

# An Indigenous Approach: Positive Affect and Negative Affect Measurement for Subjective Well-Being Components

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It is important to have a measurement of positive and negative affect to know the level of someone happiness. However, indigenous approach in measuring affect is rarely found in Indonesia. This study aims to develop a Positive Affect Scale (APOS) and a Negative Affect Scale (ANEG) with an indigenous psychology approach, which involves native Javanese Indonesian employees. This research consists of 3 studies; the first studies are (a) aiming at exploring Indonesians positive and negative affect expressions (b) involving 30 people (c) using interview method. The second study is (a) aiming at determining APOS and ANEG scale items based on respondents' judgment (b) involving 165 respondents (c) using Semantic Differential measurement as data collection method. The third study is (a) testing a psychometrically arranged scale (b) involving 293 respondents (c) using Likert scale model as the data collection method. From the first study, it can be concluded that there are 50 affect items consisting of 25 positive affect items and 25 negative affect items. The result of the second study was 15 positive affect items and 15 negative affect items that meet the standard item coefficient of more than 0.30, and Alpha Cronbach reliability coefficient of 0.970 for the APOS scale and 0.928 for the ANEG scale. The third study used Confirmatory Factor Analysis technique to prove that the 26 items on the Positive Affect Scale and the Negative Affect Scale have two opposing components, namely 12 APOS items and 14 ANEG items. The correlation between APOS and ANEG scale is -0,276 ( $p < 0.01$ ).

**Key words:** Indigenous approach, positive affect, negative affect, subjective well-being, measurement

## Introduction

It is important for someone who is involved in human resources development to know how to measure people's happiness. It is because a happy employee will have low job stress, high work motivation, high work involvement, and high productivity (Ip, 2009; Pryce-Jones, 2010). However, how to measure someone's happiness is still debatable. Diener, Oishi, and Lucas (2003) who see happiness as subjective well-being believed that it consists of two major components, cognitive component and affective component. Cognitive component refers to the satisfaction of one's life. It is about how a person assesses the overall quality of life. Whereas the affective component is more related to how far a person feels the existence of positive and negative affect on him. Someone will be declared as a happy person if he feels a lot of positive affect and little negative affect (Diener et al., 2003).

Affects are conscious emotions experienced by individuals. Positive affect describes the existence of pleasant feelings or pleasantness while negative affect describes unpleasant feelings or unpleasantness. The negative affect consists of tension, despair, horror, annoyance, while positive affect consists of enthusiasm, strong, active, passionate, tough (Watson & Clark, 1988). However, how a person express a positive affect and negative affect can vary between cultures as cited by (Matsumoto, Seung, & Nakagawa, 2008). Matsumoto et al. (2008) stated that cultural norms determine management and modification of emotional appearance in accordance with social conditions. Kim and Park (2006) also explained that psychological theories actually concerned with cultural boundaries, regional values or value-laden and limited validity if they are to be used in different cultures. Those, that research on affect should pay attention to the cultural context in which the subject is located.

It can be concluded that the Indigenous psychological approach is very necessary to apply, as Kim and Park (2006) stated that culture has a very central role in perceiving social phenomena. Culture has a basic role as how physiology related to an individual's perception of reality. Previous measurements on affects were already exist, for example it is about Positive and Negative Affect Schedule from Watson and Clark (1988) Affect Grid from Russell, Weiss, and Mendelsohn (2015), FS (Feeling Scale) from Hardy and Rejeski (1989), and PAAS (Physical Activity Affect Scale) from Lox, Treasure, and Wasley (2000). However, the compilation of indigenous psychological affect measurements on Javanese ethnic of Indonesians is still lacking. Therefore, the development of measurement of positive and negative affects to measure happiness by considering Indonesian social and cultural context is very much needed.

## Research Methods

This research consists of 3 stages of study. The first study aims to explore the expression of positive affect and negative affect according to Indonesian Javanese ethnic. The second study aims at constructing items of positive affect scale and negative affect scale based on respondents' judgment on the APOS scale and the ANEG scale. The third study is aimed to test the APOS scale and ANEG scale psychometrically.

### **Study-1**

Study-1 used a qualitative method based on an indigenous psychology approach to explore the psychological constructs on positive and negative affect felt by employees of Javanese tribe in Indonesia. The data collection method uses interview techniques by involving 30 employees. This interview was conducted in two stages. The first stage of interviews were conducted individually. Then in the second stage of the research, subjects were put together in one Focus Group Discussion (FGD). Each subject of the study was asked some questions such as what expressions to show respondent's happiness and what expressions to show respondent's unhappiness. Then, all respondents meet in a FGD to indicate the happiness and unhappiness expressions.

