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Construct Validity of Group Resilience Measurement Scale in Indonesia

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Abstract

Humans will always face challenges that interfere with their course of life. Their responses to face those challenges or resilience are varied, depending on environmental aspects. The discussion on resilience is used to understand the reasons why individuals can be more resistant to challenges than other individuals. The aspect that influences and forms resilience is the environment. One form of the influential environment is the environment in which humans are born or reside. The demographic characteristics of the Indonesian region are one form of the physical environment which is divided by geography (West Indonesia, Central Indonesia, and East Indonesia) and by type of administrative area (District and Municipalities). This study employed a quantitative approach to measure the construct validity of the CCRAM instrument which has been translated into Indonesian. This study involved 518 people (N = 518) as participants who came from three regions of Indonesia, namely East, Central, and West Indonesia. The research instrument was a questionnaire containing statements/items related to community resilience. After the data were collected online, Confirmatory Factor Analysis (CFA) was conducted to check the validity of each item on each dimension/construct. The results indicate that all dimensions and items were declared to meet the fit or valid criteria.

Keywords: community resilience, confirmatory factor analysis, Indonesian demographics

Abstrak

Manusia akan selalu menghadapi tantangan yang mengganggu jalannya kehidupan. Respons mereka untuk menghadapi tantangan atau ketahanan tersebut beragam, tergantung pada aspek lingkungan. Pembahasan tentang resiliensi digunakan untuk memahami alasan mengapa individu dapat lebih tahan terhadap tantangan dibandingkan individu lainnya. Aspek yang mempengaruhi dan membentuk resiliensi adalah lingkungan. Salah satu bentuk lingkungan yang berpengaruh adalah lingkungan tempat manusia dilahirkan atau bertempat tinggal. Karakteristik demografi wilayah Indonesia merupakan salah satu bentuk lingkungan fisik yang dibagi berdasarkan geografi (Indonesia Barat, Indonesia Tengah, dan Indonesia Timur) dan menurut jenis wilayah administrasi (Kabupaten dan Kota). Penelitian ini menggunakan pendekatan kuantitatif untuk mengukur validitas konstruk instrumen CCRAM yang telah diterjemahkan ke dalam bahasa Indonesia. Penelitian ini melibatkan 518 orang (N = 518) sebagai partisipan yang berasal dari tiga wilayah Indonesia yaitu Indonesia Timur, Tengah, dan Barat. Instrumen penelitian berupa angket yang berisi pernyataan/item terkait ketahanan masyarakat. Setelah data dikumpulkan secara online, dilakukan Confirmatory Factor Analysis (CFA) untuk memeriksa validitas setiap item pada setiap dimensi/konstruk. Hasil penelitian menunjukkan bahwa semua dimensi dan item dinyatakan memenuhi kriteria fit atau valid.

***Kata Kunci**: analisis faktor konfirmatori, demografi Indonesia, ketahanan masyarakat*

Introduction

Life does not always go according to plans and expectations. Every human being must have faced challenges that interfere with their way of life. These challenges can range from daily challenges to major life events (Bonanno, 2004 in Martínez-Martí & Ruch, 2016). Some people show a greater effect in regards to the challenges that occur in life. However, there are some people who survive very well and do not display any disturbance in their life despite the challenges. The discussion on resilience was carried out to understand the reasons why some individuals can be more resistant to challenges than other individuals (Bonanno, 2004 in Martínez-Martí & Ruch, 2016).

Oxford English Dictionary defined resilience as "the ability to survive and recover quickly from difficult conditions". In psychology, the term resilience is described as the ability to bounce back from negative emotions and adapt flexibly to changes caused by stress (Block & Block, 1980; Block & Kremen, 1996; Lazarus, 1993 in Hu, Zhang & Wang, 2015). Resilience is important for a person since it provides experience to face the challenges and difficulties of life. Resilience is also needed so that humans can develop life-supporting skills such as communication skills and skills in developing logical and realistic life plans (Rojas-Hernandez et al., 2015).

Resilience is divided into three levels, namely individual resilience, community resilience, and national resilience. In this study, community resilience was chosen as the main topic to be discussed. A previous study conducted by Sherrieb et al. in 2010 found that high community resilience will increase a person's ability to cope with stressful situations and play an important role in accelerating the post-stress recovery period. Furthermore, they agreed that community resilience is an important resource in overcoming problems with natural disasters and mass trauma events (Sherrieb et al., 2010 in Kimhi, 2014). Community resilience also has the same function as individual resilience, namely being the main predictor of the ability to cope with traumatic events (Kimhi et al., 2013). The facts on the ground illustrate that more than 28.5 million search results for the term 'community resilience' in search engines. This reflects the relevance of the term community resilience to various aspects of human social life (Leykin et al., 2013).

The topic of group/community resilience was chosen because of the geographical characteristics of Indonesia, which is located at the confluence of three large tectonic plates. This causes Indonesia to have a high risk of experiencing disasters such as earthquakes and tsunamis (Shalih et al., 2019). Since natural disasters might cause mass traumatic events, resilience is needed by Indonesian people as a way to overcome mass trauma. Based on these problems, a valid and reliable measurement of community resilience in Indonesia is very important.

