

Psychometric Evaluation of Brief Reason for Living Inventory for Adolescents (BRFL-A) Instrument in the Indonesian Language

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Abstract

Objectives. The Brief Reason for Living Inventory for Adolescents (BRFL-A) is used to assess protective factors against suicide in non-clinical settings. This study aimed to validate the psychometric properties of BRFL-A in Bahasa Indonesia. **Methods.** A total of 728 high-school and university students filled BRFL-A questionnaire and the results were analyzed. The reliability, content, convergent, discriminant, and factorial or construct validity, were investigated using content validity index Cronbach's Alpha, while content validity index (CVI), confirmatory factor analysis, and Pearson product-moment correlation were assessed with MSPSS, SIS, INQ-15, and DASS-18. **Results.** The results showed that the Indonesian version of BRFL-A had good internal consistency, test-retest reliability, as well as content and concurrent validity, supporting both the 1-factor and the 5-factor model of factorial validity. **Conclusions.** The Indonesian version of the BRFL-A was valid and reliable to measure protective factors against suicide risk among adolescents and young adults in non-clinical settings.

Keywords

suicide, reasons for living, adolescents, youths, psychometric evaluation

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Introduction

Suicide is a issue of significant concern worldwide, being one of the leading causes of death among adolescents and young adults.¹ In 2019, suicide accounted for more than 1 in every 100 deaths worldwide (1.3%),² with one-third of these cases occurring in the group of 15 to 29 years old.³ A previous study reported an increase in suicidal behavior including ideation and attempts, among the child-adolescent population in the past decades.⁴ In Indonesia, about 2.6 deaths per 100 000 population occurred due to suicide, with 4.75% of the adolescent population experiencing ideation and 2.46% attempting suicide in 2015.⁵

Despite extensive studies on the negative factors and maladaptive characteristics of suicide risks, less attention has been given to the positive aspects that reduce these risks. However, with the growth of positive psychology over the past years, there has been a growing interest in a more adaptive attitude and life-maintaining beliefs, which

could act as protective and preventive factors against suicide.^{6,7} Protective factors against suicidal behavior consist of internal and external. Internal protective factors comprise adaptive coping mechanisms, positive self-concept,

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resilience, emotional stability, and spiritual faith. Meanwhile, external protective factors include cohesion or solid family ties, affiliation with peers (peer groups), adequate social support, and access to mental health services.^{8,9} These protective factors could differ between ethnicities and cultures, underscoring the crucial role of cultural and social values in protecting youth against suicidal behavior.¹⁰

Previous studies have consistently supported the hypothesis that suicidal people tend to struggle internally with reasons to live or die.^{6,11} Cognitive-behavioral investigations suggested that cognitive patterns, including beliefs, expectations, and capabilities, can be used to differentiate between suicidal and nonsuicidal people. It may suggest whether a person would engage in parasuicidal behaviors, consider suicide an option, or eventually kills oneself.¹² On the other hand, expectations for the future and life beliefs play crucial roles in keeping people alive during the extremes of life stress, underscoring the simple conviction that life, in all of its forms, is worth living and savoring.^{12,13} This suggests the significance of building reasons for living to prevent the ideation of suicide.

The Brief Reason for Living Inventory for Adolescents (BRFL-A) is an instrument frequently used to assess protective factors against suicide. It is an adapted version of the original Reasons for Living Inventory (RFL) questionnaire, specifically designed for adolescents aged 15 to 18 years. This instrument consists of 14 questions that measure 5 domains, namely Survival and Coping Beliefs (SCB), Responsibility to Family (RF), Fear of Social Disapproval (FSD), Moral Objections (MO), and Fear of Suicide (FS). Additionally, BRFL-A is recommended for assessing adolescent suicidal ideation and behavior due to its brevity, simplicity, and ease of understanding, making it an efficient tool in different settings, such as clinical, non-clinical, and studies.^{14,15}

There have been limited studies on BRFL-A psychometric properties, with the majority focusing on the 32-item Reasons For Living Inventory for Adolescents (RFL-A). The last psychometric evaluation by Osman et al suggested that BRFL-A might be more applicable and suitable to screen suicidal ideation and behavior among adolescents. Compared to other instruments evaluating protective factors toward suicide, studies suggested that reasons for living are directly related to suicidal ideation. This implies that BRFL-A could be used to specifically screen suicidality among adolescents.⁷ Therefore, this study aimed to adapt the BRFL-A instrument to Bahasa Indonesia and investigate its psychometric properties among adolescents and young adults, specifically in the Asian population. The reliability of the instrument was assessed through measures such as internal consistency, correlation coefficient, and test-retest. The validity was also determined by evaluating content, criterion, and factorial validity among Indonesian

adolescents and young adults in non-clinical populations. This instrument was used to assess suicide protective factors in Indonesian high school and university students. In general, this study holds strategic value by contributing to the improvement of mental health. It can aid in the development of suicide prevention intervention strategies and modules that can be applied to nonclinical populations, such as educational institutions. This study also contributes as supporting evidence toward the importance of positive psychological factors in evaluation and treatment of mental illness and suicide.

Methods

Design and Participants

This study used a cross-sectional design with a quantitative methodology and employed consecutive sampling. The subjects were recruited from senior high schools and universities in Bandung, Indonesia. The recruitment was performed through school teachers and flyer ads, then those who were interested in participating were contacted. The inclusion criteria were senior high school or college students who agreed to participate by signing the informed consent. Meanwhile, the exclusion criteria were students with severe illness that could have affected concentration during the filling of questionnaires, and those with a history of drug abuse. The participants provided their informed consent and completed the questionnaires through an online survey using SurveyMonkey which was supervised by Zoom video conference.

