Development of Anxiety Tool for Indonesian Army

Adi Aradi¹, Razali², Nyak Amir³, Yusrizal⁴, Syamsulrizal⁵

¹Student of Masters in Sport Education Universitas Syiah Kuala, Banda Aceh, Indonesia ²Lecturer at Masters in Sport Education at UniversitasSyiah Kuala, Banda Aceh, Indonesia ³Lecturer at Masters in Sport Education at UniversitasSyiah Kuala, Banda Aceh, Indonesia ⁴Lecturer at Masters in Sport Education at UniversitasSyiah Kuala, Banda Aceh, Indonesia ⁵Lecturer at Masters in Sport Education at UniversitasSyiah Kuala, Banda Aceh, Indonesia

Abstract: The purpose of this study is to develop a measure of soldier anxiety that has reliable validity and reliability and can be applied to Army Soldiers when carrying out physical fitness tests. This research is a type of development research. The subjects of this study were Iskandar Muda Regional Military Command Soldiers who served in combat units, territorial units, educational institutions and general staff totaling 16,400 people. The research subjects were determined through Probability Sampling using Slovin formula obtained by the subject of 390 soldiers. Method Development of warrior anxiety measurement tools is carried out with two activities, namely 1) instrument adaptation and 2) making new items with steps: item pool (interview and nominal group process) and screening of item pool (Q-sort) and test try the instrument. This study produced 30 statements that can be used to measure the level of anxiety of soldiers with moderate validity based on count obtained by 0.139 to 0.669 while the table price was obtained by 0.098 based on db = N-2 i.e. 390-2 = 388 with a 5% chance of error while reliability This anxiety measurement tool has a high level of reliability with a between 0.796 to 0.883 based on the condition that the value of a is greater than 0.500. The percentage of construct contribution of measuring instrument for anxiety of the army, as follows: 1) Somatic factors 10 statements or 33.33%, 2) motor factors 8 statements or 26.67%, 3) affective factors 6 items statements or 20.00%.

Keywords: Measuring Instruments, Anxiety, Indonesian National Army, Physical Freshness.

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I. Introduction

Army consists of three forces, namely: the Indonesian Army, the Indonesian Navy and the Indonesian Air Force. Each force has a main task in accordance with their respective fields. The main task of the Army is to secure the territorial integrity of the Unitary Republic of Indonesia (NKRI) on land from all forms of threats, disturbances, obstacles that originate from within and outside the country. Soldier is an Indonesian citizen who fulfills the requirements specified in the legislation and is appointed by an authorized official to devote himself to service (Law No.34, chapter VII article 21). Soldiers are people who have expertise in fighting and maintaining the security of a country. Warriors are often called Army and Military status. All members of the TNI both the army, navy and air force ranging from the lowest rank to the highest rank are called Soldiers or Soldiers. The characteristics of the military, which is to have an organized organization, official uniforms, high discipline, souls of knights, obey the laws applicable in warfare. (Salam, 2006: 13).

The logical consequence of this basic task is that each soldier must always be prepared and prepared so that he can function as an optimal defense tool. Each soldier must continue to be trained and improved physical abilities, so that the expected standards of professionalism are achieved.

Soldier's physical abilities can be improved through physical training conducted more than 3 times a week and carried out in accordance with the expected goals and the phases of the implementation of military physical development arranged systematically and continuously as outlined in the military physical training program in each unit.

Heavy and solid workloads require soldiers to have a fit and excellent physical condition which is obtained through regular physical training with increased training load, so that soldiers are always ready to face selection and freshness tests. In fact the soldier in carrying out physical fitness selection and tests still felt an anxiety, even though the unit had made a physical training program that was sufficient to support and face the physical fitness test.

Anxiety that is felt by soldiers when carrying out physical fitness selection test is certainly very disturbing to the appearance of the soldier and affects the condition of the soldier's body. This is as explained by Musfir (2005: 512). Sweat, the heart beats fast, the stomach feels nauseous, the body feels weak, and the ability to produce is reduced so that many humans escape to the realm of imagination as a form of temporary therapy.

Based on the explanation above it can be said that the physical fitness test is a "**scourge**" for soldiers, even though the physical fitness test has different assessment norms according to the age group that has been studied and tested based on the level of human ability according to age.

A. Warrior's Anxiety

Anxiety felt by soldiers in facing physical fitness tests of educational selection, promotion and periodic as well as physical fitness tests in the context of operational tasks, of course, have different levels of anxiety until the death of the soldier died.

