

## Validation of Academic Motivation Scale: Short Indonesian Language Version

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The Standards for Educational and Psychological Testing states that there are five resources for evidence of validity which need to be examined in the evaluation of a measurement implement. The aim of this study is to evaluate the validity of the Academic Motivation Scale (AMS) - Short Indonesian Language Version. The three stages of this study were conducted over differing time periods, as well as differing resources of evidence of validity. In the first stage, the only resource of evidence of validity used was in the form of testing for reliability and correlation between the items, which aimed at determining just which items would be utilized in the short version. Meanwhile, with the second and third stages, after the items had been reduced, evaluation was conducted based on two resources of evidence of validity, the internal structure, covering reliability testing and analysis of confirmatory factors, and resources of evidence of connections to other variables. Results of the reliability testing showed an alpha Cronbach value of more than .7, with corrected item total correlation of all items above .3 Results of factor analysis also indicated that all items grouped within its dimension, as well as the results of correlation analysis also indicating results in accord with earlier pieces of research. It may be concluded that the Academic Motivation Scale-Short Indonesian Version may be considered to be a reliable measurement instrument to measure academic motivation.

*Keywords:* validity, AMS - Indonesian version, academic motivation, internal structure

*The Standards for Educational and Psychological Testing* mengatakan bahwa terdapat lima sumber bukti validitas yang perlu dikaji dalam sebuah proses evaluasi alat ukur. Tujuan penelitian ini adalah mengevaluasi validitas *Academic Motivation Scale (AMS) - Bahasa Indonesia Versi Pendek*. Tiga tahap penelitian dilakukan dalam kurun waktu berbeda dan dengan sumber bukti validitas yang berbeda pula. Pada tahap pertama hanya digunakan sumber bukti validitas berupa uji reliabilitas dan korelasi antar-butir, yang bertujuan menentukan butir-butir yang akan digunakan pada versi singkat, sedangkan pada tahap kedua dan ketiga, setelah butir-butir direduksi, dilakukan evaluasi berdasarkan dua sumber bukti validitas, yaitu struktur internal, meliputi uji reliabilitas dan analisis faktor konfirmatori, serta sumber bukti hubungan dengan variabel lain. Semua hasil uji reliabilitas menunjukkan nilai *alpha Cronbach* lebih dari .7, dengan korelasi total butir terkoreksi semua butir di atas .3. Hasil analisis faktor juga menunjukkan bahwa setiap butir telah mengelompok pada dimensinya, serta hasil analisis korelasional juga menunjukkan hasil yang sejalan dengan penelitian-penelitian terdahulu. Dapat disimpulkan bahwa *Academic Motivation Scale - Bahasa Indonesia Versi Singkat* merupakan alat ukur yang terpercaya untuk mengukur motivasi akademik.

*Kata kunci:* validitas, AMS - Bahasa Indonesia, motivasi akademik, struktur internal

The Academic Motivation Scale (AMS) is one of the psychological measuring implements designed in 1992 by Vallerand, Pelletier, Blais, Brière, Senécal, and Vallières to measure academic motivation. Academic motivation is a psychological construct, having

latent and important characteristics, and which it is important to study, as it has a very large impact on the world of education. Some of these characteristics are self-regulation, determination, help-seeking and performance (Reeve, 2009). One of the perspectives which explains academic motivation in depth is the Self-Determination Theory (SDT), developed by Deci and Ryan (in Vallerand et al., 1992).

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In accord with the Self-Determination Theory (SDT), the aspects measured in AMS are as follows:

**(a) Intrinsic Motivation.** According to Deci and Ryan (in Vallerand et al., 1992), intrinsic motivation is an urge to be involved in a movement, or activity, in order to obtain contentment and satisfaction for oneself, this arising from the participation in that activity. There are three sub-scales, these being: (1) Intrinsic Motivation to Know (IMTK): the feeling of contentment and satisfaction felt when studying and exploring something new; (2) the Intrinsic Motivation to Accomplish Things (IMTA): the feeling of contentment and satisfaction felt when successful in surpassing, completing and creating something new, and; (3) Intrinsic Motivation to Experience Stimulation (IMES): the feeling of excitement and enjoyment obtained from the activity undertaken.

**(b) Extrinsic Motivation.** Deci and Ryan (2008) define extrinsic motivation as the converse of intrinsic motivation, the urge to be able to be involved in a movement or activity, not because of contentment in doing so, but because of hopes of obtaining an external reward from the activity. There are also three sub-scales, the more deeply to illustrate extrinsic motivation, these being: (1) External Regulation (EMER), referring to activities not determined by oneself, but which are the results of an order or force from someone else and/or a situation; (2) Introjected Regulation (EMIN), referring to activities, a portion of which are internalized, although not fully related to aspects of a person's life, so that he or she performs them because of not wishing to feel guilt, and; (3) Identified Regulation (EMID), referring to activities chosen by the person him or herself, because of a feeling that it is important that those activities be performed, although not, in fact, enjoyment in performing them.

