTO6	1.177	0.102	< 0,001
	RTO11	1.084	0.113	< 0,001
	RTO14	0.871	0.102	< 0,001
SWJ	SWJ3	0.987	0.125	< 0,001
	SWJ7	0.652	0.122	< 0,001
	SWJ9	1.033	0.157	< 0,001
	SWJ10	1.162	0.152	< 0,001
	SWJ15	0.750	0.128	< 0,001
Covariance TH – RTO		0,683	0,080	< 0,001
Covariance TH – SWJ		0,805	0,080	< 0,001
Covariance RTO – SWJ		0,532	0,076	< 0,001

CONCLUSION

The CFA test results state that the adapted PMBS measuring instrument model meets the fit criteria. All items also show a strong and significant relationship with the dimensions or constructs being measured. However, based on the corrected item-total, item 13 still needs to be revised or discarded because it does not describe the dimensions or constructs to be measured.

Volume 6 Nomor 7 (2024) 3344 – 3351 P-ISSN 2656-274x E-ISSN 2656-4691
DOI: 10.47476/reslaj.v6i7.3852

BIBLIOGRAPHY

American Psychological Association. (2020). *APA Dictionary of Psychology - Inter Item Correlation*. https://dictionary.apa.org/interitem- correlation

Anastasi, A., & Urbina, S. (1997). *Psychological testing* (7th ed.). Prentice Hall/Pearson Education.

Azwar, S. (2018). Penyusunan Skala Psikologi. ' Yogyakarta, Indonesia: Pustaka Pelajar.

Briere, J. (2000). *The Cognitive Distortions Scale professional manual*. Odessa, FL: Psychological Assessment Resources.

Buck, N., Kindt, M., Arntz, A., van den Hout, M., & Schouten, E. (2008). Psychometric properties of the Trauma Relevant Assumptions Scale. *Journal of Anxiety Disorders, 22*, 1496-1509.

Ebel, R. L., Frisbie, D. A. (1991). *Essentials of Educational Measurement*. New Delhi: Prentice-Hall of India

Furr, R. M., & Bacharach, V. R. (2013). Psychometrics: An Introduction (2nd ed.). Thousand Oaks, CA: Sage.

Foa, E. B., Ehlers, A., Clark, D. M., Tolin, D. F., & Orsillo, S. M. (1999). The posttraumatic cognitions inventory (PTCI): Devel- opment and validation. *Psychological Assessment, 11*, 303-314.

Ganley, A. (2008). Understanding domestic violence. Diakses dari https://www.familyjusticecenter.org/reso urces/understanding-domestic-violence- chapter-1/ accessed on 18 September 2021

Gudmundsson, E. (2009). Guidelines for translating and adapting psychological instruments. *Nordic Psychology, 61:2*, 29-45

Hooper, D., Coughlan, J., & Mullen, M. R. (2008). Structural Equation Modelling: Guidelines for Determining Model Fit. *Electronic Journal of Business Research Methods*, 6(1), 53–60. https://doi.org/10.21427/D79B73

ITC. (2017). Guidelines for translating and adapting tests (second edition). *International Journal of Testing*. DOI: 10.1080/15305058.2017.1398166

Janoff-Bulman, R. (1992). *Shattered assumptions: Towards a new psychology of trauma*. New York: Free Press.

Janoff-Bulman, R. (1996). Psychometric review of World Assumption Scale. In B. H. Stamm (Ed.), *Measurement of stress, trauma and adaptation* (pp. 440-442). Lutherville, MD: Sidran Press

Volume 6 Nomor 7 (2024) 3344 – 3351 P-ISSN 2656-274x E-ISSN 2656-4691
DOI: 10.47476/reslaj.v6i7.3852

Kaplan, R. M., & Saccuzzo, D. P. (1989). *Psychological testing: Principles, applications, and issues* (2nd ed.). Thomson Brooks/Cole Publishing Co.

Kaysen, D., Scher, C. D., Mastnak, J., & Resick, P. (2005). Cognitive mediation of childhood maltreatment and adult depression in recent crime victims. *Behavior Therapy, 36*, 235-244.

Mancuso, J. C. (1997). Current motivational models in the elaboration of personal construct theory. *Nebraska Symposium on Motivation* (Vol. 24). Lincoln: University of Nebraska Press.

McCann, I. L., Sakheim, D. K., & Abrahamson, D. J. (1988). Trauma and victimization: A model of psychological adapta- tion. *The Counseling Psychologist, 16*, 531-594.

Najavits, L. M. (1993). *Cognitive Distortions Scale, unpublished measure*. Boston: Harvard Medical School/ McLean Hospital.

Pearlman, L. A. (1996). Psychometric review of TSI Belief Scale, Revision-L. In B. H. Stamm (Ed.), *Measurement of stress, trauma, and adaptation* (pp. 415-417). Lutherville, MD: Sid- ran Press.

Pearlman, L. A. (2003). *Trauma and Attachment Belief Scale*. Los Angeles: Western Psychological Services.

Polit, D. F., & Beck, C. T. (2006). The content validity index: Are you sure you know what's being reported? critique and recommendations. *Research in Nursing & Health*, *29*(5), 489–497. https://doi.org/10.1002/nur.20147

Santrock, J. W. (2013). Life-span development (14th ed.). New York,