The sample size in the study was based on 10-times rule, which stated that sample size should be equal to the larger of 10 times the largest number of formative indicators used to measure 1 construct. Therefore, a total of 270 minimum sample size was determined.¹⁶

The total number of participants was 728 people, with 165 males (22.7%) and 563 females (77.3%). Based on the education level, high school students were 344 (47.3%), while 384 people (52.7%) were in the university. In addition, the age of high school students ranged from 15 to 19 ($M=17.95$; $SD=0.75$), while that of the university students was between 18 and 29 ($M=20.29$; $SD=1.08$). Characteristics of the participants can be seen in Table 1.

Measurements

The Brief Reasons for Living Inventory for Adolescents (BRFL-A)

The 14-item Brief Reasons for Living Inventory for Adolescents (BRFL-A) instrument was used to assess factors influencing an individual decision to continue

Table 1. Characteristics of Participants.

Characteristics	n (%)
Age	
Mean (SD)	18.76 (1.87)
Range	15-29
Gender	
Female	563 (77)
Male	165 (23)
Education level	
Senior high school	344 (47)
University	384 (53)
Parent's marital status	
Married	626 (86)
Divorced	102 (14)

living despite feeling suicidal.¹⁴ A total of 5 subscales make up the questionnaire namely Fear of Social Disapproval (FSD), Moral Objections (MO), Survival and Coping Beliefs (SCB), Responsibility to Family (RF), and Fear of Suicide (FS). Participants were asked to select from 1 of the 5 options for each item, ranging from “not at all important” for option score 1 to “extremely important” for option score 6. For example, “*I believe everything has a way of working out for the best*” was 1 of the items in the instrument. The total BRFL-A score had a Cronbach's alpha of .75, with the value for each subscale being .80 for FSD, .79 MO, .76 SCB, .74 RF, and .67 for FS.¹⁵ Additionally, the Cronbach Alpha coefficient for BRFL-A was .77. The subscales of BRFL-A were also negatively related to MMPI-A content scales, thereby showing a good discriminant validity. The 5-factor model provided an excellent fit to the data with chi-square goodness of fit = 77.93.

The Multidimensional Scale of Perceived Social Support (MSPSS)

The Multidimensional Scale of Perceived Social Support (MSPSS) was used to measure the perception of social support from 3 specific sources namely family, friend, and significant other. A previous study showed that social support was significantly related to reasons for living, and also suicidal behavior among students.¹⁷ The instrument also consisted of 12 items, with 4 questions from each of the 3 sources of social support. The measurement used a 7-scale Likert instrument, ranging from 1 “Very Strongly Disagree” to 7 “Very Strongly Agree.” The Indonesian version of MSPSS validated by Laksmi et al was used, and Cronbach's Alpha from each subscale was .81 (family), .82 (friends), and .75 (significant others). The confirmatory factor analysis also showed a very good fit

to the data ($\chi^2/df=2.468$, RMSEA=0.070, GFI=0.935, CFI=0.948, TLI=0.933, and SRMR=0.047).¹⁸ Perceived social support was measured from the total score of all MSPSS items divided by 12.

The Suicide Ideation Scale (SIS)

The 10-item self-report Suicide Ideation Scale (SIS) questionnaire was used to identify and distinguish between more subtly expressed and severe ideation. The instrument was used for assessing the discriminant validity of BRFL-A, which has an inverse relationship with reasons for living, as shown in a previous study.¹⁷ Participants were asked to show the feelings or behavior over the course of the previous week, with responses ranging from 1 (never or none of the time) to 5 (always or a great many times). SIS comprised 2 subscales namely Suicidal desire consisting of 4 items, as well as Resolved plans and preparations, consisting of 6 items. Luxton et al, found a higher internal consistency for the SIS, with a Cronbach Alpha of .91, and correlation items to scale ranging from .57 to .89.¹⁹ Meanwhile, Rudd²⁰ showed that SIS had good item-total correlations ($r_s=0.45-0.74$) and great internal consistency (Cronbach Alpha=.86). The Indonesian version of SIS has been validated in Indonesian language by Fitriana et al,²¹ who found that the 2 models of SIS were considered a good fit to the data with loading factors ranging from 0.74 to 0.92 and from 0.64 to 0.88, suggesting good and excellent internal consistency as well as reliability.

Interpersonal Needs Questionnaire-15 (INQ-15)

The self-report INQ-15 questionnaire was used to assess feelings of burdensomeness and thwarted belongingness based on the Interpersonal Theory of Suicide. These 2 factors are considered the main causes of suicidal ideation.²² Therefore, the instrument was also used alongside with SIS to evaluate the discriminant validity of BRFL-A. Hill et al,²³ stated that the confirmatory factor analysis of INQ-15 results was found to be the most reliable and consistent of all versions, with Cronbach alpha scores ranging from .85 to .90 for PB, and .81 to .87 for TB, showing a high degree of internal consistency. The questionnaire consisted of 6 questions on the Perceived Burdensomeness subscale and 9 on the Thwarted Burdensomeness subscale. The participants were asked to rate the responses using a Likert scale ranging from 1 to 7 consisting of “not at all true for me” to “very true for me.” Both models of the Indonesian INQ validated by Pandia et al,²⁴ had a good fit to the data with a good

concurrent and discriminant validity when compared to other instruments. It also has a high internal consistency with a Cronbach's alpha coefficient of .91.