### **Study-2**

Study-2 is a continuation of Study-1. Study-2 uses a quantitative approach with a Semantic Differential measurement scale developed by Osgood. A number of 165 subjects were asked to assess the appropriateness of each item from the positive and negative affect concluded in Study-1 and how it describes the positive and negative affect. The construction of the positive affect scale (APOS) and the negative affect scale (ANEG) measurement is derived from the items that have more than 0.30 of item's coefficient.

### **Study-3**

In Study-3, the APOS-ANEG scale measurement construction is tested by using Confirmatory Factor Analysis (CFA) technique, by SPSS. The number of respondents in study-3 were 293 people. The data collection method uses Likert scale with 6 alternative answers. They are from strongly disagree (1) to strongly agree (6).

## **Results**

### **Study-1**

In the first phase of study-1, researcher did interviews to 30 employees. It can be produced of 25 adjectives of positive affect and 25 adjectives of negative affect. While in the second phase of Study-1, the FGDs resulted 25 adjectives that could describe the APOS scale and 25 adjectives that described the ANEG scale.

### **Study-2**

From study-2, it can be concluded that the APOS scale consists of 15 positive affect items and the ANEG scale consists of 15 negative affect. These items have met the standard of the different coefficient of more than 0.30, which can be seen in detail in table 1. By using reliability analysis techniques, it can be derived that the reliability coefficient of Alpha Cronbach for the APOS scale is 0.970 and 0.928 for the ANEG scale (see table 2).

**Table 1:** Item Difference Coefficient on Items APOS Scale & Item ANEG Scale Item

Item Code	Positive Affect Items	Corrected Item-Total Correlation	No	Negative Affect Items	Corrected Item-Total Correlation
P1	<i>Senang</i>	.674	N1	<i>Resah</i>	.548
P2	<i>Gembira</i>	.773	N2	<i>Sakit hati</i>	.492
P3	<i>Riang</i>	.754	N3	<i>Kecewa</i>	.515
P4	<i>Lega</i>	.792	N4	<i>Dongkol</i>	.473
P5	<i>Sukaria</i>	.832	N5	<i>Perih</i>	.463
P6	<i>Puas</i>	.674	N6	<i>Murka</i>	.684
P7	<i>Tresno</i>	.773	N7	<i>Jengkel</i>	.642
P8	<i>Ayem</i>	.754	N8	<i>Duka</i>	.646
P9	<i>Tentram</i>	.792	N9	<i>Benci</i>	.647
P10	<i>Aktif</i>	.832	N10	<i>Sebal</i>	.609
P11	<i>Bersemangat</i>	.689	N11	<i>Jemu</i>	.534
P12	<i>Girang</i>	.654	N12	<i>Muak</i>	.667
P13	<i>Sejahtera</i>	.532	N13	<i>Galau</i>	.654
P14	<i>Bangga</i>	.716	N14	<i>Berduka</i>	.692
P15	<i>Antusias</i>	.566	N15	<i>Gelisah</i>	.641

**Table 2:** Validity and Reliability of APOS, and ANEG

Scale	Corrected Item-Total Correlation	Koefisien Reliabilitas Cronbach's Alpha
APOS Scale	0.527 to 0.832	.970
ANEG Scale	0.492 to 0.692	.928

### Study-3

The third study used Confirmatory Factor Analysis (CFA) technique. This CFA technique is used to analyze psychological measurement tools, to determine the validation of the developed measuring constructs (Jackson, Gillaspay, & Purc-stephenson, 2009; Cohen & Swerdlik, 2010). Before conducting the CFA, the researchers have to make sure that all items used must have a community Extraction value of more than 0.50.

**Table 3:** Extraction Method: Communalities – 1

APOS	Initial	Extraction		ANEG	Initial	Extraction
P1	1.000	.686		N1	1.000	.853
P2	1.000	.771		N2	1.000	.790
P3	1.000	.745		N3	1.000	.757
P4	1.000	.765		N4	1.000	.730
P5	1.000	.846		N5	1.000	.414
P6	1.000	.619		N6	1.000	.691
P9	1.000	.631		N8	1.000	.734
P11	1.000	.686		N9	1.000	.778
P12	1.000	.771		N10	1.000	.722
P13	1.000	.745		N11	1.000	.666
P14	1.000	.765		N12	1.000	.518
P15	1.000	.846		N13	1.000	.816
P7	1.000	.460		N14	1.000	.821
P8	1.000	.486		N15	1.000	.852
P10	1.000	.416		N7	1.000	.816

It should be note that in conducting CFA, each item must be communal of the entire construct being studied. The value of the communalities will be fulfilled if the Measure Sampling of Adequacy (MSA) is greater than 0.50. If the MSA value is less than 0.50, it can be interpreted that the item is not a communality of the construct to be measured. Therefore, after looking at Table 3 about Extraction Method, there are still extraction values that is lower than 0.50. Therefore the items of N5, P7, P8 and 10 must be removed from the analysis process, and all items can be used to explain the extracted factor studied. The results of its Communalities can be seen in Table 4. The table shows that all Extraction values are greater than 0.50. So it can be concluded that all items can be used to explain the research factors and the subsequent CFA process can be carried out.