Currently, many researchers are trying to form a community resilience measurement tool. One of the measuring tools that have been established is CCRAM. CCRAM (Conjoint Community Resilience Assessment Measure) is a measuring tool used to measure community resilience or group resilience. The CCRAM measuring instrument was created by Dmitry Leykin, Mooli Lahad, Odeya Cohen, Avishay Goldberg, and Limor Aharonson-Daniel. The researchers found that the term "community resilience" is something that is relevant to human social life because the search results on search engines show more than 28.5 million results. Community resilience is discussed in many areas such as disaster risk reduction, environmental change, public health, developmental psychology, and mental health and community psychology (Leykin et al., 2013).

Leykin et al. argue that community resilience is the community's ability to face crises or disturbances. This definition is in accordance with the multi-dimensional concept of community resilience including the economic, social, and environmental concepts of the community. Therefore, CCRAM was formed

to provide fresh air and form a reliable measuring tool to measure complex multi-dimensional concepts involving multiple points of view (Leykin et al., 2013).

CCRAM was formed by involving the developers of previous community resilience measurement tools to describe the theory and development of the measuring tools they have developed. The results of the theory and point of view are then developed into a CCRAM measuring instrument. This measuring instrument was developed using inductive, exploratory, and mixed methods research design methods (Qualitative and quantitative). The process of making this measuring instrument lasted for two years (Leykin et al., 2013).

The process of making this measuring instrument consisted of three phases, namely (1) contextualization based on literature review, interviews with important informants, semi-structured interviews with previous researchers, meetings with content experts, and academic discussions with the team conducting practical and theoretical investigations into the definition of community resilience and studying existing instruments and the underlying theory. (2) Writing item: using blueprints of the CCRAM variable structure. The author's team grouped the item banks and selected items until the appropriate number of items was reached while adhering to the structure of the measuring instrument and the underlying theory. (3) instrument validation: the final questionnaire was measured and received input from the owner of the original item (Leykin et al., 2013).

After that, this measuring instrument was tested and analyzed. The first analysis carried out was Exploratory Factor Analysis (EFA). The initial process of the number of items on the CCRAM measuring instrument is 33. There were several items omitted for having similar meaning and a high correlation value. After that, 21 items consisting of five factors were created. The five factors are leadership, collective efficacy, readiness, place attachment, and social trust (Leykin et al., 2013).

Table 1. Cronbach's Alpha (α) CCRAM Value in the Study of Leykin, et al (2013)

Factor	α
Leadership	.91
Collective Efficacy	.83
Readiness	.80
Place Attachment	.75
Social Trust	.85

Sources: Leykin, et al (2013)

Leadership factor (α = .91) consisted of six items that represent trust in decision-makers, specific trust in regional leaders, beliefs in leaders' perceptions of justice in carrying out services and functions in the community. The collective efficacy factor (α = .83) consisted of five items that represent collective efficacy, support in the community, involvement in the community, and mutual help in the community. The readiness factor (α = .80) consisted of four items that represent family and acquaintances in the community in an emergency and the view of the community's readiness for emergencies. Attachment factor to place (α = .75) consisted of four items that represent emotional attachment to the community, sense of belonging, pride in the community, and ideological identification in the community. The social trust factor (α = .85) consisted of two items that represent trust in the relationship between community members and the quality of good relationships between community members.

After the EFA analysis was done, confirmatory factor analysis (CFA) was performed to see the validity of the items. Based on the factor analysis carried out, it was found that the five

dimensions/factors in the model were at the limit, but quite acceptable and following the data ($\chi 2$ = 593.6, df = 174; RMSEA = .068; CFI = .935; AIC = 707.6). Meanwhile, the short version of the CCRAM (10 items) measuring instrument has a value of ($\chi 2$ = 71.7, df = 25; RMSEA = .051; CFI = .985; AIC = 119.81). The CCRAM measuring instrument shows internal consistency with Cronbach's Alpha value of .92. The Likert scale was used in this measuring instrument using five value options as follows: (1) Strongly disagree (2) Disagree (3) Neutral (4) Agree and (5) Strongly agree (Leykin et al., 2013). These results indicate that the CCRAM measuring instrument has good reliability and validity values so that it is able to measure community resilience well.

This CCRAM measuring instrument has been widely used by other researchers. Moreover, this measuring instrument has been tested and measured its reliability and validity. In a study conducted by Rapaport in 2018, the values of each group were as follows: leadership (α = .90), collective efficacy (α = .87), readiness (α = .81), attachment to place (α = .76) and social trust (α = .83) (Rapaport, et al., 2018). This shows that the reliability and validity of CCRAM are quite good because they are close to the value of one.

Meanwhile, in a study conducted by Cohen and colleagues in 2016, the reliability of the CCRAM measuring instrument was seen from the Cronbach Alpha value, which was .94. Meanwhile, the factor values for the five dimensions were leadership (α = .9), collective efficacy (α = .87), readiness (α = .81), attachment to place (α = .75) and social trust (α = .78). These values are quite good to measure the reliability and validity of the CCRAM measuring instrument (Cohen et al., 2017).