The Depression Anxiety Stress Scale-18 (DASS-18)

The DASS measurement tool was used to assess 3 types of negative emotions namely depression (DASS-D), anxiety (DASS-A), and stress (DASS-S). Given the connection with reasons for living, this instrument was used as an additional indicator of concurrent validity for the BRFL-A.⁷ The DASS initially consisted of 42 items, all of which pertain to negative emotional symptoms. Subsequently, Lovibond and Lovibond²⁵ introduced an improved and shorter version known as DASS-21, and in 2013, Oei et al²⁶ further developed DASS-18. According to a study on Asian populations including Malaysia, Indonesia, Singapore, Sri Lanka, Taiwan, and Thailand, the DASS-18 showed good internal validity in the Indonesian sample after removing stress items from the stress scale. The Cronbach's alpha values were reportedly .87 for depression and .85 for anxiety, while the 3-factor model was considered a good fit to the data ($\chi^2=552.01$, $df=116$, $RMSEA=.06$, $GFI=.95$, $CFI=.94$, $NFI=.92$).

Procedure

The subjects were recruited from senior high schools and universities in Bandung, Indonesia from 1st March 2021 until 31st April 2021. The questionnaires were completed through an online survey platform using SurveyMonkey which was supervised by Zoom video conference.

Approval was obtained to translate and validate the BRFL-A questionnaire from Augustine Osman on 30th January 2020. It was translated into Indonesian and then backward-translated into English. Two expert translators translated the original version into the Indonesian language, and 2 more translators back-translated it into English, then the 2 versions were compared. Furthermore, 5 experts from the departments of psychiatry, psychology, public health, and doctors discussed the results to reach a consensus on discrepancies. The experts corrected any inconsistencies, while interview sessions with high school and university students were undertaken to create the final version.

Ethical Approval and Informed Consent

Students willing to participate signed a Letter of Approval in the digital Informed Consent form. Written

informed consent for high school students was filled and signed by students and parents, while for university students, it was filled and signed by the individual. Ethical approval was received from Research Ethics Committee on 4th December 2020 with approval number 1135/UN6.KEP/EC/2020.

Data Analysis

The mean and standard deviation were calculated to describe the data, and the *T*-test was used to assess the relationship between BRFL-A, gender, and education level. The data analysis performed included psychometric aspects of reliability, as well as content, convergent, discriminant, and factorial or construct validity.

The Cronbach's alpha test was also used to evaluate the internal reliability based on guidelines from Cicchetti²⁷ namely below .70=unacceptable; .70 to .79=fair; .80 to .89=good; .90 and above=excellent. Moreover, the test-retest reliability coefficient was calculated using Pearson product-moment correlation between the first and the second time measure. The interval between the test and retest was approximately 1 to 2 weeks after the first time of measurement. The correlation coefficient was interpreted as follows: .1 to .3 (weak), .4 to .6 (moderate), .7 to .9 (strong), and 1.0 (perfect).²⁸

The content validity index (CVI) was used to measure BRFL-A based on expert judgments. Convergent validity was evaluated using Pearson product-moment correlation with MSPSS, while discriminant validity was assessed with SIS, INQ, and DASS-18. Additionally, LISREL 10.3 was used to assess the confirmatory factor analysis.

The CFA model was assessed using multiple measures of goodness-of-fit such as χ^2 , the adjusted goodness-of-fit index (AGFI), comparative fit index (CFI), the non-normed fit index (NNFI), root mean squared error of approximation (RMSEA), and standardized root means square residual (SRMR). AGFI, CFI, and NNFI values ranged from 0 to 1.0, with values >0.9 showing a good fit to the data. Meanwhile, for RMSEA and SRMR, values <0.10 show a good fit, and values <0.05 represent a very good fit.

Result

Descriptive Statistics of BRFL-A

The score of BRFL-A ranged from 21 to 84 with a mean (M) of 67.49 and standard deviation (SD) of 9.32. Instrument consisted of five dimensions namely SCB ($M=15.55$; $SD=2.62$), RF ($M=14.67$; $SD=3.30$), MO ($M=16.38$; $SD=2.74$), FS ($M=9.20$; $SD=2.65$), and

Table 2. Mean, Standard Deviation, and the t-Test Comparison.

BRFL-A dimension	Gender and education	M (SD)	$t_{(df)}$	P-value
BRFL-A total	Male	64.76 (9.38)	$t_{(726)} = -4.34$	.00*
	Female	68.30 (9.15)		
SCB	Male	15.52 (2.80)	$t_{(726)} = -0.21$	.84
	Female	15.56 (2.58)		
RF	Male	14.57 (3.22)	$t_{(726)} = -0.46$	.64
	Female	14.71 (3.33)		
MO	Male	15.91 (3.21)	$t_{(229.26)} = -2.25$	.03*
	Female	16.52 (2.57)		
FS	Male	8.28 (2.91)	$t_{(239.91)} = -4.77$	.00*
	Female	9.47 (2.51)		
FSD	Male	10.48 (3.88)	$t_{(726)} = -4.52$	.00*
	Female	12.04 (3.88)		
BRFL-A total	Senior high school student	68.58 (8.36)	$t_{(722.46)} = 3.02$	.00*
	University student	66.52 (10.01)		
SCB	Senior high school student	15.90 (2.42)	$t_{(725.66)} = 3.44$	.00*
	University student	15.24 (2.77)		
RF	Senior high school student	14.90 (3.01)	$t_{(724.29)} = 1.75$	.08
	University student	14.47 (3.53)		
MO	Senior high school student	16.89 (2.10)	$t_{(674.59)} = 4.94$	.00*
	University student	15.92 (3.14)		
FS	Senior high school student	9.30 (2.53)	$t_{(726)} = 0.92$	.36
	University student	9.11 (2.75)		
FSD	Senior high school student	11.59 (3.85)	$t_{(726)} = -0.62$	.54
	University student	11.77 (4.00)		

*Correlation is significant at the .05 level.