**Table 4:** Extraction Method: Communalities – 2

APOS	Initial	Extraction		ANEG	Initial	Extraction
P1	1.000	.694		N1	1.000	.857
P2	1.000	.785		N2	1.000	.798
P3	1.000	.757		N3	1.000	.752
P4	1.000	.785		N4	1.000	.728
P5	1.000	.854		N6	1.000	.698
P6	1.000	.618		N7	1.000	.821
P9	1.000	.601		N8	1.000	.740
P11	1.000	.694		N9	1.000	.781
P12	1.000	.785		N10	1.000	.726

P13	1.000	.757		N11	1.000	.643
P14	1.000	.785		N12	1.000	.510
P15	1.000	.854		N13	1.000	.821
				N14	1.000	.830
				N15	1.000	.857

The next process of Factor Analysis is to see eigenvalues for each component. Based on the rules, the components that have more than 1 for the Eigenvalues can be interpreted. Therefore, if it is seen from table 5 about the Initial Eigenvalues for each Component, it can be concluded that there are only two components that have more than 1.00 for the Eigenvalues with Variance component 1 of 48.34%, and Variance component 2 of 26.77%, and total cumulative of 75.11%.

**Table 5:** Initial Eigenvalues on each Component

Component	Total	% of Variance	Cumulative %
1	12.569	48.343	48.343
2	6.961	26.775	75.118
3	.881	3.388	78.506
to			
30	-1.165E-016	-3.883E-016	100.000

The two factor components of the CFA before being rotated can be seen in Table 6. After doing 3 times iterations of Varimax Rotation Method with Kaiser Normalisation, it can be derived a Rotated Component Matrix which can be produced in Table 6.

**Table 6:** Component Matrix

	Component			Component	
	1	2		1	2
P1	-.582	.596	N1	.771	.512
P2	-.648	.604	N2	.772	.450
P3	-.595	.634	N3	.736	.458
P4	-.607	.645	N4	.752	.404
P5	-.672	.635	N6	.723	.418
P6	-.614	.490	N7	.813	.400
P9	-.538	.558	N8	.791	.338
P11	-.582	.596	N9	.761	.450
P12	-.648	.604	N10	.759	.388
P13	-.595	.634	N11	.710	.373

P14	-.607	.645		N12	.588	.406
P15	-.672	.635		N13	.813	.400
				N14	.814	.410
				N15	.775	.507

**Table 7:** Rotated Component Matrix

	Component			Component	
	1	2		1	2
P1	-.101	.827	N1	.924	-.061
P2	-.149	.873	N2	.886	-.111
P3	-.089	.865	N3	.863	-.082
P4	-.092	.881	N4	.843	-.135
P5	-.149	.912	N6	.829	-.106
P6	-.191	.762	N7	.889	-.175
P9	-.089	.770	N8	.834	-.212
P11	-.101	.827	N9	.877	-.104
P12	-.149	.873	N10	.839	-.151
P13	-.089	.865	N11	.790	-.134
P14	-.092	.881	N12	.714	-.033
P15	-.149	.912	N13	.889	-.175
			N14	.896	-.168
			N15	.924	-.066

It can be concluded that from table 7 there are 12 adjective items to express positive affect, and 14 adjective items that can be used to express negative affect. It means that the APOS scale consists of 12 items, namely affect positive and ANEG scale consists of 14 items, namely affect negative. Correlation coefficient results between the APOS scale and the ANEG scale is -0.276 ( $p < 0.01$ ) (table 8).

**Table 8:** Inter Correlations

		ANEG	APOS
ANEG	Pearson Correlation	1	-0.276**
	Sig. (1-tailed)		0.000
	N	293	293
POS	Pearson Correlation	-0.276**	1
	Sig. (1-tailed)	.000	
	N	293	293

\*\* . Correlation is significant at the 0.01 level (1-tailed).

### Discussion

This study aims to develop an instrument for measuring the affective component of Subjective Well-Being based on an indigenous psychology approach. Therefore, it is expected to identify the dynamics of individual happiness in Javanese context in Indonesia. This study combines qualitative and quantitative data analysis which is systematically divided into three stages of research, such as Study-1 which aims to explore the construct of happiness based on the indigenous psychology approach, Study-2 which aims to construct the happiness affect scale, and Study-3 which aims to psychometrically identify from the arranged affect scale.