Furthermore, the short version of the CCRAM measuring instrument of 10 items has been adapted and culturally validated in China by Cui and Han in 2019. The results of this study show that the internal consistency value of the Cronbach CCRAM Alpha was .85. This value indicates the reliability of the CCRAM measuring instrument is quite good. Validation was done using CFA. The CFA results show the value of ($\chi 2$/df = 2.161; CFI = .977; GFI = .971; NFI = .958; RMSEA = .056; SRMR = .030). This value indicates that the five factors in CCRAM fit the data (Cui & Han, 2019).

Those previous studies prove that the CCRAM measuring instrument has good validity and reliability to measure community resilience. Studies on resilience have begun to develop in recent times in Indonesia. However, previous research focused more on individual resilience, disasters, and individual demographic attributes such as age and gender. There is no study or research that addresses community resilience as a whole and there is no reliable and valid measuring instrument for community resilience in Indonesia. Therefore, researchers are interested in testing the construct validity of the CCRAM measuring instrument to measure community resilience in Indonesia.

Thus, this CCRAM measuring instrument still needs to be tested for its validity and reliability, especially in Indonesia. This is because research on this topic is still lacking. Findings and conclusions on the condition of group resilience can only be obtained if the measuring instrument has been declared valid. Therefore, this study focused on the aspect of testing the validity of the group resilience CCRAM measuring instrument using Confirmatory Factor Analysis.

Methods

Research Design

The design used in this study was a quantitative approach using CFA. Confirmatory factor analysis is a multivariate analysis method used to test the hypothesized model. The hypothesized model consists of one or more latent variables and indicator variables.

Participants

This study involved 518 participants (n = 518), 232 from western Indonesia, 159 from central Indonesia, and 127 from eastern Indonesia. The age range of participants was between 17 – 65 years of age and locally domiciled in one of the regions in Indonesia (west, central, and east). Data were collected using GoogleForm, and distributed online approximately within one month. The researchers employed missing listwise for missing data analysis, where incomplete data were dropped.

Research instrument

The variable to be measured in this study is community resilience/group resilience. Conceptually, community resilience is described as the ability of a community to face crises or disturbances. The CCRAM instrument consisted of 21 items with five dimensions (**Table 2**.) and four categories of response responses, namely strongly disagree, disagree, agree and strongly agree.

Table 2. CCRAM Instrument Blueprint

Dimensions	Indicator	Example of Items	Items
Leadership	Trust in leaders or decision makers; Specific trust in the leader; Confidence in the leader's perception of justice in carrying out services; Function in the community	*"Pemerintah daerah di tempat saya menjalankan tugasnya dengan baik"; "Pemerintah daerah memberikan layanan dengan adil"*	6
Collective	efficacy Collective efficacy; Support in the community; Community involvement; Please help in the community	*"Ada bantuan dan kepedulian satu sama lain di daerah saya"*	5
Preparedness	Family and acquaintances in the community in an emergency; View of community preparedness for emergency situations	*"Penduduk di daerah saya sangat peduli atas apa yang terjadi di masyarakat"*	4
Attachment to place	Emotional attachment to the community; A sense of belonging; Proud of the community; Identification of ideology in the community	*"Saya memiliki rasa kepemilikan terhadap tempat saya menetap saat ini"*	4
Social Trust	Trust in the relationship between community members; Good quality of relationship between community members	*"Hubungan antar berbagai kelompok (agama, suku, dan ras) di daerah saya berjalan baik"*	2

Sources: Leykin, et al (2013)

Data Analysis

This study tested the validity of the CCRAM measuring instrument using a confirmatory factor analysis approach. During the analysis, the validity of the items was tested based on the following (Thompson, 2004):

1. If the factor load coefficient on the item is ideally greater than .4 - .5, it produces an R^2 16% - 25%
2. If t-test on the item factor load coefficient is greater than 1.96, the item is declared valid to measure the factor to be measured

What needs to be considered before measuring validity is that the measurement model on the test be declared fit or following the data (Thompson, 2004). The assessment of the fit or not of the measurement model on the data was seen from the suitability of the data results with the goodness of fit. Brown in 2006 recommended the rule of an item to fit the model if (Brown, 2015):

1. The RMSEA value is close to or less than .06
2. The SRMR value is close to or less than .08
3. The CFI value is close to or greater than .95
4. The TLI value is close to or greater of .95

If the results of the goodness of fit measurement do not match the model, then modifications to the model can be made. One of the considerations in revising the model is looking at the modification indices. Modification indices are obtained from software measurements. Modification indices are indicators of change based on existing data on the measured model to increase the fit value of the data to the model (Brown, 2015).

The researcher focuses on the t-value, load coefficient, CFI and TLI to test whether the item to be studied measures what it wanted to measure. The four aspects were chosen with the consideration that they were not sensitive to the number of samples and the complexity of a model. The validity test was described based on the dimensions of the CCRAM measuring instrument used in this study. Besides describing the validity test based on dimensions, the validity test was carried out thoroughly on the measuring instrument used using Mplus version 7 software.