FSD ($M=11.69$; $SD=3.93$). Table 2 shows significant differences between gender and education in BRFL-A total score. A significant difference was found in the MO, FS, and FSD dimensions based on gender, while education was significantly different in the dimensions of SCB and MO. This showed that gender and education were related to reasons for living, especially regarding MO.

Reliability

The 14 items BRFL-A had a Cronbach's alpha coefficient of .77, showing good internal consistency and reliability. Cronbach's alpha coefficient of each dimension was .74 (FSD), .76 (MO), .80 (SCB), .78 (RF), and .71 (FS), while the corrected total item correlation within the 14 items was between .21 and .56. The corrected total item correlations for each dimension were 0.50 to 0.62, 0.55 to 0.65, 0.57 to 0.70, 0.51 to 0.68, and 0.55 for FS, FSD, MO, SCB, and RF respectively. Furthermore, the test-retest reliability was measured based on data collected approximately 1 to 2 weeks after the first measurement. The data was collected from 512 participants (70.33%), and the coefficient was 0.64 for BRFL-A total. Based on the dimension, the test-retest coefficient

for FSD, MO, SCB, RF, and FS were 0.60, 0.65, 0.63, 0.71, and 0.68, respectively. Only the RF dimension showed a strong test-retest reliability, while other dimensions and the total BRFL-A were in the moderate category. Therefore, BRFL-A showed moderate to strong reliability and consistency when used in the adolescent population.

Content Validity

The content validity of BRFL-A was measured by expert panel discussions, showing a high degree of relevance. Both the item content validity index (I-CVI) and scale content validity index (S-CVI) had high validity with scores of 0.99 and 0.93, respectively. As stated by the focus group discussion, BRFL-A was simple to understand and had acceptable face validity. Additionally, the pilot test confirmed that it was understandable and appropriate in terms of administration time.

Convergent Validity

Convergent validity was assessed by examining the correlation between BRFL-A and the MSPSS. It was anticipated that an increase in the score of reasons for living

Table 3. Correlation Coefficients Between BRFL-A With MSPSS and Its Subscales.

	MSPSS			
	Total	Family	Friends	Significant other
BRFL_total	0.32**	0.41**	0.22**	0.14**
BRFL_FSD	-0.10*	-0.10*	-0.05	-0.09
BRFL_MO	0.22**	0.34**	0.06	0.11*
BRFL_SCB	0.39**	0.44**	0.31**	0.21**
BRFL_RF	0.47**	0.61**	0.31**	0.20**
BRFL_FS	0.09*	0.06	0.11*	0.06

Abbreviations: FSD = Fear of Social Disapproval; MO = Moral Objections; SCB = Survival and Social Beliefs; RF = Responsibility to Family; FS = Fear of Suicide.

*Correlation is significant at the .05 level.

**Correlation is significant at the level of .01.

would correspond to a higher perception of social support. As shown in Table 2, the majority of BRFL-A subscales had a significantly positive correlation with MSPSS and its subscales. These results showed that BRFL-A had good convergent validity, suggesting reasons for living were positively correlated with perceived social support.

Discriminant Validity

The discriminant validity of BRFL-A was assessed using several other instruments that have an inverse concept relationship with reasons for living. The correlation coefficients of SIS, INQ, and DASS with BRFL-A are shown in Table 3. SIS was used to evaluate Suicidal ideation, INQ for Thwarted belongingness, and Perceived burdensomeness, while DASS was used to assess Emotional distress. Table 3 showed that BRFL-A had a significant negative correlation with SIS, INQ, and DASS, suggesting reasons for living as a protective factor against suicidal ideation and emotional distress.

Factorial Validity

Two models were analyzed and shown in Table 4, namely (i) Model 1 consisting of BRFL as a single factor measured through 14 items; and (ii) Model 2 comprising BRFL with five dimensions as a factor measured through 14 items.

As shown in Table 5, Analysis of Model 1 resulted in 2 items that were not significant (numbers 2 and 14), hence, a revision was made by eliminating these 2 items. Although both models were considered to have a good fit for the data, Model 2 had a higher loading factor (0.57-0.85), as shown in Figure 1 and Figure 2, compared to the

revised Model 1 (0.11-0.71). Due to these differences, the Model 2 was more preferred than Model 1 for assessing protective factors toward suicide.

Discussion

The analysis results showed that BRFL-A had good internal consistency and test-retest reliability. The validity assessment showed high content and concurrent validity, supporting the 5-factor model (Model 2). This study was among the few that evaluated the psychometric properties of BRFL-A in Asian countries, specifically in the adolescent population. Even in non-Asian populations, there are no other recent studies on the psychometric properties of BRFL-A, despite the importance of evaluating protective factors toward suicide.

