Data Article

Measurement model data of academic resilience for students in senior high school of middle seminary

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ABSTRACT

This article aims to describe the academic resilience of secondary seminary students. Data were obtained from Garum Middle Seminary High School students, Blitar (East Java), Indonesia, in the 2019 academic year. Evidence for validity and reliability of the measurement was provided through confirmatory factor analysis. Previous research has used expert judges [1] to identify 100 items measuring academic resilience, encompassing four subscales (determination, endurance, adaptability, and recuperability). The current research used 28 of those items with the highest level of validity to create a 16-item measure of academic resilience.

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Specifications Table

| Subject          | Psychology                  |
|------------------|-----------------------------|
| Specific subject area | Educational Psychology, Academic Resilience |
| Type of data     | Table and figure            |
| How data were acquired | This data was obtained using a questionnaire to measure students academic resilience. |
| Data Format      | Raw and Analyzed            |
| Parameters for data collection | Participants were 113 high school seminary students from Blitar, East Java, Indonesia. |
| Description of data collection | Participants responded to 28 items of the academic resilience questionnaire, using a scale from 1 (strongly disagree) to 5 (strongly agree). |
| Data source location | Seminari High School St. Vincentius a Paulo Blitar Jl. Merdeka Timur 4–6 Garum, Blitar, East Java, Indonesia. |
| Data accessibility | The data files are available through Mendeley Data: [http://dx.doi.org/10.17632/n93xpwdk6p.9](http://dx.doi.org/10.17632/n93xpwdk6p.9) |

Value of the Data

- The data are useful for measuring the level of academic resilience of high school students in secondary seminary, and finding possible factors that influence the level of resilience.
- The data are useful for providing input to policymakers, teachers, and especially seminary coaches to increase the academic resilience of their students.
- These data can be used to conduct longitudinal studies examining the development of academic resilience of high school students in middle seminary.

1. Data Description

This paper contains psychometric data for the measurement of academic resilience in high school seminary students. To our knowledge, this article is the first to measure the academic resilience of secondary seminary students. Academic resilience is the dynamic ability of students to succeed in studies despite experiencing many disturbances or pressures and problems [2,3]. In the current study, resilience was measured using the four dimensions proposed by Taormina [4]: determination, endurance, adaptability, and recuperability.

2. Experimental Design, Materials and Methods

Data collection was done by the researcher at the Garum Middle Seminary High School, Blitar, East Java, Indonesia. All students in this seminary are male. Their age range is 16–19 years. Respondents were 113 people, with 40 students in Class X, 42 students in Class XI, and 31 students in Class XII. This study was a non-experimental study using a questionnaire. The questionnaire contained 28 statement items, originally developed by Taormina which can be found in Table 1. Participants responded to each item using a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Eight out of twenty eight items are un-favorable items, so when respondents chose option 5 on a scale (strongly agree), it means respondents’ resilience is lower. Responses in the data file have already been recoded as necessary (Figs. 1 and 2).

Data analysis was performed using SPSS for descriptive statistics, and using AMOS to obtain Confirmatory Factor Analysis (CFA), Average Variance Extracted (AVE), and Composite Reliability (CR) values. Table 3 shows that the value of the loading factors of the 16 items ranged from 0.747 to 0.886. The AVE value is between 0.782 and 0.896, and the CR value of each domain ranges from 0.855 to 0.921.
### Table 1
Items of measurement scale.