According to Levitt, quoted by Husdarta (2014: 73), "anxiety can be defined as a subjective feeling of fear and physiological excitement". Anxiety is an uncertain feeling that is generally unpleasant which will cause psychological changes (Rochman, 2010:104). Anxiety affects aspects of individual personality, related to (a) cognitive (cognitively), (b) affective (affectively), (c) somatically (somatically), and (d) motoric (motorically) (Costin, 1989: 117).

According to Bender (1992: 17), Anxiety can be divided into two types, namely state anxiety and trait anxiety. Excessive fear of one particular situation or one special situation is called state anxiety. Conditions of emotion and anxiety take place temporarily in the situation at hand. While trait anxiety is a type of anxiety that is permanent and spreads to various things and can happen at any time.

Dacey was quoted (in Wicaksono, 2013: 29), explaining that aspects of anxiety can be reviewed through three components, namely: (1) psychological components, in the form of anxiety, nervousness, tension, anxiety, insecurity, fear, fear of surprise, (2) physiological components, in the form of palpitations, cold sweat on the palms, elevated blood pressure (easy emotions), skin response to galvanic flow (touch from the outside) is reduced, peristalsis (repetitive movements unnoticed) increases, somatic symptoms or physical (muscle), somatic or physical (sensory) symptoms, respiratory (respiratory) symptoms, Gastrointestinal (digestive) symptoms, urogenital (urinary and genital) symptoms and (3) social components, a behavior exhibited by individuals in their environment. That behavior can be in the form of behavior (attitude) and sleep disturbance.

Some opinions of experts regarding the aspects of anxiety above, it can be concluded that the aspects of anxiety contained in warriors are cognitive, affective, somatic and motoric aspects. These aspects of anxiety according to Costin (1989: 117), this will be used as an indicator in the development of an anxiety measurement tool for soldiers in this study.

B. Anxiety Measurement Tool

Some anxiety measurement tools that can be used to measure a person's anxiety level include: Visual Analog Scale for anxiety (VAS-A). VAS is based on a 100 mm scale in the form of a horizontal line, where the left edge shows no anxiety and the right end is sudden maximum anxiety. The opened horizontal VAS scale produces a more uniform and more sensitive distribution. Responses are asked to mark the horizontal line then the assessment is made. Hamilton Rating Scale for Anxiety, HRS-A consists of 14 symptoms, namely feeling anxious, tension, strength, sleep disturbance, disturbance of intelligence, feelings of depression, muscle symptoms, sensor symptoms, cardiovascular symptoms, autonomic symptoms, behavior. HRS-A uses a score system of 0 to 4, if score <14 = no anxiety, score 14-20 = mild anxiety, score 21-17 = moderate anxiety, score 28-41 = severe anxiety and score 42-56 = panic . State Trait Anxiety Inventory (STAI), this instrument was introduced by Spielberg in 1970 cited in Gunarsa (1989: 177). The statement on this measuring instrument consists of 20 items regarding a person's feelings that are felt now and anxieties felt so far. The Taylor Manifest Anxiety Scale (TMAS), developed in 1951, was quoted in Gunarsa (1989: 176). This test consists of 50 items with alternative yes or no answers. This instrument was also developed for children, the Children Manifest Anxiety Scale (CMAS). The Autonomic Perception Questionnaire (APQ), developed by Mendler and Urviller (1958) is quoted in Gunarsa (1989: 177) which consists of three parts. The Affective Adjective Checklist (AACL) developed by Zuckerman (1960) is quoted in Gunarsa (1989: 177). This instrument consists of 21 items (eleven items are classified as positive anxiety and ten items are classified as negative anxiety). Sport Anxiety Scale (SAS), this test consists of 27 items and is answered in the form of four Likert scales. Based on the clear need for a multidimensional measure of sports competition anxiety that distinguishes cognitive and somatic (body) aspects based on the concept, Smith, Smoll and Schutz (1990: 263) develop a sports anxiety scale, the Sport Anxiety Scale (SAS). Sport Anxiety Scale (SAS) is the most suitable measurement tool to measure a soldier's anxiety when facing a physical fitness test, because it is the same as an athlete who will face a match.

The difference in the degree of anxiety of the army soldiers when facing physical fitness tests varies depending on the designation of the physical fitness tests. The difference in the degree of anxiety of soldiers so far has never been measured and there is no valid measurement tool to measure soldier's anxiety in facing physical fitness tests, so the presence of warrior anxiety measuring devices is needed and reliability.