**(c) Amotivation.** Cokley (2015) places amotivation at the lowest level in the sequence of motivations. This because amotivation is a condition reflecting the lack of intention, supported by both intrinsic and extrinsic motivation (Cokley, 2015). Deci and Ryan (in Vallerand et al., 1992), stated that the individual who suffers from amotivation is one who is unable to feel the results or impacts from his or her conduct.

Many pieces of studies are concerned with motivation, for actions performed in the context of education, however it is very much to be regretted that not infrequently there are those employing inaccurate implements of measurement (Kember, Hong & Ho, 2008). What are required are valid implements of measurement, to support exact measurement, in order to obtain credible measurement results. The aim of this stu-

dy is to conduct validity evaluation of the Academic Motivation Scale - Short Indonesian Language Version measurement implement. The Academic Motivation Scale - Indonesian Language Version has previously been validated by Natalya and Purwanto (2018), however it contains 30 items. This number is felt to be still too many, and, from the results of examination, those items have a very high level of similarity one to the other, so that it should be very possible to produce a shorter version.

## Method

### Research Design

The procedure for this study was divided into three stages. The first stage was to conduct an evaluation analysis of the 30 items of the Academic Motivation Scale - Indonesian Language Version, using reliability testing. The aim of this first stage was to eliminate some items, leaving only the items having high correlations with their respective dimensions.

The following stage, that is Stage Two, was to conduct an evaluation of the remaining items (15 items). Evaluation was conducted using a number of statistical analyses, inter alia reliability testing, exploratory factor analysis, and connections with another variable, that being self efficacy. The final stage, was conducted to evaluate validity of the Academic Motivation Scale - Short Indonesian Language Version. The statistical analysis used in Stage Three was reliability testing, exploratory factor analysis, and the relationship with academic achievement.

### Participants

This study utilized three stages. In the first stage, the data used to conduct validation was data collected gradually through online surveys, circulated to every class on psychological measurement, with a total number of 1,168 respondents. This study was dominated by female respondents, with 68.15% of respondents being female, the remainder being 372 males. Ages ranged between 17 and 25 years. On average, the *Indeks Prestasi Kumulatif* (Cumulative Achievement Index – IPK) of the subjects of the study at the first stage was 2.968 out of 4.000.

For the second stage the data was collected from 359 subjects, consisting of 69 males and 290 females. 66% of the study subjects were tertiary education students, of the *Angkatan 2016* (2016 Generation – that

**Table 1**  
*Specification Table for the Academic Motivation Scale - Short Indonesian Language Version*

Aspect	Item Type		Total
	Favorable	Unfavorable	
Intrinsic Motivation (IM)			
1. Intrinsic Motivation to Know (IMTK)	1, 8	-	2
2. Intrinsic Motivation to Accomplish Things (IMTA)	5,11,14	-	3
3. Intrinsic Motivation to Experience Stimulation (IMES)	3,9	-	2
Extrinsic Motivation (EM)			
4. External Regulation (EMER)	7,10,12	-	3
5. Introjected Regulation (EMIN)	6,15	-	2
6. Identified Regulation (EMID)	2	-	1
Amotivation (AMOT)	4,13	-	2
Number of Items			15

is those who began their tertiary studies in July 2016), meaning that when the data was collected, these subjects were in their second year. The study data for the second stage was collected online, from eleven universities, both private and state, in East Java.

For the third stage, the entirety of the data collected was from 107 persons, coming from three fields of studies, these being Physics, Statistics, and Information Technology. 51.4% of the subjects were from the 2014 Generation, and 48% from the 2015 Generation. All the subjects for the third stage were tertiary students from one of the foremost universities in Surabaya. In this third stage, the proportions of subjects, seen from the viewpoint of gender, tended to be about equal, with 53.3% (57 people) being female, and the remaining 50 being male. Nearly 90% or the study subjects at Stage Three were Muslims.

**Measurements**

This study used the Academic Motivation Scale already translated into Indonesian, the validation of which has been performed by Natalya and Purwanto (2018). The goal for this study was to conduct validity evaluation of the Academic Motivation Scale – Short Indonesian Language Version. Whilst initially the total number of items was 30, in the short version there remained only 15 items. The selection of the 15 items of the short version was on the basis of results of the analysis of Stage One, that is the results of the analysis of the reliability and correlation between the items. The items used as a short version are those proven to have a high correlation with the other items in the same sub-dimension. Besides having a high correlation, the reliability and sub-dimensions of the Academic Motivation Scale - Short Indonesian Language Version must have a constantly high degree of Alpha Cronbach value, in fact better than the degree of Alpha Cronbach

value in the original version.

