Adapting Self-Report Altruism Scaleto Measure Altruistic Behavior of Pre-service Teachers in Indonesia

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Abstract

Altruistic behavioris one a mongother personality traits that teachers should possess but it is difficult to resist a temptation not to ask if altruism can be measured. Such has been running for decades in long lasting debates and there a polaropposite conclusions til exists. This research was conducted to support those who claim there is a place that altruism can be measured. In particular this was directed to validate a Self-Report Altruism (SRA) scale adapted from the original altruism measure of Rushton, Chrisjohn, and Fekken (1981). Data were colected from 120 pre-service teacher for english education program and analyzed using factoranalys is to ensure whe ther the adapted scaleyielded high internal consistency and fal items wereextracted from the underlying atributive constructs. There search reveals the folowing results (1) al items are significantly inter-correlated which shows high internal consistency (r=0.920), (2) in the last validation 4 factors wereextracted based on the exploratory factor analysis, (3) the concurent validity is significantly high (r= 0.87), (4) this means the adapted SRA scaleis accept able to measure altruistic behavior of Indonesian pre-service teachers.

Keywords: altruism, pre-service teachers, Indonesia

Abstrak

Perilaku altruistik adalah salah satu diantara sifat-sifat kepribadian yang harus dimiliki guru tetapi sulit untuk menahan godaan untuk tidak bertanya apakah altruisme dapat diukur. Seperti telah berjalan selama beberapa dekade dipasir debat lama disana kesimpulan yang berlawanan kutub masih ada. Penelitian ini dilakukan untuk mendukung mereka yang mengklaim ada tempat yang dapat diukur altruisme. Secara khusus ini diarahkan untuk memvalidasi skala Self-Report Altruism (SRA) yang diadaptasi dari ukuran altruisme asli dari Rushton, Chrisjohn, dan Fekken (1981). Data dikumpulkan dari 120 guru pra-jabatan dari program pendidikan Bahasa Inggris dan dianalisis menggunakan analisis faktor untuk memastikan apakah skala yang diadaptasi menghasilkan konsistensi Internal yang tinggi dan jika semua item diekstraksi dari konstruksi atributif yang mendasarinya. Penelitian ini mengungkapkan hasil berikut (1) semua item secara signifikan saling berkorelasi yang menunjukkan konsistensi internal yang tinggi (r=0,920), (2) dalam validasi terakhir 4 faktor diekstraksi berdasarkan analisis faktor eksplorasi, (3) validitas

konkuren sangat tinggi (r= 0,87), (4) ini berarti skala SRA yang diadaptasi dapat diterima untuk mengukur perilaku altruistik guru-guru pra-jabatan Indonesia.

Kata kunci: altruisme, guru pra-jabatan, Indonesia

INTRODUCTION

Success is a choice, not an accident of birth neither a lucky break. Such has been told many times by many life motivators. In a more general term, this   is to say that there is always a place in life for any one to choose a destiny– succes so failure. This like lyappliesaswelin many situations in a social life   where such similar polaropposites, altruism or self ishness, in evitably meet and one is bound to make a choice. When scrutinized more deeply, the mechanism is not a simple case. A lot of things in volved which raise a lot of questions to   answer when a choice is to be made. Is it a relationship context–kin ship or strangers? Is it a contex to cultural relation, religiosity, ethnicity, gender? There certainly are many more to list out.

Ample researches have been conducted under such a sociall ife in which one is bound to interact in a particular society. For example, in a research of human's capacity for pro sociality, Maner and Gail lot claimed that altruistic behavior was more pronounced within kinship relationship than among strangers (Manner & Gailiot, 2006). However, Alison (1992) the orized that culture relation could induce altruistic behaviors that runcontrary to genetic   pre dispositions. In addition, De Cremerand Van Lange concluded the prosocial would experience stronger feeling so social responsibility and would engage more in behavioral as similation than pro self did (De Cremerand Van Lange, 2001). Similarly, as reportedby Hur, Rushton concluded that altruism could be in creased by expo sure to model sex emplifying the behavior,and once engaged in, such behavior could be durable and generaliz able a crosssituations. Suchis applicable as about 50% of the variance in pro social behaviors is naturaly heritable, which means the other portionis nurturaly acquired **(**Hur, 2012**).**   Specificaly, in teacher education, it is predicted that the altruistic level of teacher can dates is influenced by the social environment they born an draised, peer relations at school or out of school, happiness in the family and intercultural interactions during their education (Mustafa, 2017). Similarly, like self-control, altruism maybe learned and maintained over individual's life time (Rachlin, 2002). It's under such a circum stance that this research was conducted with regards to contextuali zeparticularly to Indonesia.