Results and Discussion

T Construct Validity of Leadership Dimension

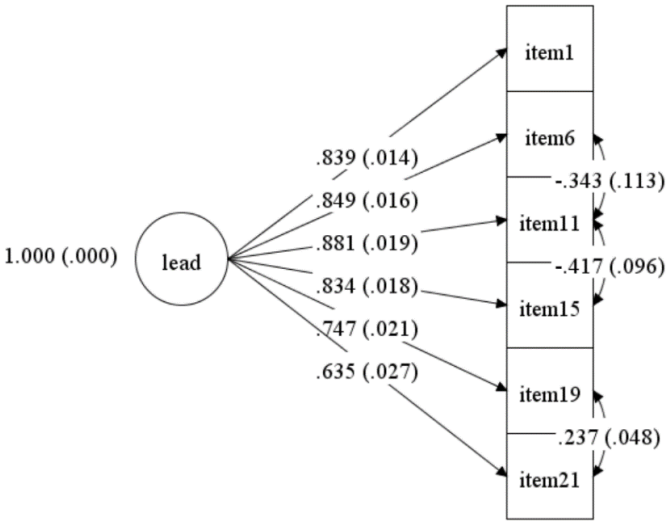
There were six items tested in this dimension. The results of the initial factor analysis in the leadership dimension were as follows:

Table 3. Description of the Construct Validity of Leadership Dimension

Goodness of Fit	Cut off values	Model Results	Description
p-*values*	≥ .05	.000	Not Fit
RMSEA	≤ .06	.097	Not Fit
CFI	≥ .95	.991	Fit
TLI	≥ .95	.985	Fit

Sources: Personal Data

Based on the above results, the six items for the leadership dimension are declared fit, because the CFI and TLI values were following the minimum fit requirements for the model. However, the analysis results from the Mplus software indicate that there is a modification indices value. Therefore, the researchers freed the correlation between items according to the recommendation of the modification indices. After removing the correlation, a model was obtained as displayed below:



Source: Personal Data

Figure 1. Confirmatory Factor Analysis Factor Model of Leadership Dimension

After removing the correlation, there were no modification indices recommended by the Mplus software. This means that the data were a maximum fit with the measured model. The description of the results of the leadership dimension validity test is as follows:

Table 4. Description of Construct Validity of Leadership Dimension after *Modification Indices*

Goodness of Fit	Cut off values	Model Results Before Editing	Model Results After Editing	Model Results Description After Editing
p-*values*	≥ .05	.000	.000	Not Fit
RMSEA	≤ .06	.097	.035	Fit
CFI	≥ .95	.991	.999	Fit
TLI	≥ .95	.985	.998	Fit

Sources: Personal Data

After eliminating the correlation, the significance of the item in measuring the factor was measured by looking at the factor loading coefficient on the item. The factor loading coefficient and the t-value of each item from the test results are presented in the following table:

Table 5. Description of Factor Loading Leadership Dimension

Item	Coefficient	Standard error	cut off values	t-value	Significance
Item 1	.839	.014	$t \geq 1.96$	58.296	Significant
Item 6	.849	.016	$t \geq 1.96$	52.363	Significant
Item 11	.881	.019	$t \geq 1.96$	46.727	Significant
Item 15	.834	.018	$t \geq 1.96$	46.724	Significant
Item 19	.747	.021	$t \geq 1.96$	35.169	Significant
Item 21	.635	.027	$t \geq 1.96$	23.189	Significant

Sources: Personal Data

To conclude, the table above indicates that all items were significant for measuring the leadership dimension. Judging from the value of t and the factor loading coefficient which is positively charged, it can be concluded that no items were discarded or omitted and were valid for analysis at this stage.

Construct Validity of Collective Efficacy Dimension

Researchers tested the items included in the collective efficacy dimension. There were five items tested in this dimension. The results of the initial factor analysis in the leadership dimension are as follows:

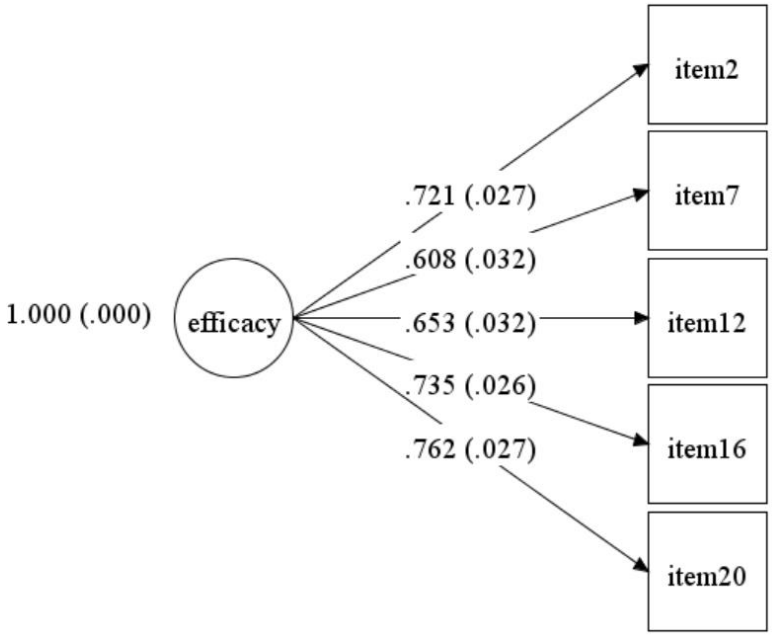
Table 6. Description of the Construct Validity of Collective Efficacy Dimension