In Table 1 is a study of the specifications of the Academic Motivation Scale - Short Indonesian Language Version, resulting from the analysis performed in this study.

Measurement for the 15 statements of the Academic Motivation Scale - Short Indonesian Language Version was made using a Likert scale, that is by providing six response choices, beginning with ‘greatly disagree’, and progressing up to and including ‘greatly agree’.

**Statistical Analysis**

In order to evaluate the degree of validity of the Academic Motivation Scale - Short Indonesian Language Version, a number of sources of evidence of validity were employed. Based on The Standards for Educational and Psychological Testing (AERA et al., 1999) five resources of validity were found, these being the resources of evidence of validity on the bases of content, of the response process, of the internal structure, of relationships with other variables, and of the evidence of the impact of measurement. In this study, two of the resources of evidence of validity were used, the resource of evidence of validity based on internal structure and that based on relationships with other variables. Particularly for the resource of evidence of validity based on internal structure, what was used was a study of reliability, using internal consistency and exploratory factor analysis.

**Internal Consistency.** In developments in the scientific knowledge of psychological measurement, reliability is a part of a resource of evidence of validity. Azwar (2008) said that reliability can be used to measure the consistency and/or accuracy of the results of measurement. An implement of measurement having high internal consistency will tend to produce the same

results every time that implement of measurement is employed (Coaley, 2010).

Measuring internal consistency using the alpha coefficient needs only data having the characteristics of a single trial administration (Natalya, 2016b). A dimension and/or implement of measurement is said to be reliable if, and only if, it fulfills the two conditions below: (1) It has an alpha Cronbach value of more than equivalent to .6 ( $\geq .6$ ), and; (2) All items analyzed have a corrected item total correlation value of more than equivalent to .3 positive ( $CITC \geq .3$ ).

If there is an item having a value of  $CITC \geq -.3$ , that item must be reversed firstly, then re-analyzed using the reversed item, whilst with items having a value of  $CITC < .3$  then the correct way of dealing with that item is for it to be dropped.

**Exploratory Factor Analysis.** In general, sources of evidence on the basis of internal structure are based on how far the points of an implement of measurement are mutually related, so as to be able to form a good construct (Natalya, 2016a). One way to examine this is to employ exploratory factor analysis.

A scale is categorized to have a good validity when the items of the scale have factor loadings larger or equal to .400 with single factor, and grouped together with other items from the same dimension. Usable items are those which do not have cross loading (have a factor loading of more or equal to .400 with more than one factor) or zero loading (have a factor loading of less than .400 with all factors).

**Relationships with other variables.** One of the pieces of evidence of validity, according to The Standards for Educational and Psychological Testing (AERA et al., 1999), is the relationship to other variables. This resource of evidence is obtained by correlating test results of the measurement implements, examined with other variables, outside the implement measurement (Natalya, 2016a). The other variables referred to are variables which are supportive, as predictive and/or concurrent evidence from the measurement implement being examined (Natalya, 2016a).

An implement of measurement is said to have good validity, if and only if that implement fulfills three characteristics, these being; having a positive correlation with results of measurements of a similar construct, having a negative correlation with the results of the measurements of an opposing construct, and having no significant correlation with the results of measurements which, theoretically, definitely have no relationship.

In this study, there are three criteria used. These are:

**(a) Cumulative Achievement Index (IPK).** The

cumulative achievement index is something which is very important in the world of education. Winkel (1996) defined cumulative academic achievement as evidence of the successful learning of a person. Winkel (1996) stated that academic achievement was evidence of the ability of a person, given a certain weighting. Nasution (1996) said that academic achievement is the results of a person thinking, feeling and accomplishing something. Therefore, on the basis of these definitions, it may be concluded that academic achievement is a measure of the success of a person within the process through which that person has passed.

Indonesian academic achievement is normally symbolized by letters and/or numbers within a scale of 4. In tertiary education, academic achievement is measured through two evaluations, these being the Semester Achievement Index (*Indeks Prestasi Semester – IPS*) and the Cumulative Achievement Index (*Indeks Prestasi Kumulatif – IPK*). In this study, the academic achievement utilized as a criterion is the IPK.

**(b) Procrastination.** Procrastination is repeated delaying conduct, willfully perpetrated even after there being awareness that there will be a deleterious impact accompanying it (Steel, 2007). Also according to Steel (2007), the principle factor for a person perpetrating deferment is a wish within the person him or herself to procrastinate. Besides this, Tuckman (2003) said that other factors having a part in influencing the decision of a person to commit procrastination is rationalization.