Not to misled the discussion, due to two inter change able terms: pro sociality and altruism, it's necessary to note that altruism is one a mon got her fourty pes of pro social behaviors. The other three include compliant   pro social behavior, emotional pro social behavior, and public pro social behavior (Carlo, and Randal, 2002). In addition, as cited by Carlo and Randal (2002), altruism does existas one's personality trait based on three evidences, such as the existence of her it ability of sympathy which is said to be evolutionarily adaptive; stability in the tendency to behave in a pro social manner a cross child hood and adolescence and significant as sociations between personality variable sand pro social behaviors a cross different context. Thus, it's necessarily urgent to define what altruism.

Altruism is understood as an intentional and voluntary act performed to benefit a nother person as the primary motivation and either with out a   cons ciousex

pectation of reward or with the cons ciouso run conscious expectation of reward (Feigin, Owen, and Good year- Smith, 2014). Similarly Rush to defined altruism as social behavior caried out to achieve positive out comes for another at her than for the self (Rushton, 1980). More specifically, ascited by Yavuzer, etal., (2006), to relate to the sphere of teacher education, Mc Gaghie, Mytko, Brownand Cameron (2002) defined altruism as concrete behaviors observed in specific cases on a scale of intensity. This approach emphasizes that altruism is not a comprehensive, context-specific personal trait, but rat her it can be in creased through education which can be tested by means of an objectives.

Admitedly, in the sphere of educational seting, teachers' altruism is pivotal. It is one a mongo the commonly accepted criteria of what it means to be'professional'in teaching (Mac Beath, 2012). Despite it, unfortunately, researches focus in go teachers' altruism are arguably scarce. This like lyis caused by long-lasting debates a mong research in teacher education if one's altruistic behavior could be measured. As noted, ample researches on altruism in there a lm of social science and psychology haven been conducted for decades to date, and there are more others (London and Bower, 1968); (Rushton, Chrisjohn & Fekken, 1981; Nickel, 1998; De Cremer & Van Lange, 2001; Post, 2005; Maner & Gailot, 2006).

This article is in tended to confirm that altruism can be measured and is applicable a cross contextual spheres: social, psychological and educational. Such, particularly, has been claimed by Rushton, Chrisjohn, and Fekken that there is more consistency to altruistic behavior a cross situations than might often be supposed (Rushton, Chrisjohn, & Fekken, 1981). Inparticular, this article is to report a verification of the adapted Self-Report Altruism (SRA) Scaleto as sure its validity and reliability in the context of teacher education in Indonesia. The validation has undergone through empirical testing.

There is certainly a pro found though to preference to verify the SRA scale of Rushton, Chrisjohn, and Fekken. First is about the SRA scale in it self and second is a nurgency that a particulars caleneeds validation due to cultural, temporal and territorial differences.To elaborate, as claimed by Rushton, Chrisjohn, and Fekken, SRA scale they developed is easy to administer. It'sin a form of self-report form at consisting of 20 items in which respondents are instructed to rate the frequency of the irengagement in the altruistic behaviors using five categories, suchas 'Never', 'Once', More than Once', 'Often', and 'Very Often'. The instruction by which the respondents worked out the measure reads, "Tick the category on theright that conforms to the frequency with which you have carried out the folowing acts". It is in this reason, I believe, that the SRA scale has been used and adapted by researchers in many places in the globe and its validation was made before implemented, such a sin Turkey (Yavuzer, et. al, 2006), Colombia (Pardo, & Cortina, 2016), India (Khanna, Singh, & Rushton, 1993), and China (Chou, 1996). Unfortunately, none has been conducted in Indonesia. In addition, a mong al validation made by there searchers, as noted, none has applied fact or analysis to verify the emerging factors after such validation. Instead, they assessed the validity and reliability of the measure by applying related statistical procedures, such as Alpha Cron bach for reliability testing and correlation for validity assessment (e. g. the peer-rating and other measure so altruism). Unlike the previous validation, this research was applying Exploratory Factor Analysis (EFA) folowed by corelating it with another measure of

altruism (e. g. Carloand Randal). Such has been conducted   by Chaplin (2017) with a variation on the context of the respondent sand further analysis in addition to EFA.