Goodness of Fit	Cut off values	Model Results	Description
p-*values*	≥ .05	.000	Not Fit
RMSEA	≤ .06	.072	Not Fit
CFI	≥ .95	.990	Fit
TLI	≥ .95	.980	Fit

Sources: Personal Data

Based on the table above, it is known that the collective efficacy dimension model fits the model. This is because the CFI and TLI values were in accordance with the model fit criteria. After getting the goodness of fit, the modification indices were analyzed. The results of the analysis using the software showed that there were no modification indices. This means that the data were a maximum fit with the model to be measured.

After looking at the modification indices, the correlation and factor loading coefficient on the collective efficacy dimension were calculated. The load coefficient was described using figures and tables. The image of the factor load coefficient in this dimension is as follows:



Source: Personal Data

Figure 2. Confirmatory Factor Analysis Factor Model of the Collective Efficacy Dimension

After drawing the factor load coefficient in the collective efficacy dimension, the factor load coefficient by looking at the t value of each item was described. The following is a description of the factor loading coefficient:

Table 7. Description of Factor Loading Collective Efficacy Dimension

Item	Coefficient	Standard error	cut off values	t-value	Significance
Item 2	.721	.027	$t \geq 1.96$	26.670	Significant
Item 7	.608	.032	$t \geq 1.96$	19.012	Significant
Item 12	.653	.032	$t \geq 1.96$	20.186	Significant
Item 16	.735	.026	$t \geq 1.96$	28.662	Significant
Item 20	.762	.027	$t \geq 1.96$	28,506	Significant

Sources: Personal Data

Based on the description of the table above, it is known that all items were significant. This means that each item measures what it is intended to measure. The highest t-value was in item 20 and the lowest t-value was in item 7. After seeing the results of the analysis carried out, there was no modification or change in the items of the collective efficacy dimension. The five items proposed in the data fit the maximum with the model to be measured.

Construct Validity of Readiness Dimension

Researchers conducted tests on items that were included in the readiness dimension. There were four items tested in this dimension. The results of the initial factor analysis in the leadership dimension are as follows:

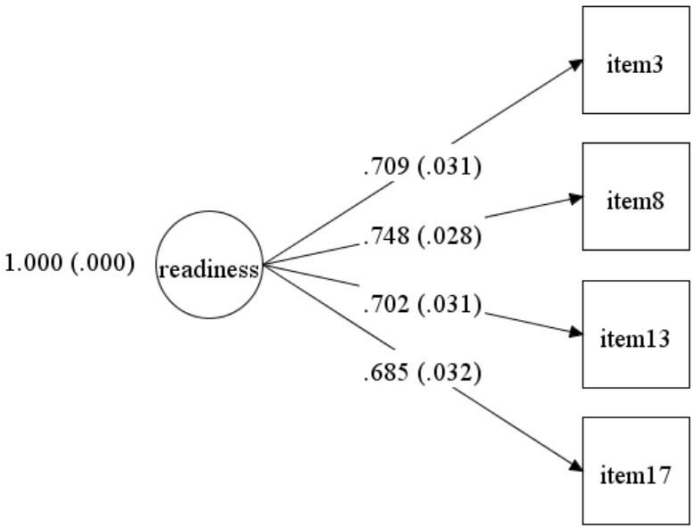
Table 8. Description of the Construct Validity of Readiness Dimension

Goodness of Fit	*Cut off values*	Model Results	Description
p-*values*	≥ .05	.000	Not Fit
RMSEA	≤ .06	.000	Fit
CFI	≥ .95	1.000	Fit
TLI	≥ .95	1.001	Fit

Sources: Personal Data

Based on the table above, it is known that the readiness dimension model was fit to the model. This is because the CFI and TLI values were in accordance with the model fit criteria. After seeing the goodness of fit, the modification indices were analyzed. The results of the analysis using the *software* showed that there were no modification indices. This means that the readiness of item data is a maximum fit with the model to be measured.