| Dimension     | No. | Code | Items                                                                 |
|---------------|-----|------|----------------------------------------------------------------------|
| Determinant   | 1   | D11  | I entered this seminary high school so I could become a priest       |
|               | 2   | D12  | I never give up in the struggle to achieve goals                    |
|               | 3   | D13  | I would be grateful if I could step up in class every year          |
|               | 4   | D21  | I entered this seminary high school so I could be accepted at the   |
|               |     |      | favorite university                                                 |
|               | 5   | D22  | I struggled hard so I could graduate from high school this          |
|               |     |      | seminary                                                            |
| Endurance     | 6   | D23  | I chose this middle school seminary because I was just a friend      |
|               | 7   | E11  | I try to establish good relationships with all teachers             |
|               | 8   | E12  | I maintain good relations with seniors                              |
|               | 9   | E13  | I find it hard to maintain friendships with classmates              |
|               | 10  | E21  | I studied the subject matter over and over again that I had         |
|               |     |      | difficulty understanding                                            |
|               | 11  | E22  | I pay extra attention to fields of study that I find difficult to    |
|               |     |      | understand                                                          |
| Adaptability  | 12  | E23  | I can adjust to all the rules in this school                        |
|               | 13  | A11  | I feel bored with the monotonous schedule at this seminary high     |
|               | 14  | A12  | school                                                               |
|               | 15  | A13  | This school discipline trains my independence                       |
|               | 16  | A21  | I perform the evening worship whole heartedly                        |
|               | 17  | A22  | I get used to living with strict discipline                          |
|               | 18  | A23  | I carry out the cleaning duties with pleasure                       |
|               | 19  | A24  | I feel that seminary cleanliness is not my responsibility           |
|               | 20  | A25  | I can ask senior brother for help with difficult subject matter     |
| Recuperability| 21  | R11  | I diligently exercise to maintain health                             |
|               | 22  | R12  | I fell ill from exhaustion washing and ironing clothes              |
|               | 23  | R13  | My spirit recovered soon after recovering from this illness         |
|               | 24  | R14  | My spirit rose again after serving the sentence for my offense      |
|               | 25  | R15  | I was mentally devastated after being sentenced by the Board of     |
|               |     |      | Trustees                                                             |
|               | 26  | R21  | Teacher's stern admonition in academic guidance motivated me to     |
|               |     |      | be even better                                                       |
|               | 27  | R22  | I studied extra hard to improve my low grades                       |
|               | 28  | R23  | I study harder to catch up with some lessons                         |

### Table 2
CFA results.

| Latent Variable | Manifest Variable | Loading Factors | Partial Validity (LF > 0.5=Valid) |
|-----------------|-------------------|-----------------|-----------------------------------|
| Determinant (Y1)| D11               | 0.880           | Valid                             |
|                 | D12               | 0.622           | Valid                             |
|                 | D13               | 0.764           | Valid                             |
|                 | D21               | 0.336           | Invalid                           |
|                 | D22               | 0.808           | Valid                             |
|                 | D23               | 0.317           | Invalid                           |
| Endurance (Y2)  | E11               | 0.849           | Valid                             |
|                 | E12               | 0.769           | Valid                             |
|                 | E13               | 0.341           | Invalid                           |
|                 | E21               | 0.810           | Valid                             |
|                 | E22               | 0.409           | Invalid                           |
|                 | E23               | 0.754           | Valid                             |
| Adaptability (Y3)| A11              | 0.832           | Valid                             |
|                 | A12               | 0.455           | Invalid                           |

(continued on next page)
Table 2 (continued)

| Latent Variable | Manifest Variable | Loading Factors | Note   | Rank |
|-----------------|-------------------|-----------------|--------|------|
| A13             | 0.292             | Invalid         | 8      |
| A21             | 0.787             | Valid           | 4      |
| A22             | 0.311             | Invalid         | 7      |
| A23             | 0.822             | Valid           | 3      |
| A24             | 0.433             | Invalid         | 6      |
| A25             | 0.848             | Valid           | 1      |
| R11             | 0.858             | Valid           | 3      |
| R12             | 0.468             | Invalid         | 5      |
| R13             | 0.363             | Invalid         | 7      |
| R14             | 0.824             | Valid           | 4      |
| R15             | 0.223             | Invalid         | 8      |
| R21             | 0.883             | Valid           | 1      |
| R22             | 0.879             | Valid           | 2      |
| R23             | 0.380             | Invalid         | 6      |

Table 3
Goodness of fit.

| Goodness of fit Index | Results          |
|-----------------------|------------------|
| Chi-Square            | 225.244          |
| Probability           | 0.000            |
| CMIN/DF               | 2.230            |
| RMSEA                 | 0.074            |
| GFI                   | 0.904            |
| AGH                   | 0.871            |
| CFI                   | 0.915            |