METHODOLOGY

In this research two different sample groups (N=120) were in volved i. e., basic bachelor student so pre-service teacher program (caled students of S1 Program) and advanced bachelor student so pre-service teacher program (caled students of PPG program). The first group consisted of 80 participants who sea gesranged between 20 to 21 years and the later consisted of 40 participants who sea gesranged between 22 to 23 years to make it totaly 120 respondents. The terms basic bachelor and advanced bachelor were use din this research to refer to both groups as they were curently pursuing for other than master degrees. Data derived from these two sample groups were further analyzed.

Samples for empirical validity and reliability testing, in a piloting stage, were al taken from another group of basic bachelor students of pre-service teacher program. They numbered 30 participants who sea gesranged between 20 to 21 years. Data derived from this sample group were used to measure the level so validity and reliability of the adapted SRA scale. In validating the measure, several steps have been conducted. First the original measure was over viewed fort horough comprehension. Second the Original measure was translated into Indonesian. In the translation process local cultural context was considered pivotal. This was done in four ways, suchas (1) translating al words of the original measure in forms of paraphrases (e. g. statement 4); (2) translating with minorchanges in the statement so the original measure (e. g. statement 1,); (3) adding a phrasein the translated state ment to keep it culturaly meaningful (e. g. statement 2); (4) totaly changing the statement so the original measure with new sentences but the messages were kept similar, as faras altruism is concerned (e. g. statement 3). In this step, after the Indonesian translation was completed, English translation was made to easily compare to the original measure.

In addition to the above, to write the statement so the adapted measure, the pronoun 'I' or the doe rofthe action was deliberately omited a sit's been clarifiedin the instruction that al actions were caried out by the respondents individualy. Such anomission was intended to put a stress on the carried out actions. To clarifyit, the instruction of the adapted measure reads, Berilah tanda silang (X) di dalam kotak jawaban yang ada di bawah ini untuk menanggapi setiap pernyataan sesuai dengan frekwensi perbuatan yang Anda lakukan Secara jujur. (Give a cross (X) in the answer box below to honestly respond to each statement in accordance with the frequency of your actions). The five categories of frequency was kept similar with that of the original measure but additional description was made to clarify to what extenteach frequency was done. It was posted above the statements to which the respondents gave the responses.Table 1 is showing such an additional description.

Third, the translated measure was then administeredinatry out stage in volving 30 participants. Fourth, the validated question naire was distributed to the targeted participants on which the data were analyzed by applying procedure of Exploratory Factor Analysis (EFA). Fifth, external criterion validity was assessed by corelating the adapted measure to other prevailing measure (e. g. Prosocial Tendency Measure/PTM of Car loand Rendal's, 1982. This procedure, to some extent, has

applied the steps as recommended by World Health Organization in adapting a particular instrument. Ascited by Aguilar-Pardo and Martinez-Contrina, the recommended procedure includes (1) official translation of the measure, (2) modification by experts to suit the local context of population, (3) piloting, (4) evaluation of the piloting, (5) application and (6) re-translation to the original language (Aguilar-Pardo and Matinez-Cotrina, 2016).

Table 1. Description of frequency level so the caried out actions

No	Category of frequency	Description
1	Never	It's clear and no description is needed
2	Once	It happened only one time
3	More than once Semester	It happened two to three times in one
4	Often	It happened four to five times in one semester
5	Very often Semester	It happened more than five times in one

Prior to the data analysis, the measure was pilotedinatry-out, as noted, to 30 participants. They were students of basic bachelor pre-service teacher program in the department of English language education. They were randomized from two classes of semester 5 of average to total 9 semesters. The measure validated in this stage was the translated version in Indonesian consisting of 20 items, similar to the original version. Table 2 is presenting such a translated version. To analyze the data in the piloting stage, procedure of Person's Product moment was applied to assess the item validity and Alpha Cron bach formula was applied to measure the reliability. In this stage one statement was rejected based on the low corelation index.