It was this which was the basis for Steel (2010) creating the Pure Procrastination Scale (PPS), as one of the measurement implements focused on dysfunctional postponement. The PPS was developed from three existing groups of procrastination measurement, these being the Adult Inventory of Procrastination (AIP), the General Procrastination Scale (GPS), and the Decisional Procrastination Questionnaire (DPQ). The PPS consists of 12 items, all of which have favorable characteristics and are designed to measure only one aspect (unidimensional). One example of an item of the PPS reads, “*I postpone making a decision, until eventually it is too late*”.

In this study, the PPS was used as a criterion to evaluate the validity of the Academic Motivation Scale - Short Indonesian Language Version. The response choices offered range from 1 (strongly disagree) to, and including, 6 (strongly agree).

**(c) Self-Efficacy.** Bandura describes self-efficacy as a multidimensional construct which has both direct and indirect beneficial impacts on the performance of a person (Waqar, Shafiq, & Hasan, 2016). The basic

Table 2  
*Results of Reliability Testing of the AMS – Short Indonesian Language Version*

Dimension / Sub-Dimension	Reliability of Orig. Version		No. of Items	Reliability of Short Version		No. of Items
	Alpha Cronbach	Range of CITC		Alpha Cronbach	Range of CITC	
IMTK	.786	.577 – .620	4	.707	.525	2
IMTA	.746	.506 – .566	4	.706	.513 – .542	3
IMES	.799	.565 – .675	4	.755	.607	2
IM	.898	.513 – .693	12	.835	.475 – .616	7
EMER	.811	.503 – .722	4	.768	.519 – .682	3
EMIN	.782	.535 – .674	4	.710	.555	2
EMID	.850	.663 – .728	4	-	-	1
EM	.882	.467 – .656	12	.787	.477 – .625	6
AMOT	.874	.650 – .720	6	.755	.607	2
AMS	.924	.304 – .676	30	.865	.366 – .611	15

concept of self-efficacy was explained by Bandura through the Social Learning Theory (cited in Waqar, Shafiq, & Hasan, 2016). Bandura (1989) said that self-efficacy is closely related to motivation, and that this is caused by a person who has high self efficacy tending to have high motivation, reflected in how great and how long-lasting are his or her efforts to complete a thing.

In this study, self-efficacy was measured using 30 items, consisting of 15 favorable items, and 15 unfavorable ones, from Bandura, and adapted by Puspitasari (2011, cited in Julianda, 2012). One of the favorable items measured was, “*By learning I will certainly be able to complete difficult examination questions*”, whilst what is said in one of the unfavorable items is, “*I am dubious that, although I have completed my assignments, I can pass the examination well*”. Measurement uses six response choices, beginning with 1, meaning ‘strongly disagree’, up to 6, meaning ‘strongly agree’.

## Results

### First Stage

At this stage, the completed analysis steps were used to test the reliability of the 30 items of the Academic Motivation Scale - Indonesian Language Version and to determine the items that were used in the short version. The result of reliability testing is shown in Table 2.

In Stage One, the items chosen to become the items of the AMS – Short Version were those having a correlation of more than .5 ( $r \geq .5$ ). This was because, if the correlation between the items was more than .5, it might be determined that those items had a strong correlation and/or consistency. Besides this, the other conditions which also had to be fulfilled were; that the di-

mensions and/or sub-dimensions of the AMS – Short Version had to be consistently reliable, that is had to have an alpha Cronbach value of more than .7 ( $\alpha \geq .7$ ) and the CITC of all items had to be more than plus .3 ( $CITC \geq .3$ ).

However, as mentioned in Table 2, the sub-dimensions of the EMID in the Short Version needed to be represented by only one item. The EMID was a factor with single item measurement. This was caused by all items having a correlation of more than .7 ( $r > .7$ ), meaning the items in that dimension had a statement of the same, or too similar, a form. Because of being represented by only one item, the internal consistency of the EMID sub-dimension could not be measured. The validity of EMID2 is proven from the correlation coefficients with all other variables.

### Second Stage

The following are the results of the data analysis in the second stage:

**(1) Reliability of the Academic Motivation Scale - Short Indonesian Version.** Based on the results of the reliability testing analysis performed, it was known that, as shown in Table 3, all dimensions and sub-dimensions of the AMS – Short Indonesian Language Version have high reliability, that is they have an alpha Cronbach value of more than .7. This means that all dimensions and sub-dimensions of the AMS – Short Indonesian Language Version have a sound internal consistency.