After looking at the modification indices, the correlation and factor load coefficients on the readiness dimension were analyzed. The load coefficient is described in the following figure and table. The figure of the factor load coefficient in the readiness dimension is as follows:



Sources: Personal data

Figure 3. Confirmatory Factor Analysis Factor Model of the Readiness Dimension

After drawing the factor load coefficient in the readiness dimension, the factor load coefficient was described by looking at the t value of each item. The following is a description of the factor loading coefficients:

Table 9. Description of Factor Loading Readiness Dimension

Item	Coefficient	Standard error	Cut off values	t-value	Significance
Item 3	.709	.031	$t \geq 1.96$	23.116	Significant
Item 8	.748	.028	$t \geq 1.96$	26.593	Significant
Item 13	.702	.031	$t \geq 1.96$	22.316	Significant
Item 17	.685	.032	$t \geq 1.96$	21.173	Significant

Sources: Personal Data

Based on the table above, it is ascertained that all items are significant. This means that each item measures what it is intended to measure. The highest t-value was in item 13 and the lowest t-value was in item 17. The results of the analysis indicate that there was no modification or change in the item readiness dimension. The four items proposed in the data fit the maximum with the model to be measured.

Construct Validity of Attachment to Place Dimension

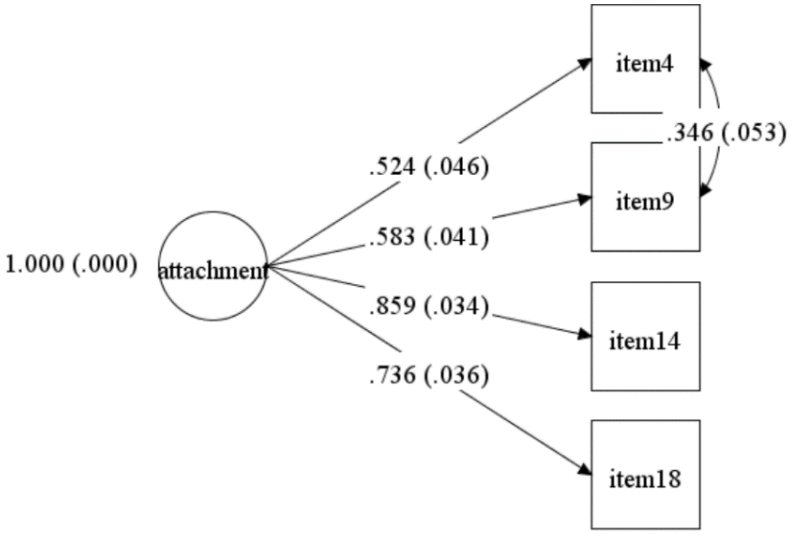
The researchers tested the items that were included in the attachment dimension to the place. There were four items tested in this dimension. The results of the initial factor analysis in the leadership dimension are as follows:

Table 10. Description of the Construct Validity of Attachment Dimensions with Place

Goodness of Fit	Cut off values	Model Results	Description
p-*values*	≥ .05	.000	Not Fit
RMSEA	≤ .06	.172	Fit
CFI	≥ .95	.967	Fit
TLI	≥ .95	.901	Fit

Sources: Personal Data

Based on the above results, the six items on the leadership dimension can be said to be unfit to the model because the TLI value did not fit the minimum value of a fit model. The analysis results from the *software* Mplus *modification indices value.* Thus, the researchers freed the correlation between items according to the recommendation of the modification indices value. After removing the correlation, the following model was obtained:



Source: Personal Data

Figure 4. Confirmatory Factor Analysis Factor Model of Attachment Dimensions with Place

After removing the correlation, there were no modification indices recommended by the Mplus software. This shows that the data were a maximum fit with the measured model. The description of the results of the validity test after making changes according to the modification indices is as follows:

Table 11. Description of the Construct Validity of Attachment Dimensions with Place After Modification Indices

Goodness of Fit	*Cut off values*	Model Results Before Editing	Model Results After Editing	Description of Model Results After Editing
p-*values*	≥ .05	.000	.000	Not Fit
RMSEA	≤ .06	.172	.000	Fit
CFI	≥ .95	.967	1.000	Fit
TLI	≥ .95	.901	1.005	Fit

Sources: Personal Data

The significance of the item in measuring the factor to be measured was measured by looking at the factor loading coefficient on the item. The test was carried out by looking at the t value of each factor loading coefficient of the item, as shown in the following table:

Table 12. Description of Factor Loading Dimensions Attachment to Place

Item	Coefficient	*Standard error*	*cut off values*	t-value	Significance
Item 4	.700	.042	$t \geq 1.96$	16.705	Significant
Item 9	.779	.040	$t \geq 1.96$	119.378	Significant
Item 14	.643	.042	$t \geq 1.96$	15.337	Significant
Item 18	.551	.047	$t \geq 1.96$	11.709	Significant

Sources: Personal Data

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The table above indicates that all items were significant to measure the model to be measured. Judging from the value of t and also the coefficient of charge factor which was positively charged. Therefore, it can be concluded that at this stage, no items were discarded or omitted.

Based on the description of the table above, the results of the t value on all items were declared significant. This means that all items measure what they want to measure. Hence, it can be concluded that the dimension of attachment to the place was valid for analysis.