Table 2. Translated and re-translated version of the measure

NO	STATEMENT (Original)	STATEMENT (Translated version, Indonesian)	STATEMENT (Re-translated English version)
1	I have hel ped push a stranger's car out of the snow	Membantu mendorong mobil mogok di jalan	Helping to push a broken-down caron a street
2	I have given directions to a stranger	Memberi arahan/informasi kepada orang yang tampak kebingungan	Given direction/information to strangers who seem confused
3	I have made change for a stranger	Menyingkirkan benda yang mungkin dapat mencelakai orang lain di tempat umum	Geting rid of objects that might harm others in public places
4	I have given money to acharity	Memberi sumbangan dalam bentuk uang untuk kegiatan amal sosial	Giving donations in the from of money for social charity activities
5	I have given money to a	Memberi uang kepada pengemis tanpa ia memintanya	Giving money to benggars with out this

	stranger who needed it (or asked meforit)		asking
6	I have donated goods or clothes toach a rity	Memberi donasi pakaian layak pakai dalam rangka kegiatan amal	Giving donation clothes worth wearing in the frame word of charity activities
7	I have done volunteer work for acharity	Ikut kegiatan bakti sosial (kampus maupun lingkungan tempat tinggal)	Taking part in social service activities (in campus or neighbor hood)
8	I have donated blood	Melakukan donor darah	Doing blood donor
9	I have helped carry a stranger's belongings (books, parcels, etc)	Membantu dosen menyiapkan peralatan mengajar dikelas (misalnya: menyalakan monitor LCD. Menghapus tulisan di white board, dll) sebelum perkuliahan dimulai	Helpinh lecturers prepare teaching aquipment in the classroom (e. g. turning on the LCD monitor, cleaning up white board) before yhe lecture begins
10	I have delayed an elevator and held the door open for a stranger	Menahan pintu (lift maupun ruangan) agar tetap terbuka untuk orang lain yang akan masuk/keluar)	Holding the door (lift or room) to keep it open for others who will enter/leave
11	I have allowed someone to go ahead of meina line up (at Xerox machine, in the supermarket)	Mempersilakan orang lain yang eminta untuk didahulukan dalam antrian	Leting others who ask to take precedencein the queue
12	I have given a tranger a liftin my cas	Menawarkan tumpangan (mobil/motor) kepada orang lain	Offering a lift (in cars/motorbiker) to others
13	I have pointed out aclerk's error (in a bank, at the supermarket) in under chargingme for anitem	Mengembalikan kelebihan uang kembalian saat membayar berang belanjaan	Returning the excess change when paying for groceries
14	I have let a neighbor whom I didn't know too well borrow an item of some valuetome (e. g.	Memberi pinjaman barang/benda kepada orang yang tidak/belum dikenal dengan baik	Giving loans (goods/objects) to people whom I do not well

	A dish, tools, etc)		
15	I have bought 'charity' Christmas cards deliberately, because I knew it was a good cause	Membeli benda/barang yang dijual untuk tujuan kegiatan amal	Buying objects/merchandisess old for charity purposes
16	I have helped classmate who I did not know that well with a homework assignment when my freater than hisorhers	Menawarkan bantuan kepada teman dalam menyelesaikan tugas perkuliahan	Offering assistance to friends in completing lecture assigments
17	I have before being asked, voluntarily looked after a neighbor's petor children without being paid froit	Menjengut teman yang sakit di rumah sakit atau dirumahnya	Visiting a friend who is sick at the hospital or a this house
18	I have offered to help a handicapped or elderly stranger across a street	Menawarkan bantuan kepada orang cacat/orang tua yang akan menyebrang jalan	Offering assistance to disabled people or erderly stranegrs who will cross the road
19	I have offered my seat on abusor train to a stranger who was standing	Menawarkan tempat duduk di kendaraan umum kepada orang lain yang berdiri di dekat saya	Offering a seat in public transport to other people standing near me
20	I have helped an aquain tance to move house holds	Menawarkan bantuan kepada teman/saudara yang akan pindah rumah/tempat tinggal	Offering assistance to friends/relatives who will move out house/place of residence

Folowing the piloting stage, the 19 item validated measure was administered to 120 respondents and the derived data were analyze dusing Exploratory Factor Analysis (EFA). In the execution of EFA, there are 5 steps raised in sequential questions, have to be applied, suchas (1) is the data suitable for factoranalysis? (2) how are the factor sextracted? (3) what criteria assistindeter mining factor extraction, (4) how is selection of rotational method made? (5) how could interpretation and labeling be made? (Wiliams, Onsman, Brown, 2010). In other words, the steps concern respectively about sample size, ways to do factor

extraction, criteria applied to extract factors, rotation technique, and interpretation as wel as naming the extracted factors. Al these steps can be done by utilizing a program caled Statistical Package for the Social Sciences (SPSS). Specificaly, each steps of EFA execution can be elaborated as folows.