**(2) The Reliability of Other Variables.** Based on the results of the reliability analysis performed, shown in Table 4, it is known that procrastination and self-efficacy are implements of measurement having high reliability. It may therefore be concluded that those two scales can be reliable criteria to prove the validity

Table 3

*Results of Reliability Testing of the AMS – Short Indonesian Language Version – Second Stage*

Dimension	Alpha Cronbach	Range of CITC	No. of Items	Conclusion
IMTK	.746	.595	2	Reliable
IMTA	.729	.531 – .574	3	Reliable
IMES	.765	.619	2	Reliable
IM	.869	.619 – .668	7	Reliable
EMER	.809	.601 – .719	3	Reliable
EMIN	.764	.618	2	Reliable
EMID	-	-	1	-
EM	.832	.466 – .704	6	Reliable
AMOT	.763	.634	2	Reliable
AMS	.876	.259 – .673	15	Reliable

Table 4

*Results of Reliability Testing of Contributory Scales*

Scale	Alpha Cronbach	Range of CITC	No. of Items	Conclusion
Procrastination	.929	.460 – .779	12	Reliable
Self-Efficacy	.902	.340 – .617	30	Reliable

Table 5

*Rotated Component Matrix of Seven Factors of the AMS – Short Indonesian Language version – Second Stage*

Item Number	1	2	3	4	5	6	7
AMS_EMER_12	.890						
AMS_EMER_7	.839						
AMS_EMER_10	.685						
AMS_IMTK_8		.754					
AMS_IMTK_1		.734					
AMS_IMES_9			.819				
AMS_IMES_3			.655				
AMS_AM_13				.910			
AMS_AM_4				.860			
AMS_EMIN_15					.787		
AMS_EMIN_6					.639		
AMS_IMTA_11						.812	
AMS_IMTA_5						.769	
AMS_IMTA_14						.568	
AMS_EMID_2							.858

of the AMS – Short Indonesian Language Version.

**(3) Exploratory Factor Analysis.** Based on the results of the analysis of factors in Table 5, it is known that fifteen items of the AMS – Short Indonesian Language Version grouped perfectly in accord with the respective sub-dimensions. The choice of item combination into seven groups was based on the *a priori* criterion which designed the Academic Motivation Scale to have seven sub-dimensions. The combination of the seven factors is a good one, because there is no cross loading or zero loading of items. Besides this, the combination of seven factors has a cumulative size of 80.049%. This proves that all of the AMS items can be trusted to be able to measure what needs to be measured.

When combined into three large groups, as in Table

6, the items of the AMS – Short Indonesian Language Version also combine in accordance with their respective dimensions, wherein the intrinsic motivation items combine to be one, the extrinsic motivation combine with the second and third components, completed by the amotivation items. It may therefore be concluded that these fifteen items of the AMS are the precise ones to measure academic motivation.

**(4) Correlation of the AMS – Short Indonesian Language Version with Other Variables.** Based on the results of the analysis of correlations in Table 7, there is a high correlation between the sub-dimensions, both of intrinsic motivation and of extrinsic motivation. The Pearson correlation between IMTK and IMTA was .694; between IMTK and IMES .586; be-

Table 6  
*Rotated Component Matrices of Three Factors of the AMS – Short Indonesian Language Version – Second Stage*

Item Number	1	2	3
AMS_IMTK_1	.793		
AMS_IMTA_5	.745		
AMS_IMTA_14	.716		
AMS_IMTK_8	.705		
AMS_IMTA_11	.704		
AMS_IMES_9	.654		
AMS_IMES_3	.630		
AMS_EMER_12		.855	
AMS_EMER_7		.836	
AMS_EMER_10		.758	
AMS_EMIN_15		.617	
AMS_EMIN_6		.592	
AMS_EMID_2		.491	
AMS_AM_13			.874
AMS_AM_4			.862

tween IMTA and IMES .625; between EMER and EMIN .567; between EMER and EMID .415; and between EMIN and EMID .421. The size of the correlation between these sub-dimensions shows that they surely measure the same thing, that being those dimensions.

There was a significant inter-dimensional correlation in the Academic Motivation Scale – Short Indonesian Language Version, whereby the Pearson correlation between IM and EM was .640; IM and AMOT - .293; and EM and AMOT - .222. This proved that these three dimensions were connected, one with the others, in measuring academic motivation. **The three correlation coefficients show that IM and EM are negatively correlated with AMOT, although both are positively correlated with one another. Those results confirm findings of Vallerand et al. (1992).**

### Third Stage

Following are the results of data analysis in the third stage.

**(1) Reliability of the Academic Motivation Scale – Short Indonesian Language Version.** The results of reliability testing in Table 8 demonstrate that all dimensions and/or sub-dimensions of the AMS – Short Indonesian Language Version in Stage Three of the study have a reliability range of between .695 and .860. This signifies that every dimension and/or sub-dimension has an alpha Cronbach value of .695, however it may still be said that they are reliable dimensions, because they have only two items, and the inter-item correlation is .477. It may therefore be concluded, ba-

sed on this third stage, that the AMS – Short Indonesian Language Version has a sound and believable internal consistency.

**(2) Exploratory Factor Analysis.** On the basis of Table 9, that is the seven factor rotated component matrix table, it may be seen that the results obtained are the same as those obtained in the second stage, that is every item has combined accurately and perfectly with its respective component. This shows that the items of the AMS – Short Indonesian Language Version may certainly be trusted to measure the sub-dimensions.