Based on the results, reasons for living had a significant relationship with gender and educational level, while females tend to have higher reasons for living. This result is concurrent with other studies, proving women are more likely to have altruistic behaviors that facilitates a stronger purpose in life. Moreover, women tend to value interpersonal relationships in terms of reasons to live.^{29,30} Education level also had a significant relationship with reasons for living, with university students having lower reasons for living. Studies found that college students are more prone to suicide due to pressure from academic responsibility as well as society, potentially leading to psychiatric disorders.³¹

The internal consistency and corrected total item for the Indonesian version of the BRFL-A are similar to the previous evaluation by Osman et al,¹⁵ showing good reliability. Moreover, based on the content validity analysis, all experts involved in panel discussions agreed that the result was equivalent between the source and target version. From the quantitative perspective, this study also found that BRFL-A had a high validity index. The instrument was also simple to understand and easy to administer, as also reported by Osman et al.¹⁵

The convergent validity assessment showed that BRFL-A correlated with MSPSS, showing a significant association between social support and reasons for living. Considering most subscales of BRFL-A are related to social values such as families, moral values, and disapproval, social support should provide a positive impact toward reasons for living and improving the quality of life. A previous study by Kleiman and Liu³² showed that social support was one of the important protective factors against suicide. Another study on Indonesian adolescents also reported that social support, specifically from family and peers, could prevent suicidal ideation.³³ Therefore, suicide prevention strategies should focus on social support, as it is one of the

Table 4. Correlation Coefficients Between BRFL-A and the Criteria Variables.

		BRFL-A					
		Total	FSD	MO	SCB	RF	FS
SIS	Total	-0.45**	0.09*	-0.37**	-0.54**	0.53*	-0.13**
INQ	Total	-0.34**	0.16**	-0.28**	-0.52**	-0.49**	-0.03
	PB	-0.33**	0.17**	-0.29**	-0.52**	-0.47**	-0.03
	TB	-0.28**	0.11**	-0.22**	-0.42**	-0.40**	-0.01
DASS	Total	-0.30**	0.15**	-0.29**	-0.46**	-0.45**	0.01
	Stress	-0.19**	-0.15**	-0.19**	-0.33**	-0.33**	0.06
	Anxiety	-0.22**	0.17**	-0.21**	-0.36**	-0.38**	0.03
	Depression	-0.39**	0.10*	-0.35**	-0.51**	-0.49**	-0.05

Abbreviations: FSD = Fear of Social Disapproval; MO = Moral Objections; SCB = Survival and Social Beliefs; RF = Responsibility to Family; FS = Fear of Suicide; PB = Perceived burdensomeness; TB = Thwarted belongingness.

*Correlation is significant at the .05 level.

**Correlation is significant at the level of .01.

Table 5. Results of Model 1 With 14 Items and Model 2 With 12 Items.

Model	$\left(\frac{\chi^2}{df}\right)$	AGFI	NNFI	CFI	RMSEA	SRMR
Model 1—14 items	3.46	0.93	0.94	0.96	0.06	0.06
Model 1—12 items	3.78	0.93	0.94	0.96	0.06	0.06
Model 2	3.18	0.94	0.95	0.96	0.05	0.06

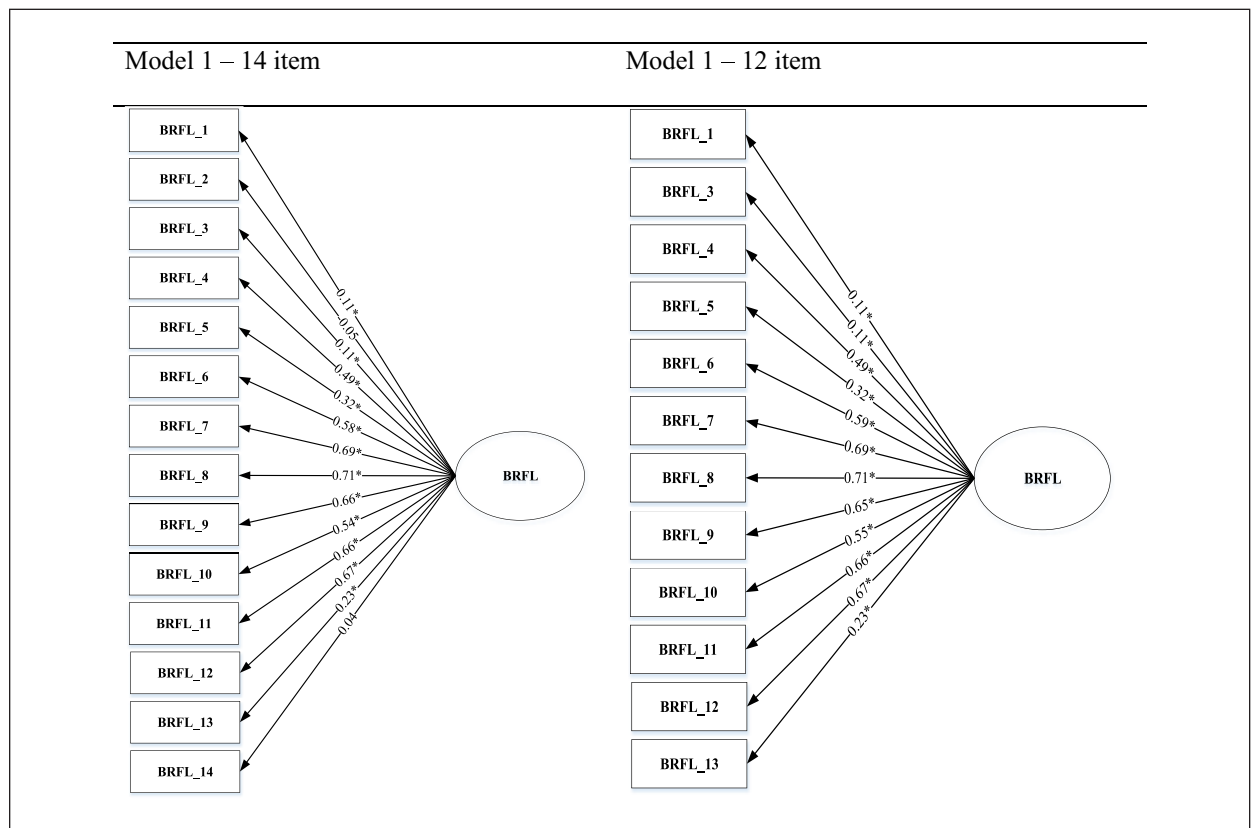


Figure 1. One factor model of BRFL-A.