First, sample size in EFA is noless than 100 participants which means bigger size is recommended (Hairetal., 2014; Comrey & Lee, 1992). Second, there are many ways to extract factors, as faras factoranalysis is concerned, such as Principal Component Analysis (PCA), Principal Axis Factoring (PAF), Image Factoring, Maximum Like lihood, Alpha Factoring, and Canonical. Among other way so factor sex traction, PCA and PAF are most commonly used in the published literature (Henson, & Roberts, 2007); (Fidel, 2007). Inthisline, prior to the extraction of the factors, several testing should be applied to assess the suit ability of the data. This includes, such as, Kaiser Meyer Olkin (KMO) measure of Sampling Adequacy (MSA), Barltlet's Test of Sphericity. Third, with regard to the criteria of factor extraction, it's suggested that multiple criteria are applied, including Keiser's criteria with eigen value bigger than 1; the screetest; the cumulative percent of variance extracted; and paralel analysis (Kaiser, 1980; Catel, 1966; Horn, 1965) ascited by Wiliam, Onsman, & Brown, (2010). Fourth, with regards to step 4, there are two common rotation techniques, i. e., orthogonal varimax rotation and oblique promax rotations. Regardles so which rotation tech niquesis applied, the main objective sare to provideeasier interpretation of the research results (Hair, Anderson, Tatham, and Black, 1995; Kieffer, 1999) cited by Wiliam, Onsman, & Brown, (2010). Finaly, interpretation and labeling urgeresearchers to examine which variables are atribut able to a particular factor and, at the same time, give that fact or an ameora them. Labeling a factoris subjective, theoretical, and inductive process. I not her words, the meaning fulnes so flatent factors is ultimately dependen to the researcher's definition (Henson & Roberts, 2006) ascited by Wiliam, Onsman, & Brown, (2010).

Al ofthe procedural steps of EFA, asnoted, has been applied in this research. It's to say that this research in volved 120 respondents which was slight above the minimum sample size. PCA was prefered to apply in which KMO MSA and Bartlet's test of sphericity has been tested ahead of time. This research has also applied multiple criteria to extract factors to include three out off our prevailing criteria, such as Keiser's criteria, scree test, cumulative percent of variance extracted. In the near end of the steps, var imax rotation was made and finaly interpretation and factor labeling was also completed.

In addition, priortesting of KMO MSA and Bartlet's Test of Spahericity to assess the suitability of data has run three times. This happened, asstated by Hairetal (2014) the anti-image corelation for al items in the scale being validated must be above 0.50 and it's evidenced in this research there was an item having measure of sampling adequacy (MSA) lower than 0.50. Suchan item, according to Santoso and Tjiptono a scited by Suseno (2010) else where, had to bed ropped and a new computation had to be made. Up on the completion of the second calculation, there was another item with MSA lower than 0.50 and, as noted, this item had to be dropped. Thus the next calculation was made and it's considered as the final calculation, for al items in this stage obtained MSA bigger than 0.50.

To summarize this section, it was apparent that the final version of the adapted SRA scaleconsisted of 17 items out of 20 items translated from the original SRA scale. To describe it, one item was dropped in the piloting stage due to validity reason, another item was dropped in the first testing of KMO MSA and Bartlet's test in which the MSA loading factor was lower than 0.50, and stil another item was deleted in these condtesting of KMO MSA and Bartlet's test, for similar reason with that of the first testing. In the third testing al items have got MSA loading factor bigger than 0.50. In addition, in the very end stage after al procedures of EFA was completed, a correlational study to assess the concurent validity was conducted. In this line, the adapted measure was corelated to another measure developed by Carloand Rendal (1982) termedas PTM or Prosocial Tendency Measure. This measure consists of 23 items by which respondent sare requested to describe them selves based one a chof the stated item in the measure. The reare fives cales in the measure, suchas (1) does not describe meatal, (2) describe mealitle, (3) some what describe me, (4) describe me wel, (5) describe me greatly.