II. Research Methods

This research includes development research in the form of developing and designing the construction of an army anxiety measurement tool in the face of physical fitness tests, through the stages of designing a soldier's anxiety measurement logically, and systematically in order to establish an anxiety measurement tool that can be used in measuring soldiers' anxiety. Development is a process, way, deeds and efforts to improve and develop technical, theoretical, conceptual and moral abilities in accordance with the desired field (Majid, 2005 :24).

The subjects in this study were soldiers of the Iskandar Muda Regional Military Command, which consisted of 40 units with a total of 16,400 soldiers scattered in the Military Resort Command 011 / Lilawangsa (Lhokseumawe), Military Resort Command 012 / Teuku Umar (Meulaboh), and the Garnizun Banda area Aceh. As for the details of the research subject of the development of an Army Warrior anxiety measurement tool, namely: at the interview stage were 20 soldiers and 4 trainers, the nominal group stage was 20 soldiers, the Qsort stage was 3 experts. The research sample that will be tested based on Sugiyono (2015: 82) uses Probability Sampling by taking samples that provide equal opportunities for each element of the population to be selected, becoming a sample. Determination of the sample using the Cluster Sampling technique because the object to be studied is very broad using the Slovin Formula, namely: $n = N / (1 + (N \times e^2))$ with a defined margin of error of 5% or 0.05 of 390 soldiers, they were Tamtama, Bintara and random Iskandar Muda Regional Command Military Officers. Data collection techniques through two activities, namely the adaptation of sports anxiety instruments developed by Amir (2004) and the creation of new items, as developed by Mutohir (1986, 1987, 1990) through four stages, namely: a) collection of items (items pool), b) selection of items (screening of item pool), c) preparation of scale (construction of scales) and d) trial of results statement items from the making of new items. Trials of soldiers' anxiety tests were conducted on Iskandar Muda Regional Command Military soldiers serving in combat units, territorial units, educational institutions and general staff divided into three regions, namely: Garnizun Banda Aceh, Military Resort Command 011 / Lilawangsa in Lhokseumawe and Command 012 / Teuku Umar Military Resort in Meulaboh with 390 soldiers.

In this study the authors modify the Likert scale, where Likert uses 5 options, the statement is positive (favorable) and negative (unfavorable). While that is used in this study with 4 options and positive statements (favorable). The purpose of making with 4 options which eliminates neutral or hesitant options, because it is expected that respondents can provide a certain choice. Furthermore, in this study only gives a statement with a positive option there is no negative option because it is expected that respondents will only choose positive things.

The soldier is asked to respond to the statement in accordance with what he experienced by choosing one option (option) that is in accordance with his situation when facing a physical fitness test. Respondents' answers have been determined using a Likert Scale namely; Strongly Agree (SS), Agree (S), Fairly Agree (US) and Disagree (TS). The scoring for the soldier's self-confidence scale is adjusted to the answer of the statement items, namely: SS = 4, S = 3, AS = 2 and TS = 1. Determination of the level of anxiety of the army soldiers in facing physical fitness tests are: if the score <30 = low, score 31 - 60 = rather low, score <math>61 - 90 = rather high and score > 90 high.

Statement items are collected through instrument adaptation activities, interviews and nominal groups, selected and categorized using Q-sort, into items used in the trial process. The data that has been collected is then categorized and analyzed qualitatively and quantitatively analyzed with statistical techniques. Then the test results of the measuring instruments were analyzed with statistical techniques in the form of: (a) item validity, (b) reliability of measuring instruments and (c) factor analysis. The data analysis was carried out using a computer program with Statistical Package for Social Sciences (SPSS.21).

Item validity is done by calculating the correlation between subject scores on each item with a total score reduced by the item itself. According to Suryabrata (1998: 59), validity related to criteria refers to the relationship between the score of a measurement instrument with an external criterion that is independent and is believed to be able to measure the behavior or characteristics being investigated. Reliability analysis of measuring instruments using the Cronbach Alpha formula.

Techniques used in analyses factors according to Mutohir (1987: 43) are the Principal Axis Factoring technique and the Oblimin with Kaiser Normalization Rotation Method to sort a number of grains into a scale. According to Gable (1986) in factor analysis there are two approaches, namely: exploratory approach (exploratory factor analysis) through the principal component analysis (PCA) method, and the confirmatory approach (confirmatory factor analysis) through the maximum likelihood (ML) method or the maximum likelihood method. To test whether there is a correlation between variables, the Barlett test of sphericity is used. If the result is significant it means the correlation matrix has a significant correlation with a number of variables. Another test that can be used to see the intercorrelation between variables and whether or not factor analysis is performed is Measure of Sampling Adequacy (MSA). This MSA value varies between 0 to 1, if the MSA value <0.50 then factor analysis cannot be done.