*significant at the .05 level.

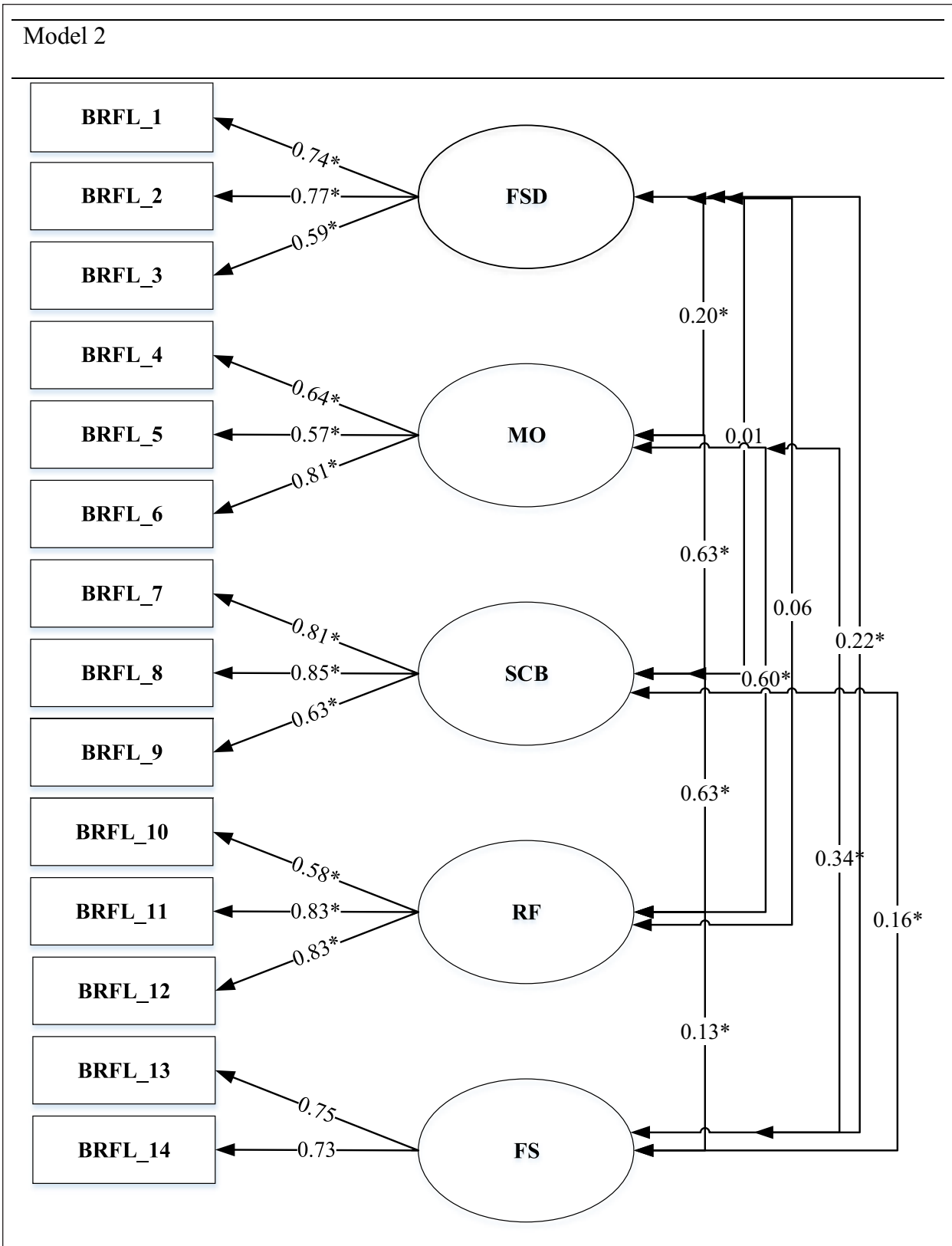


Figure 2. Five factors model of BRFL-A.

*significant at the .05 level.

highly modifiable factors. BRFL-A also had a negative correlation with SIS, INQ and DASS, further confirming that reasons for living are a significant protective risk factor against suicide, feelings of burdensomeness, thwarted belongingness and emotional distress. The discriminant validity results are concurrent with those of previous studies stating that reasons for living served as a protective factor against mental illness including depression and suicidality.^{7,34,35}

Based on the results, the Indonesian version of BRFL-A showed good factorial validity. Although both the revised models were considered to have a good fit for the data, Model 2 had a higher loading factor of 0.57 to 0.85 compared to 1 which had a value of 0.11 to 0.71. Therefore, the 5-factor model was preferred over the 1-factor in assessing protective factors against suicide. In Model 1 of BRFL-A, 1 item from the FSD subscales and 1 item from FS subscales were excluded. This result might be relevant to the previous psychometric evaluation by Osman et al stating that both of those subscales (FSD and FS) were less useful in differentiating between suicidal and nonsuicidal adolescents, thereby justifying the importance of the 5-factor over the 1-factor model.¹⁴