RESULT AND DISCUSSION

● Item Validity & Reliability

As noted, in the try out stage, one statement was dropped due to validity reason. It's statement number 8 ($r_{cal}=0.246<0.361$). Calculation was made by applying correlational procedure of Person's Productmoment. Datais presented in table 3.

Table3

Item Number	r_{cal}	r_{tab}	Status
1	0,5700	0,361	Valid
2	0,7854	0,361	Valid
3	0,7806	0,361	Valid
4	0,4189	0,361	Valid
5	0,6853	0,361	Valid
6	0,6798	0,361	Valid
7	0,8334	0,361	Valid
8	0,2458	0,361	Drop
9	0,4166	0,361	Valid
10	0,5304	0,361	Valid
11	0,6871	0,361	Valid
12	0,5526	0,361	Valid
13	0,6026	0,361	Valid
14	0,7427	0,361	Valid
15	0,6056	0,361	Valid
16	0,5607	0,361	Valid
17	0,7871	0,361	Valid
18	0,8342	0,361	Valid
19	0,6818	0,361	Valid
20	0,5240	0,361	Valid

Data derived from the try out was also used to calculate the reliability of the adapted measure and this gave the Alpha-Cron bach reliability index significantly high. Data were presented inTable 4.

Table 4. Reliability of the 19 item adapted measure

Number of items	19
Combined	
Variance	25.202
Total Variance	196.372
Reliability	0.920

Kaiser Meyer Olkin (KMO) Measure of Sampling Adequacy & Bartlet's Test of Sphericity

As noted, KMO MSA and Bartlet testing were conducted three times due to low value of MSAl oading factors. As there is a limited space in this article, the other two testing are not included. Tables 5 shows the result so the third test.

Table 5. KMO MSA & Bartlet

KMO Measure of Sampling Adequancy		0.760
Bartlet's Test	Appox. Chi Square	1712.752
Of Sphericity	df	136
	Sig.	0.000

The KMO corelation as shown above is more than adequate to apply EFA in the data analysis. Such is claimed by (Netemeyer, Beardenetal. 2003) stating that a KMO correlation between 0.60-0.70 is considered adequate to analyze the EFA output. It is necessary to report that the KMO MSA and Bartlet testing, presented in table 5, deals with the data of the adapted SRA scale containing 17 items. This is possible due to item deletion in the process of validation,i.e., 1 item is deleted in the piloting stage and 2 others are deleted, due to low correlation coefficients, in the other two KMO MSA and Bartlet testing.

● Cumulative Percentage of Variance and Eigenvalue

There is no single agree ment about cumulative percentage of variance a crossareas of disciplines. However, Hairetal. (2014), ascited by Wiliam, Onsman, & Brown, (2010) stated that, fornatural sciences, factors should be stopped when at least 95% of the varianceis explained and in the sphere of humanities it ranges between 50% to 60%. This research demonstrates a cumulative percentage of variance of 46.942% and 4 components or factors having an eigen value bigger than 1 (Table 6).

Table 6. Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loading	
	Total	%of Variance	Cumulative %	Total	%of Variance	Cumulative %	Total	%of Variance
1	7,980	46,942	46,942	7,980	46,942	46,942	3,876	22,803
2	1,722	10,129	57,072	1,722	10,129	57,072	3,375	19,854
3	1,551	9,124	66,196	1,551	9,124	66,196	2,787	16,393
4	1,150	6,762	72,958	1,150	6,762	72,958	2,365	13,909
5	,852	5,013	77,971					
6	,732	4,303	82,274					
7	,645	3,794	86,069					
8	,493	2,897	88,966					
9	,480	2,821	91,787					
10	,383	2,253	94,040					
11	,278	1,633	95,673					
12	,255	1,501	97,173					
13	,179	1,053	98,226					
14	,114	,669	98,895					
15	,087	,514	99,409					
16	,069	,405	99,814					
17	,032	,186	100,000					

Extraction Method: Principal Component Analysis.