**(3) Correlation of the AMS – Short Indonesian Language Version with Other Variables.** In Table 10, above, it can be seen that the size of the correlations between the intrinsic motivation sub-dimensions were as follows: between IMTK and IMTA it was .424; between IMTK and IMES, .220 and between IMTA and IMES, .517, whilst the size of the Pearson correlation between the sub-dimensions of extrinsic motivation were as follows: between EMER and EMIN, .616; between EMER and EMID, .534 and between EMIN and EMID, .325. The sizes of these correlations indicate that there are significant inter-relationships between the sub-dimensions and the dimensions of the Academic Motivation Scale – Short Indonesian Language Version.

Besides this, it is known that the sub-dimensions of the Academic Motivation Scale - Short Indonesian Language Version which have a significant correlation with academic achievement are only the IMTK, IMES, EMID, AMOT and the AMS as a whole.

## Discussion

On the basis of the analysis conducted on the Academic Motivation Scale - Short Indonesian Language Version, it has been discovered that these measurement implements for academic motivation are divided into three main dimensions, intrinsic motivation, extrinsic motivation, and amotivation. The dimensions of intrinsic motivation and extrinsic motivation are each again divided into three sub-dimensions, the intrinsic motivation to know, intrinsic motivation to accomplish things and intrinsic motivation to experienced stimulation, for the intrinsic dimension, and for the extrinsic motivation dimension, the division is into external regulation, introjected regulation and identified regulation. The combination of these three dimensions and sub-dimensions formed perfectly, proven from the analysis of factors in the second stage (Tables 5 and 6), and

Table 7

*Results of the Correlation of the AMS – Short Indonesian Language Version – Second Stage*

Variable	1	2	3	4	5	6	7	8	9	10	11	12
1. IMTK												
2. IMTA	.694**											
3. IMES	.586**	.625**										
4. IM	.872**	.882**	.856**									
5. EMER	.363**	.337**	.310**	.387**								
6. EMIN	.513**	.612**	.445**	.598**	.567**							
7. EMID	.473**	.489**	.523**	.570**	.415**	.421**						
8. EM	.556**	.588**	.529**	.640**	.831**	.804**	.773**					
9. AMOT	-.161**	-.201**	-.392**	-.293**	-.087	-.154**	-.292**	-.222**				
10. AMS	.576**	.567**	.377**	.579**	.537**	.575**	.439**	.641**	.517**			
11. PPS	-.053	-.125*	-.216**	-.153**	.019	-.035	-.169**	-.078	.306**	.122*		
12. SE	.221	.319**	.382**	.355**	.214	.356**	.350**	.379**	-.629**	.321**	-.374**	

Table 8

*Results of Reliability Testing of the AMS – Short Indonesian Language Version – Third Stage*

Dimension	Alpha Cronbach	Range of CITC	No. of Items	Conclusion
IMTK	.707	.548	2	Reliable
IMTA	.709	.515 – .545	3	Reliable
IMES	.695	.477	2	Reliable
IM	.776	.387 – .570	7	Reliable
EMER	.860	.702 – .814	3	Reliable
EMIN	.750	.602	2	Reliable
EMID	-	-	1	-
EM	.799	.290 – .743	6	Reliable
AMOT	.753	.573	2	Reliable
AMS	.820	.360 – .673	15	Reliable

in the third (Table 9).

Besides this, the Academic Motivation Scale – Short Indonesia Language Version is also proven to have sound internal consistency. This is proven by the fact that of the alpha Cronbach values of each dimension and sub-dimension, there are none below .6, and of the corrected item total correlations of each item, there are none below .3 (see Tables 2, 3, and 8).

Evidence of the validity of the Academic Motivation Scale - Short Indonesian Language Version is also supported by the obtaining of the study results, which are in accord with previous on the resources of evidence of relationships with other variables. Table 7 reveals that the size of the correlation between self-efficacy and academic motivation was  $r = .321$  and the  $sig. = .000$ . This shows that there is a positive correlation between self efficacy and academic motivation. This finding is in accord with the study by Saracaloglu and Dincer (2009), which stated that there was a correlation of .416 ( $sig. = .000$ ) between self efficacy and academic motivation. The results of the study by Cerino (2014) showed that there was a significant negative correlation between amotivation and self-efficacy ( $r = -.39$ ), whilst in this study it was found that there was a correlation of  $-.629$ .