In this study, certain items loaded on a different components compared to the previous version to better suit the Indonesian context. This reflects the unique characteristics and cultural differences between Western and Eastern countries. Previous studies in other Asian countries also suggest that cultural and demographic differences are an important factor in the validation process.³⁶ Furthermore, 5 experts from the departments of psychiatry, psychology, public health, and doctors discussed the results of the translation and adaptation as part of Guidelines for the Process of Cross-Cultural Adaptation Stage IV: Expert Committee. This process was carried out to ensure the adaptation process considered the linguistic and cultural differences in the population.^{27,37}

The main limitation of this study was that data were taken during the COVID-19 pandemic, potentially impacting reasons for living and suicide. A systematic review by Barberis, et al showed that the COVID-19 pandemic significantly increased suicide risk through several factors, including isolation and quarantine, health concerns, as well as relational difficulties.³⁸ Isolation and relational difficulties could have affected the FSD and responsibility to the family of individuals, thereby disrupting the protective factors toward suicide. Future studies on the impact of the pandemic or isolation toward reasons for living might be beneficial to further clarify this issue. Estimation of sample size with power analysis should be also considered in future research in order to accurately justify the minimum sample required for validation study. Another limitation of this study was the cultural context of suicidality, which remained unique in

every region and country. Therefore, the results of the study could differ from those of other countries. Future studies about the impact of cultural factors on suicidality, specifically in Asian countries where cultural issues and stigma in mental illness remain strong are needed.

In general, this study showed that protective factors toward suicide served as an important factor toward preventing suicide. Therefore, the implementation of protective factors in suicide prevention strategies should be considered in order to reduce suicide related mortality, specifically in adolescents and young adults. This study also underscored the importance of positive psychological factors and theories in terms of mental illness and suicide. Recent studies regarding suicide also focused on the assessment of positive psychological factors and negative factors, which are extremely important in the evaluation as well as treatment of mental illness and suicide within the community.^{39,40}

Conclusions

In conclusion, the Indonesian version of BRFL-A was proven to be a valid and reliable tool for adolescents and the young adult population in Indonesia, specifically in non-clinical settings. It could be used to assess reasons for living, which is a protective factor against suicide. Therefore, screening of reasons for living should be considered to improve suicide prevention programs in high-risk populations such as young adults and adolescents in non-clinical settings. Cultural issues should also be considered in evaluating specific instruments regarding suicide to fit the cultural settings of a particular population. This approach enhances the specificity and effectiveness of suicide prevention efforts, particularly in nations where cultural impact and stigma against mental illness are significant factors influencing public health initiatives.

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Supplemental Material

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References

- Gore FM, Bloem PJ, Patton GC, et al. Global burden of disease in young people aged 10–24 years: a systematic analysis. *Lancet*. 2011;377(9783):2093-2102. doi:10.1016/S0140-6736(11)60512-6
- World Health Organization. Suicide worldwide in 2019: global health estimates. Published online 2021.
- World Health Organization. Live life: an implementation guide for suicide prevention in countries. Published online 2021.
- Asarnow JR, Mehlum L. Practitioner review: treatment for suicidal and self-harming adolescents – advances in suicide prevention care. *J Child Psychol Psychiatry*. 2019;60(10):1046-1054. doi:10.1111/jcpp.13130
- Putra IGNE, Karin PAES, Ariastuti NLP. Suicidal ideation and suicide attempt among Indonesian adolescent students. *Int J Adolesc Med Health*. 2019;33(5):8-9. doi:10.1515/ijamh-2019-0035
- Cwik JC, Siegmann P, Willutzki U, et al. Brief reasons for living inventory: a psychometric investigation. *BMC Psychiatry*. 2017;17(1):358. doi:10.1186/s12888-017-1521-x
- Luo X, Wang Q, Wang X, Cai T. Reasons for living and hope as the protective factors against suicidality in Chinese patients with depression: a cross sectional study. *BMC Psychiatry*. 2016;16(1):252-257. doi:10.1186/s12888-016-0960-0
- Kyle J. Spirituality: its role as a mediating protective factor in youth at risk for suicide. *J Spiritual Ment Health*. 2013;15(1):47-67.
- Rutter PA, Freedenthal S, Osman A. Assessing protection from suicidal risk: psychometric properties of the suicide resilience inventory. *Death Stud*. 2008;32(2):142-153. doi:10.1080/07481180701801295
- Che Din N, Ibrahim N, Amit N, Abdul Kadir NB, Halim MRTA. Reasons for living and coping with suicidal ideation among adolescents in Malaysia. *Malays J Med Sci*. 2018;25(5):140-150. doi:10.21315/mjms2018.25.5.13
- Harris KM, McLean JP, Sheffield J, Jobes D. The internal suicide debate hypothesis: exploring the life versus death struggle. *Suicide Threat Behav*. 2010;40(2):181-192. doi:10.1521/suli.2010.40.2.181
- Linehan MM, Goodstein JL, Nielsen SL, Chiles JA. Reasons for staying alive when you are thinking of killing yourself: the reasons for living inventory. *J Consult Clin Psychol*. 1983;51(2):276-286. doi:10.1037/0022-006X.51.2.276
- Frankl VE. *From Death-Camp to Existentialism*. Beacon Press; 1959. translated by I. Lasch.
- Osman A, Kopper BA, Barrios FX, et al. The brief reasons for living inventory for adolescents (BRFL-A). *J Abnorm Child Psychol*. 1996;24:433-443.
- Osman A, Downs WR, Kopper BA, et al. The reasons for living inventory for adolescents (RFL-A): Development and psychometric properties. *J Clin Psychol*. 1998;54(8):1063-1078.
- Hair JF, Babin BJ, Black WC, Anderson RE. *Multivariate Data Analysis*. Cengage; 2019. <https://books.google.co.id/books?id=0R9ZswEACAAJ>
- Leal SC, Santos JC. Suicidal behaviors, social support and reasons for living among nursing students. *Nurse Educ Today*. 2016;36:434-438. doi:10.1016/j.nedt.2015.09.012
- Laksmi OD, Chung MH, Liao YM, Chang PC. Multidimensional scale of perceived social support in Indonesian adolescent disaster survivors: a psychometric evaluation. *PLoS One*. 2020;15(3):4-7. doi:10.1371/journal.pone.0229958
- Luxton DD, Rudd MD, Reger MA, Gahm GA. A psychometric study of the suicide ideation scale. *Arch Suicide Res*. 2011;15(3):250-258. doi:10.1080/13811118.2011.589720
- Rudd MD. The prevalence of suicidal ideation among college students. *Suicide Threat Behav*. 1989;19(2):173-183. doi:10.1111/j.1943-278X.1989.tb01031.x
- Fitriana E, Purba FD, Salsabila SP, et al. Psychometric properties of the suicidal ideation scale in the Indonesian language. *J Prim Care Community Health*. 2022;13:4-7. doi:10.1177/21501319221143716
- Van Orden KA, Cukrowicz KC, Witte TK, Joiner TE. Thwarted belongingness and perceived burdensomeness: construct validity and psychometric properties of the interpersonal needs questionnaire. *Psychol Assess*. 2012;24(1):197-215. doi:10.1037/a0025358
- Hill RM, Rey Y, Marin CE, et al. Evaluating the interpersonal needs questionnaire: comparison of the reliability,