Exploration of the affect of happiness and unhappiness is the most important study. It is because from this exploration, it is found that the results of the orientation of happiness and unhappiness affect inherent in the local community. Interview and FGD were used to explore the construct in determining what affect that can describe the feelings of happiness and unhappiness in Indonesian society. Based on the agreement of 30 employees of Javanese ethnic in Indonesia, there are 25 adjectives that describe someones happiness, and 25 adjectives that describe someones unhappiness. Adjectives that describe someones happiness are called positive affect, while adjectives that describe someones unhappiness are called negative affect.

The 50 adjectives that were resulted from Study-1, were constructed into a positive affect scale and a negative affect scale in Study-2. The 165 respondents in Study-2 were asked whether each adjective item on the positive affect scale represented a feeling of happiness, and whether each adjective item on the negative affect scale represented a feeling of unhappiness. This study aims to ensure that the items used in developing the scale are items that met the validity and reliability requirements. As Azwar (2011) & Widhiarso (2011) said that in the process of selecting items on a measurement scale, an important requirement that should not be abandoned is the condition of validity and reliability.

Validity refers to the extent to which a measuring instrument can measure what is to be measured (Suryabrata, 2005). Validating the scale means ensuring that each item is in accordance with the construct through rational analysis. This step is called logical validity (Azwar, 2011). It is done by finding the discrimination power of the items. The magnitude of the correlation coefficient between total items that is more than 0.30 is considered as part of the construct of the theory built. From 25 items of APOS scale got from studies-2, can obtain 15 items that have a discrimination power of more than 0.30. Likewise, from 25 items of ANEG scale, it can obtain 15 items that have a discrimination power of more than 0.30. After the selected items are declared valid, the internal consistency measurement is performed by using the Cronbach Alpha technique. From the internal consistency analysis, it can be concluded that the reliability of the Alpha Cronbach for the APOS scale is 0.970 and for the ANEG scale is 0.928. Thus it can be stated that both of these scales have very good internal consistency. It is mentioned by Azwar (2011) and Suryabrata (2005) that generally the reliability coefficient of a scale is called good if it has a reliability coefficient equal to or greater than 0.90.

After obtaining the results of scale construction in Study-2, it is necessary to do a theoretical test on more subjects empirically to see the suitability of item groups existing in a measuring instrument. In this research, CFA is used by factor analysis to see the factors or components that underlie the developed scale. According to Azwar (2011) factor analysis is a complex mathematical procedure to see the interconnection between variables or items. Similar variables will converge on one particular factor according to the theoretical assumptions proposed (Suryabrata, 2005). Thus, a theoretical construct might make it possible to have several underlying factors.

From the 3rd study, it can be concluded that the APOS\_ANEG affect scale has 2 main factors. They are APOS and ANEG. Both factors have Eigenvalues of more than 1.00, and communality values of more than 0.50. After doing 3 times iterations of Varimax Rotation Method, the researcher come to the result that there are 12 adjective items to express positive affect, and there are 14 adjective items that can be used to express negative affect. That means that the APOS scale consists of 12 items, such as *senang, gembira, riang, lega, sukaria, puas, tenang, bersemangat, girang, sejahtera, bangga, and antusias*. While the ANEG scale consists of 14 items, namely *resah, sakit hati, kecewa, dongkol murka, jengkel, duka, benci, sebal, jemu, muak, galau, berduka, and gelisah*.

Convergent validity is necessary to be concluded because the convergent validity is part of the construct validity. This validity is based on the data obtained from the answers of 293 research subjects. This validity seeks connectivity between components in the scale structure. Convergent validity done by correlating subscales to a measuring instrument. If between subscales have a close relationship theoretically, it is expected that the correlation coefficient between the subscales is high, and vice versa. If it is stated that the subscales are theoretically less correlated, then the correlation coefficient between subscales will be low or even have a negative direction (Azwar, 2011; Suryabrata, 2005; Widhiarso, 2010). From the study-3, it can be concluded that the results of correlation analysis between the APOS scale and the ANEG scale produced a correlation coefficient of -0.276 ( $p < 0.01$ ). It means that between positive and negative affect has not closely related sub-scale.



## Conclusions and Suggestions

Based on the analysis and discussion of the study, it can be concluded that: 1. The positive and negative is affective component of the subjective well-being scale constructed based on the indigenous psychology approach, because the respondents is from Javanese employee, 2. The scale affect positive and negative of subjective well-being scale has good validity, all the items has correlated total item is  $\geq 0.30$  and acceptable degree of internal consistency reliability, 0.970 for APOS scale and 0.923 for ANEG scale. 3. Result of construct validity of the scale with VARIMAX rotation method is there is 12 items for reveal positive affect and 14 items for reveal negative affect. APOS scale consist of 12 items, that is glad, happy, cheerful, relieved, joyful, satisfied, peaceful, excited, amused, prosperous, proud, and enthusiastic. ANEG scale consists of 14 items, that is restless, hurt, disappointed, irritated, angry, peevish, sad, hated, resentful, tired, fed up, upset, grieved, and restless.

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