Besides this, on the basis of the study by Cerino (2014) it is known that there was a correlation of .360 between amotivation and procrastination. In the data from this study (Table 7) it was found that there was an external motivation sub-dimension of .306 between the two variables. Still in accord with the study by Cerino (2014), it was found that the external motivation sub-dimension has no significant correlation with procrastination. On the basis of the correlation analysis shown in Table 7, it was also found that the size of the correlation between EMER and PPS was only .019 ( $sig. = .723$ ), between EMIN and PPS was  $-.035$  ( $sig. = .511$ ) and between EMID and PPS was  $-.169$  ( $sig. = .001$ ).

Table 10 revealed the results of the correlation analysis, which is .284 ( $sig. = .000$ ) between IPK and academic motivation. This in accord with the study by Saracaloglu and Dincer (2009), which showed a correlation of  $r = .179$  and a  $sig. = .000$  between IPK and academic motivation. Besides this, Komaraju, Karau, and Schmeck (2009) stated that conceptually there is a negative correlation between IPK and amotivation ( $r = .100$ ). Evidently in this study the results of correlation between IPK and academic motivation is  $r = -.165$  and  $sig. = .000$ .

Based on the information above, it is known that



Table 9

*Seven Factor Rotated Component Matrix of of the AMS – Short Indonesian Language Version – Third Stage*

Item Number	1	2	3	4	5	6	7
AMS_EMER_7	.894						
AMS_EMER_12	.890						
AMS_EMER_10	.825						
AMS_IMES_3		.934					
AMS_IMES_9		.593					
AMS_EMIN_6			.706				
AMS_EMIN_15			.657				
AMS_IMTK_1				.880			
AMS_IMTK_8				.778			
AMS_IMTA_11					.810		
AMS_IMTA_14					.784		
AMS_IMTA_5					.510		
AMS_AM_13						.947	
AMS_AM_4						.441	
AMS_EMID_2							.718

Table 10

*Results of the Analysis of the AMS – Short Indonesian Language Version – Third Stage*

Variable	1	2	3	4	5	6	7	8	9	10	11
1. IMTK											
2. IMTA	.424**										
3. IMES	.220*	.517**									
4. IM	.706**	.834**	.767**								
5. EMER	.211*	.235*	.094	.231*							
6. EMIN	.512**	.636**	.289**	.616**	.534**						
7. EMID	.177	.510**	.574**	.550**	.080	.325**					
8. EM	.394**	.618**	.440**	.627**	.734**	.819**	.654**				
9. AMOT	.093	-.129	-.310**	-.156	-.095	-.118	-.278**	-.228*			
10. AMS	.569**	.562**	.308**	.618**	.381**	.572**	.341**	.580**	.589**		
11. IPK	-.209**	.176	.261**	.127	-.005	-.080	.317**	.118	-.165*	.284**	

the results of the analyses of the Academic Motivation Scale - Short Indonesian Language Version are congruous and in accord with the previous study.

**Limitations and Suggestion**

This study used only two of five sources of evidence of validity. It is suggested that further studies tests the validity of the AMS - *Bahasa Indonesia Versi Singkat* and that other sources of evidence of validity be employed. Besides, correlational analyses should be performed using other variables, so as to obtain a more reliable result.

**Conclusion**

Through the three stages of the study conducted, on a consistent basis, the Academic Motivation Scale - Short Indonesian Language Version always has an alpha Cronbach value which fulfills the requirements.

It could be concluded that the 15 points have a sound internal consistency.

Besides this, based on the results of the analysis of factors in Stages Two and Three, there was a perfect grouping of items with the factors of the plan, so it may also be concluded that the 15 items of the Academic Motivation Scale – Short Indonesian Language Version may be trusted to measure these factors.

Furthermore, verification based on the resources of evidence of relations with other variables, indicating the same results as does the previous study, strengthening the claim that the 15 items of the Academic Motivation Scale - Short Indonesian Language Version are sound items and appropriate to be trusted.

Based on the resources of evidence of validity studied in this study, it may be concluded that the Academic Motivation Scale - Short Indonesian Language Version is a measurement implement which is appropriate for measuring academic motivation. The 15 items of the Academic Motivation Scale - Short Indo-

nesian Language Version may be considered an alternative trustworthy measurement implement.