- Scree Test

Scree test is another method popularly used to determine the number of factors to retain. The term "Scree Test" was given its name by Catel (1966) related to the scree test graphical presentation, which has visual similarities to the rockde

brisorscree at a mountain valey (Catel, 1966). Indetermining the number of factor storetain eigen values are useful. In as creeplot, the extracted factor so components can be simply identified by observing where they sharp ly drop off. There are two steps to inspecta scree plot, suchas (1) drawas traight line through the smaler eigen values where a departure from this line occurs. This point highlights where the debrisor break occurs. (2) the point above this debrisor break (not including the break it self) indicates the number off actors to beretained. In this research, 4 factors are extracted in which the lowe steigen value is 1.150. and the highest 7.980. (Figure 1).
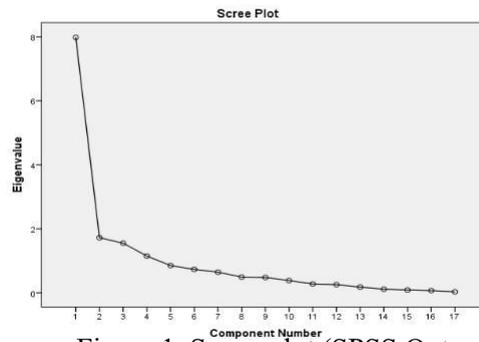

Figure 1. Secreeplot (SPSS Output)

● Selection of Rotation Techniques

Data analysis in EFA, particularly to identify the extracted factors, can also bed one through careful checking whe the ravariable might relate to more than one factor. That's what selection of rotation is about. Two rotation techniques are commonly appliedi. e., orthogonal vari max rotation and oblique pro max rotation. The first technique is the most commonly prefered by researchers in doing EFA as compared to the later (Thompson, 2004). This research applied orthogonal vari max rotation as presented in table 7.

Table 7. Rotated Component Matrix

Rotated Component Matrix[a]				
	Component			
	1	2	3	4
VAR00001	,177	,071	,258	,701
VAR00002	,312	,617	,544	,158
VAR00003	,701	,311	,450	,029
VAR00005	,415	,499	,135	,314
VAR00006	,780	,109	,052	,337
VAR00007	,342	,498	,296	,586
VAR00009	-,187	,419	,663	,281
VAR00010	,580	,669	-,094	,111
VAR00011	,101	,701	,336	-,086
VAR00012	,790	,085	,149	,112
VAR00013	,572	,485	,117	,237
VAR00014	,264	,127	,046	,863
VAR00015	,203	-,044	,914	,120
VAR00016	,744	,241	,186	,354

VAR00017	,372	,498	,448	,394
VAR00018	,465	,000	,651	,193
VAR00019	,082	,838	-,140	,215

Extraction Method: Principal Component Analysis.
Rotation Method: Vari max with Kaiser
Normalization.
Rotation converged in 7 iterations.

As can be seen in the above table, some variables relate to more than one component so factors (e.g. variable or item 2 relates respectively to components 2 and 3, with bigger loading factor (0.617) to component 2 and variable 10 to components 1 and 2, with bigger loading factor (0.669) to component 2).

●   Interpretation and Labeling

Interpretation deals with examining which variables are atribut able to a particular factor and, based on this, a name or the meisatributed. There is a common tradition that, atleast, two variables must load on a factor so that a meaning ful interpretation can be made. In addition, as noted, labelinga factor is subject to preference of every individual researcher (Henson & Roberts, 2006). Based on that the interpretation of factor grouping and label naming is made as presented in table 8.

Table 8. Factors, Variable and Names

No	Component/ Factor	Variable/ Item	Name
1	Factor 1	3,6,12,13,16	Altruism Type 1
2	Factor 2	2,10,11,19,5,17	Altruism Type 2
3	Factor 3	9,15,18	Altruism Type 3
4	Factor 4	1,7,14	Altruism Type 4

●   Concurrent Validity

As noted, the adapted SRA scale was also correlated with another measure on the similar realm (e.g. Carlo and Rendal's Prosocial Tendency Measure, 1982) to assessits concurrent validity. Such has been done by many researchers when adapting a standardized measure is made e.g. Khanna, Singh, and Rushton (1993) tested the Hindi version of SRA scale for concurent validity by comparing their measure with the altruism scale constructed and standardized by Raiand Singh (1984)

CONCLUSION

Based on the analysis, it is essential to conclude the research, as folows:
1. Seventeen statements in the adapted SRA scale a revalid and reliable to measure altruistic behavior of pre-service teacher in Indonesia. They are adapted from the original 20 item SRA scaled eveloped by Rushton, Chrisjohn & Fekken, 1981).