- factor structure, and predictive validity across five versions. *Suicide Threat Behav.* 2015;45(3):302-314. doi:10.1111/sltb.12129
24. Pandia V, Fitriana E, Afriandi I, et al. Psychometric evaluation of the interpersonal needs questionnaire in the Indonesian language. *PLoS One.* 2022;17(12):6-8.
 25. Lovibond PF, Lovibond SH. The structure of negative emotional states: comparison of the depression anxiety stress scales (DASS) with the Beck depression and anxiety inventories. *Behav Res Ther.* 1995;33(3):335-343. doi:10.1016/0005-7967(94)00075-U
 26. Oei TP, Sawang S, Goh YW, Mukhtar F. Using the depression anxiety stress scale 21 (DASS-21) across cultures. *Int J Psychol.* 2013;48(6):1018-1029. doi:10.1080/00207594.2012.755535
 27. Cicchetti DV. Guidelines, criteria, and rules of thumb for evaluating normed and standardized assessment instruments in psychology. *Psychol Assess.* 1994;6(4):284-290. doi:10.1037/1040-3590.6.4.284
 28. Dancey C, Reidy J. *Statistics Without Maths for Psychology EBook Pdf.* Pearson Higher; 2017.
 29. Xi J, Lee MT, Carter JR, Delgado D. Gender differences in purpose in life: the mediation effect of altruism. *J Humanist Psychol.* 2022;62(3):352-376. doi:10.1177/0022167818777658
 30. Grouden M, Jose P. How do sources of meaning in life vary according to demographic factors? *N Z J Psychol.* 2014;43(3):29-38.
 31. Haas AP, Hendin H, Mann J. Suicide and college students. *Am Found Suicide Prev.* 2020;46(9):1224-1240.
 32. Kleiman EM, Liu RT. Social support as a protective factor in suicide: findings from two nationally representative samples. *J Affect Disord.* 2013;150(2):540-545. doi:10.1016/j.jad.2013.01.033
 33. Kusumastuti P, Jusup I, Fitrikasari A, Hadiati T. The relationship between perceived social support with suicidal ideation. *Diponegoro Int Med J.* 2021;4(2):41-45.
 34. Britton PC, Duberstein PR, Conner KR, et al. Reasons for living, hopelessness, and suicide ideation among depressed adults 50 years or older. *Am J Geriatr Psychiatry.* 2008;16(9):736-741. doi:10.1097/JGP.0b013e31817b609a
 35. Baquero-Tomás M, Grau MD, Moliner AR, Sanchis-Sanchis A. Meaning in life as a protective factor against depression. *Front Psychol.* 2023;14:1180082-1180089. doi:10.3389/fpsyg.2023.1180082
 36. Areekit P, Taephant N. Initial psychometric properties of the Thai version of the levels of self-criticism scale for Thai psychologists in training. *SSRN Electron J.* 2020;9(1):57-65. doi:10.2139/ssrn.3688915
 37. Cardinet J. International Test Commission: Application of the Liège Recommendations for the Period 1971-4. *Appl Psychol.* 1975;24(1):14-16. doi:10.1111/j.1464-0597.1975.tb00322.x
 38. Stanley T. Research Paper. *10 Performance-Based Proj Math Classr.* 2022;(February):115-126. doi:10.4324/9781003232490-9
 39. Heisel MJ, Neufeld E, Flett GL. Reasons for living, meaning in life, and suicide ideation: investigating the roles of key positive psychological factors in reducing suicide risk in community-residing older adults. *Aging Ment Health.* 2016;20(2):195-207. doi:10.1080/13607863.2015.1078279
 40. Kelliher Rabon J, Hirsch JK, Chang EC. Positive psychology and suicide prevention: an introduction and overview of the literature BT. In: Hirsch JK, Chang EC, Kelliher RJ, eds. *A Positive Psychological Approach to Suicide: Theory, Research, and Prevention.* Springer International Publishing; 2018:1-15.