## References

- American Educational Research Association, American Psychological Association, and National Council on Measurement in Education. (1999). *Standards for educational and psychological testing*. Washington, D. C.: Author.
- Azwar, S. (2008). *Penyusunan skala psikologi*. Yogyakarta: Pustaka Pelajar.
- Bandura, A. (1989). Human agency in social cognitive theory. *American Psychologist*, 44(9), 1175-1184.
- Cerino, E. S. (2014). Relationship between academic motivation, self efficacy and academic procrastination. *Psi Chi Journal of Psychological Research*, 19(4), 156-163.
- Coaley, K. (2010). *An introduction to psychological assessment and psychometrics*. London: SAGE Publication Ltd.
- Cokley, K. (2015). A confirmatory factor analysis of the Academic Motivation Scale with black college students. *Measurement and Evaluation in Counseling and Development*, 48(2), 124-139.
- Julianda, B. N. (2012). *Prokrastinasi dan self efficacy pada mahasiswa Fakultas Psikologi Universitas Surabaya* (Skripsi tidak dipublikasikan). Universitas Surabaya.
- Kember, D., Ho, A., & Hong, C. (2008). The importance of establishing relevance in motivating student learning. *Active Learning in Higher Education Article*, 9(3), 249-263.
- Komaraju, M., Karau, S. J., & Schmeck, R. R. (2009). Role of the big five personality traits in predicting college students' academic motivation and achievement. *Learning and Individual Differences*, 19(1), 47-52.
- Nasution, S. (1996). *Berbagai pendekatan dalam proses belajar mengajar*. Jakarta: Bina Aksara.
- Natalya, L. (2016a). Hubungan dengan variabel lain. In I. B. Siaputra & L. Natalya (Eds.), *Teori dan Praktik Cara Asyik Belajar Pengukuran Psikologis*. Fakultas Psikologi - Universitas Surabaya.
- Natalya, L. (2016b). Struktur internal. In I. B. Siaputra & L. Natalya (Eds.), *Teori dan Praktik Cara Asyik Belajar Pengukuran Psikologis*. Fakultas Psikologi - Universitas Surabaya.
- Natalya, L., & Purwanto, C. V. (2018). Exploratory and confirmatory factor analysis of the Academic Motivation Scale (AMS) – Bahasa Indonesia. *Makara Human Behavior Studies in Asia*, 22(1), 29-42.
- Reeve, J. (2009). *Understanding motivation and emotion* (5th ed.). Hoboken, NJ: Wiley.
- Saracaloglu, A. S., & Dincer, I. B. (2009). A study on the correlation between self-efficacy and academic motivation of prospective teachers. *Procedia Social and Behavioral Sciences*, 1, 320-325.
- Steel, P. (2007). The nature of procrastination: A meta-analytical and theoretical review and quintessential self-regulatory failure. *Psychological Bulletin*, 133(1), 65-94.
- Tuckman, B. W. (2003). The effect of learning and motivation strategies training on college students' achievement. *Journal of College Student Development*, 44(3), 430-437.
- Vallerand, R. J., Pelletier, L. G., Blais, M. R., & Briere, N. M. (1992). The Academic Motivation Scale: A measure of intrinsic, extrinsic, and amotivation in education. *Educational and Psychological Measurement*, 52(4), 1003-1007.
- Waqar, S., Shafiq, S., & Hasan, S. (2016). Impact of procrastination and academic motivation on academic self-efficacy among university students. *IOSR Journal of Humanities and Social Science (IOSR-JHSS)*, 21(6), 7-13.
- Winkel, W. S. (1996). *Psikologi pengajaran*. Jakarta: Grasindo.

## Appendix

### Items of Academic Motivation Scale – Short Indonesia Language Version

Petunjuk pengerjaan:

Coba Anda bayangkan **proses perkuliahan yang sudah Anda jalani selama ini** dan silakan melanjutkan kalimat di ini: *“secara umum, saya melakukan ini karena ...”*

No	Pernyataan	1	2	3	4	5	6
1	Saya merasakan kenikmatan dan kepuasan saat mempelajari hal baru.						
2	Saya merasa kuliah ini berguna untuk karir yang saya inginkan.						
3	Saya benar-benar menikmati pelajaran/materi yang ada selama kuliah.						
4	Entahlah, saya merasa bahwa kuliah hanya membuang-buang waktu.						
5	Saya menikmati upaya untuk memahami hal-hal yang sebelumnya tidak saya pahami.						
6	Untuk membuktikan pada diri saya sendiri, bahwa saya bisa berhasil dalam perkuliahan.						
7	Supaya saya mendapat pekerjaan yang bergengsi nantinya.						
8	Saya senang menemukan hal-hal yang belum pernah saya ketahui sebelumnya.						
9	Karena bagi saya, kuliah ini menyenangkan.						
10	Karena saya ingin bisa hidup nyaman setelah selesai kuliah nanti.						
11	Untuk kepuasan yang saya rasakan saat berusaha menyelesaikan tugas/aktivitas yang sulit.						
12	Agar saya bisa mendapat gaji yang tinggi ketika bekerja.						
13	Entahlah, saya tidak tahu mengapa saya perlu hadir di kelas.						
14	Karena perkuliahan ini memberi saya kepuasan personal dari proses untuk menguasai materinya secara mendalam.						
15	Karena saya ingin memperlihatkan pada diri saya bahwa saya bisa berhasil dalam studi.						

Keterangan:

1 = Sangat Tidak Setuju

2 = Tidak Setuju

3 = Agak Tidak Setuju

4 = Agak Setuju

5 = Setuju

6 = Sangat Setuju