Table 4
Item, CFA, AVE, and CR.

| Dimension  | Code | Items                                                                 | Loading Factors | AVE  | CR   |
|------------|------|------------------------------------------------------------------------|-----------------|------|------|
| Determined | D11  | I entered this seminary high school so I could become a priest         | 0.882           | 0.782| 0.855|
|           | D12  | I never give up in the struggle to achieve goals                      | 0.608           |      |      |
|           | D13  | I would be grateful if I could step up in class every year            | 0.763           |      |      |
|           | D22  | I struggled hard so I could graduate from high school this seminary   | 0.818           |      |      |
| Endurance | E11  | I try to establish good relationships with all teachers               | 0.853           | 0.817| 0.875|
|           | E12  | I maintain good relations with seniors                                | 0.775           |      |      |
|           | E21  | I studied the subject matter over and over again that I had difficulty understanding | 0.814 |      |      |
|           | E23  | I find it hard to maintain concentration during the last lesson       | 0.747           |      |      |
| Adaptability| A11  | I can adjust to all the rules in this school                         | 0.827           | 0.847| 0.891|
|           | A21  | I perform the evening worship wholeheartedly                          | 0.782           |      |      |
|           | A23  | I carry out the cleaning duties with pleasure                         | 0.826           |      |      |
|           | A25  | I can ask senior brother for help with difficult subject matter       | 0.844           |      |      |
| Recoverable| R11  | I diligently exercise to maintain health                              | 0.856           | 0.896| 0.921|
|           | R14  | My spirit rose again after serving the sentence for my offense        | 0.824           |      |      |
|           | R21  | Teacher's stern admonition in academic guidance motivated me to be even better | 0.886 |      |      |
|           | R22  | I studied extra hard to improve my low grades                         | 0.883           |      |      |
Fig. 1. Confirmatory factor analysis results on 28 items.
According to Hair et al. [5], items with a loading factor of at least 0.5 are valid, suggesting that 16 of the items were valid, and 12 of the items are invalid. The results of the CFA suggest that the 16 valid items loaded onto four factors – determination (Y1; items D11, D12, D13, and D22), endurance dimensions (Y2; items E11, E12, E21, and E23); adaptability dimensions (Y3; items A11, A21, A23, A25), and recuperability (Y4; items R11, R14, R21, and R22). The goodness-of-fit coefficients for this model can be found in Table 4.

**Ethics Statement**

The author states that all respondents, with their free will, agree to be included as the participants of this study by providing their answers to all of the questionnaires, without coercion from any parties. Their personal information is kept confidential.
CRediT Authors Statement

**Mimpin Sembiring:** Conceptualization, Methodology, Writing-Preparation of original draft;  
**Danardana Murwani:** Software, Data Curation, Validation;  
**Marthen Pali:** Resources, Monitoring;  
**Imanuel Hitipeuw:** Reviewing and Editing, Project Administration

Declaration of Competing Interest

The authors declare that they have no financial interests or personal relationships that could affect the work reported in this article.

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References

[1] C.H. Lawshe, A quantitative approach to content validity, Pers. Psychol. 28 (4) (1975) 563–575, doi:10.1111/j.1744-6570.1975.tb01393.x.
[2] C.N. Mwangi, A.M. Ireri, E.W. Mwaniki, Correlates of academic resilience among secondary school students in Kiambu County, Kenya, Interdiscip. Educ. Psychol. Res. (2017) 1–10.
[3] A.J. Martin, H.W. Marsh, Academic Resilience and the Four Cs: Confidence, Control, Composure, and Commitment, 2003 Auckland.
[4] R.J. Taormina, Adult personal resilience: a new theory, new measure, and practical implications, Psychol. Thought 8 (1) (2015) 35–46, doi:10.5964/psyct.v8i1.126.
[5] J.F.J. Hair, C. Beckett, L. Eriksson, E. Johansson, C. Wikström, Multivar. Data Anal. (MVDA) (2017).