Construct Validity of Social Trust Dimension

The social trust dimension was analyzed separately. This is because the number of items for the social trust dimension was only two items. The number of items in the social trust dimension did not fit the criteria for the CFA analysis using MPlus software. Therefore, the researchers employed the total score of the two items as the factor value in the dimension of social trust. Furthermore, this total score was analyzed together with factor values from other dimensions.

Construct Validity of the CCRAM Group Resilience Measurement Tool

Researchers conducted a dimension test which was included in the group resilience measurement. There were five dimensions tested in this measuring tool. The results of the initial factor analysis in the CCRAM measuring instrument to see group resilience are presented as follows:

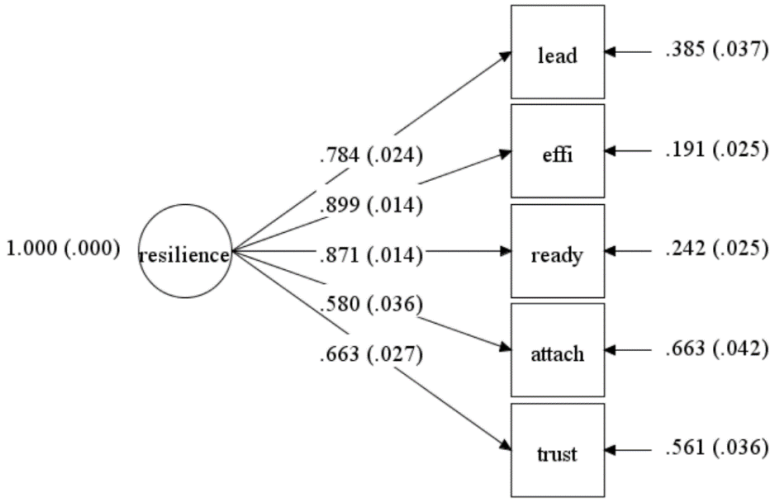
Table 13. Description of the Construct Validity of Group Resilience (CCRAM)

Goodness of Fit	*Cut off values*	Model Results	Description
p-*values*	.05	.000	Not Fit
RMSEA	.06	.072	Not Fit
CFI	.95	.988	Fit
TLI	.95	.975	Fit

Sources: Personal Data

Based on the table above, it is known that the CCRAM measuring instrument fits the model to measure group resilience. This is because the CFI and TLI values are in accordance with the model fit criteria.

After looking at the goodness of fit, the correlation and factor load coefficient were analyzed. The load coefficient was described in the following figure and table. The picture of the factor load coefficient in this measuring tool is as follows:



Source: Personal Data

Figure 5. Confirmatory Factor Analysis Model of Group Resilience Confirmatory Factors (CCRAM)

After drawing the load coefficient of the group resilience factor, the factor load coefficient was described by looking at the t value of each dimension. The following is a description of the factor load coefficient:

Table 14. Description of Factor Loading Group Resilience Scale (CCRAM)

Dimension	Coefficient	*Standard error*	*cut off values*	t-value	Significance
Dimension 1 (Leadership)	.784	.024	$t \geq 1.96$	32.917	Significant
Dimension 2 (Collective Efficacy)	.899	.014	$t \geq 1.96$	65.058	Significant
Dimension 3 (Readiness)	.871	.014	$t \geq 1.96$	61.160	Significant
Dimension 4 (Attachment to Place)	.580	.036	$t \geq 1.96$	16.152	Significant
Dimension 5 (Social Trust)	.663	.027	$t \geq 1.96$	24.442	Significant

Sources: Personal Data

Based on the description of the table above, it is known that all dimensions were significant. This means that each dimension measures what it is intended to measure and contributes to assessing group resilience. The highest t-value was in the group efficacy dimension and the lowest t-value was in the attachment to place dimension.

Conclusion

The results of the validity test of the CCRAM measuring instrument show that the measuring instrument has a good validity value and fits the model. This is illustrated by the CFI and TLI scores that meet the goodness of fit criteria. In addition, the factor loading value for each item is significant. All items measure what they are intended to measure, thus, no items are omitted or deleted. This is reflected in the goodness of fit value for each dimension of the CCRAM measuring instrument. The highest factor loading value is in the collective efficacy dimension, while the lowest factor loading value is in the attachment dimension.

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Appendix

Instruction of the test (Bahasa Indonesia Version)

Selamat pagi/siang/sore/malam

Perkenalkan kami Lailatul Mubarokah dari Fakultas Psikologi, Universitas Mercu Buana & Adiyo Roebianto dari Fakultas Psikologi dan Pendidikan, Universitas Al-Azhar Indonesia.

Saat ini kami sedang melakukan penelitian mengenai gambaran resiliensi kelompok ditinjau dari demografi wilayah di Indonesia. Oleh karenanya, kami membutuhkan partisipan dan jika Anda sesuai dengan karakteristik partisipan yang tertulis dibawah ini, mohon bantuannya untuk mengisi kuesioner ini. Kriteria partisipan dalam penelitian ini adalah:

1. Pria/Wanita

2. Warga Negara Indonesia yang berusia 17-65 tahun

3. Berdomisili tetap di Provinsi yang saat ini sedang ditempati/berada

Identitas dari partisipan dalam penelitian ini akan dijaga kerahasiaannya. Semua informasi bersifat rahasia dan anonim serta tidak mencantumkan identitas Saudara/i/Bapak/Ibu dalam laporannya. Jika ada pertanyaan mengenai kuesioner ini silakan menghubungi kami melalui adiyo.roebianto@uai.ac.id atau adiyor13@gmail.com. Untuk menjaga kualitas data dalam penelitian ini, kami mohon untuk menjawab pernyataan-pernyataan ini secara jujur dan sebenar-benarnya.