2. Four factors are extracted based on Principle Component Analysis which are labeled as Altruism type 1, 2, 3, and 4 respectively.

3. The adapted SRA scale has a high corelation with the other measure tested for concurrent validity (r=0.87).

4. It is necessarily true to confirm that the adapted SRA scale is applicable to measure a truistic behavior of pre-service teacher in Indonesia.

The original SRA scale, consisting of 20 statements or items have been adapted to align with the context of Indonesia and isapplicable to measure altruistic behavior of pre-service teachers. In the initial process, the number of statements are keptsimilar but in the next process of validation 3 items are deleted due to related empirical reasons. One item is deleted in the try-out stage as it has low coefficientind ex of item validity. It is identified a sitem number 8 of the first draft of adapted SRA scale and i sex cluded in the next process of validation. Thus, the measure is now consisting of 19 items, refered to as draft 2. The other 2 items are deleted in the 2 processes of KMO MSA testing. They are identified as item number 8 and number 4 of draft 2. The 3 deleted item sare elaborated sufficiently one by one.

1. Item 8 of draft 1

It reads,"Melakukan donor darah" This item, as noted, is deleted due to validity reason. By its concept, it's reasonable, due to the fact that doing blood donor needs fixed requirements made by related governmental body i. e. in this context The Indonesian Red Crossor Palang Merah Indonesia/PMI. A mong other requirements read "minimum body weight 45 kg's", "blood hemoglobin level so potential donor sare at least 12.5 grams/deciliter (g/dl)", "Normal blood pressure ranges from systole 110-160 mm Hg, diastole 70-100 mm Hg, "(www.pmi.or.id). This implies a clear notion that the wiling ness to do blood donor is not fuly in the hand of the potential donors. I nother words, this action is not unconditional. Meanwhile, on the otherhands, theact of altruism is very much dependable to the person concerned.

In this line, personaly I recommend that the statement change with another item which is more dependable, such as the one relates to assisting Other people in natural disasters. There vised statement may read, for example "Menolong orang lain yang tertimpa musibah bencana alam" or Helping others Affected by natural disasters.

2. Item 8 (new) of draft 2.

It reads "Membantu dosen menyiapkan peralatan mengajar di kelas (misalnya: menyalakan monitor LCD, menghapus tulisan di White Board, dl) sebelum perkuliahan dimulai". This statement is like lyimpropriate to practice by students in this modern era asitseem store store feudalisticculture dated back to the era of 60's. This was on ceclaimed by Manurung (2008) that in the last two decades, recently, teacher's authority decreased tovery low degree. Specificaly, further, shereported, "In most of the literatures up to the sixties, we could see how important the role of teachers was. For instance, it was told how a student would rush to take over his teacher's bike and stuff once hesaw the teacher camein to the school". "On the contrary, in today's literatures, teachers become the objectoffun, intimidation, and eveninsult. It is teriblyironic" (Manurung, 2008).

When a new statement is necessary for are placement, I'd rather construct a sentences how ing an altruistic behavior with no temporal constraint, such as for example the one about visiting funeral service of neighbor'sor friend's whose family member has experienced death. Thus, the new statement mayread, 'menghadiri upacara pemakaman tetangga atau teman yang meninggal dunia "or' atending the funeral service of an eighbor'sor friend's who passed away'.

3. Item 4 of draft 2

It reads "Memberi sumbangan dalam bentuk uang untuk kegiatan amal sosial". Arguably, this statement doesn't clearly differentiate between those who performed altruism with sufficiently high intentional and voluntary acts and those who did it with in sufficientintention. This is like true in relation to the definition of altruism as noted earlier. For replace men to such a statement, I prefer a sentences howing altruistic acts related to helping others who ex perience a particular traffic accident on the road. Thus, it may read, 'menolong orang lain yang sedang mengalami kecelakaan lalu lintas dijalan' or helping others who are experiencing traffic accidents on the road'.

As a final remark, it's essential to reconfirm that the 17 item scale adapted from SRA scale developed by Rushton, Chrisjohn, Fekken, (1981) is valid and reliable to measure altruistic behavior of pre-service teachers in Indonesia. However, to keep the number of item similar in both measures, it is advisable to replace the deleted items, due to the validation process, with the three new items as noted in the discussion above. Any how, revalidation is necessarily important.

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