Kami ucapkan terima kasih atas bantuannya.

Tim Peneliti

Original Version (English Version)

Item	Score				
	Strongly Disagree	**Disagree**	**Netral**	**Agree**	**Very Strongly Angree**
1. The municipal authority (regional council) of my town functions well	1	2	3	4	5
2. There is mutual assistance and concern for others in my town	1	2	3	4	5
3. My town is organized for emergency situations	1	2	3	4	5
4. I am proud to tell others where I live	1	2	3	4	5
5. The relations between the various groups in my town are good	1	2	3	4	5

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6. I have faith in the decision makers in the municipal authority (regional council)	1	2	3	4	5
7. I can depend on people in my town to come to my assistance in a crisis	1	2	3	4	5
8. The residents of my town are acquainted with their role is in an emergency situation	1	2	3	4	5
9. I feel a sense of belonging to my town	1	2	3	4	5
10. There is trust among the residents of my town	1	2	3	4	5
11. In my town, appropriate attention is given to the needs of children	1	2	3	4	5
12. There are people in my town who can assist in coping with an emergency	1	2	3	4	5
13. In my town, there are sufficient public protection facilities (such as shelters)	1	2	3	4	5
14. I remain in this town for ideological reasons	1	2	3	4	5
15. I have faith in the ability of the elected/nominated head of my town to lead the transit from routine to emergency management of the town	1	2	3	4	5
16. I believe in the ability of my community to overcome an emergency situation	1	2	3	4	5
17. My family and I are acquainted with the emergency system of my town (to be activated in times of emergency)	1	2	3	4	5
18. I would be sorry to leave the town where I live	1	2	3	4	5
19. The municipal authority (regional council) provides its services in fairness	1	2	3	4	5

20. The residents of my town are greatly involved in what is happening in the community	1	2	3	4	5
21. The residents of my town will continue to receive municipal services during an emergency situation	1	2	3	4	5

Bahasa Indonesia Version

Item	Skor			
	Sangat Tidak Setuju	**Tidak Setuju**	**Setuju**	**Sangat Setuju**
1. Pemerintah daerah di tempat saya menjalankan tugasnya dengan baik	1	2	3	4
2. Ada bantuan dan kepedulian satu sama lain di daerah saya	1	2	3	4
3. Daerah saya sudah siap jika ada situasi darurat (bencana alam dsb)	1	2	3	4
4. Saya bangga memberi tahu orang-orang darimana saya tinggal	1	2	3	4
5. Hubungan antar berbagai kelompok (agama, suku, dan ras) di daerah saya berjalan baik	1	2	3	4
6. Saya percaya pada keputusan yang ditetapkan pemerintah daerah	1	2	3	4
7. Saya dapat mengandalkan orang-orang di kota saya untuk membantu saat saya dalam krisis	1	2	3	4
8. Penduduk di daerah saya mengetahui peran mereka saat dalam situasi darurat	1	2	3	4
9. Saya memiliki rasa kepemilikan terhadap tempat saya menetap saat ini	1	2	3	4
10. Ada rasa saling percaya antar penduduk di daerah saya	1	2	3	4

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11. Di daerah saya, pemerintah daerah memberikan perhatian layak sesuai dengan kebutuhan anak	1	2	3	4
12. Di daerah saya terdapat lembaga yang dapat membantu mengatasi keadaan darurat	1	2	3	4
13. Di daerah saya, ada fasilitas perlindungan publik yang memadai (seperti tempat penampungan)	1	2	3	4
14. Saya tetap berada di daerah ini, karena alasan ideologis (banyak kenangan)	1	2	3	4
15. Saya yakin kepada pemimpin daerah yang terpilih dapat memimpin wilayah (dari mulai mengeluarkan Peraturan Daerah yang bagus hingga manajemen kota) baik pada saat kondisi normal ataupun saat mengalami situasi darurat	1	2	3	4
16. Saya percaya pada kemampuan masyarakat di daerah saya untuk mengatasi situasi darurat	1	2	3	4
17. Keluarga saya dan saya mengenal sistem kedaruratan di daerah saya	1	2	3	4
18. Saya akan menyesal jika meninggalkan daerah tempat saya menetap saat ini	1	2	3	4
19. Pemerintah daerah memberikan layanan dengan adil	1	2	3	4
20. Penduduk di daerah saya sangat peduli atas apa yang terjadi di masyarakat	1	2	3	4
21. Pemerintah di daerah saya akan terus memberikan bantuan kepada penduduk selama situasi darurat	1	2	3	4