The study was conducted in January to February 2020. The procedure for conducting the research was that the researcher submitted a research permit to the Commander of the Iskandar Military Regional Command, to use the location and soldiers as samples. The researcher conducts a meeting with the soldiers according to the specified schedule. Next the researcher conducts the stages, namely interviews, nominal groups, Q-sort, and filling out the soldiers' anxiety questionnaire to the subject at the trial stage.

III. Research Result

A. Item Validity

The test principle is $r_{count} \ge r_{table}$ with degrees of freedom (db) is N-2 (Hadi, 1991: 27), item validity can be based on the probability provisions of item validity or the probability value must be less than 0.050. Calculation of item validity is done using the Statistical Package for Social Sciences (SPSS: 21)program.

Based on the results of testing the validity of the Army Soldiers' anxiety measurement tool, which consisted of 73 statement units, it turned out to have a moderate level of validity. 388 with a 5% chance of error.

B. Measuring Instrument Reliability

Reliability analysis was carried out using the Cronbach Alpha formula, showing that the 73 statement items had a reliability coefficient of α between 0.796 to 0.883, while r_{table} with db = 388 at a significance level of 5% was obtained at 0.098 thus the measuring instrument had a high level of reliability and can provide reliable or trusted.Summary of Reliability Coefficients (n = 390), cognitive factors with mean = 24.07, variance = 44.560, std dev = 6.675, N of variables = 13, case = 390, r_n Alpha = 0, 808, r_{table} = 0.098 and status = reliable. Affective factors with a mean value = 32.20, variance = 54.755, std dev = 7,400, N of variables = 17, case = 390, r_n Alpha = 0.796, r_{table} = 0.098 and status = reliable. Somatic factors with a mean value = 38.40, variance = 97.942, std dev = 9,897, N of variables = 22, case = 390, r_n Alpha = 0.856, r_{table} = 0.098 and status = reliable. Motor factors with mean values = 33.99, variance = 89,864, std dev = 9,480, N of variables = 21, case = 390, r_n Alpha = 0.883, r_{table} = 0.098 and status = reliable.

C. Factor Analysis

The results of the calculation of factor analysis in this study use the Statistical Package for Social Sciences (SPSS. 21) program. The results of the KMO and Barlett's test value of the Kaiser-Meyer-Olkin Measure of Sampling Adequacy = 0.911, Approx. Chi-Square = 11846,210, df = 2628, with a significance of 0,000. Because this number is above 0.500 and is significantly below 0.050 (0,000<0.050), the variables and samples can be analyzed further.

Anti-image matrices test is carried out to determine which variables or factors are suitable for further analysis. Based on the results of the anti-image matrices test, it can be seen that the value of the Measure of Sampling Adequacy (MSA) for each variable is 13 items (cognitive); 17 items (affective); 22 items (somatic); 21 items (motor), these variables are feasible to be analyzed because the Measure of Sampling Adequacy (MSA) value is more than 0.500, the smallest Measure of Sampling Adequacy value is 0.648 in item 25 (feeling ashamed) and the largest is 0.950 in item 15 (feeling uncomfortable), so the 73 items of the statement need to be analyzed further.

After several analyzes with the pattern matrix, it turns out that it produced 30 statements that had a factor load greater than 0.300. For cognitive dimensions contained in the factor of only 6 statements including item sequence number 1 (lack of concentration), 2 (often daydreaming), 3 (nervous), 6 (fear of lack of value), 7 (fear of not passing) and 10 (thinking about things negative). For the affective dimension contained in the factor of only 6 statements including item number 16 (being emotional), 17 (hesitant in taking the test), 20 (wanting to take a turn), 22 (being stressed), 23 (feigning illness) and 26 (looking for a jockey / substitute). For somatic dimensions contained in a factor of only 10 statements including item number 34 (wanting to urinate), 35 (cold sweat), 36 (chest / heart palpitations), 37 (blood pressure rising), 39 (insomnia), 41 (irregular breathing), 42 (face turned pale), 43 (experiencing tension) and 44 (taking supplements). For motor dimensions contained in a factor of only 8 statements including item number 54 (muscle cramps), 59 (scratching the head), 61 (body / body becoming stiff), 65 (neck muscles and stiff neck), 69 (pacing) -and silly), 71 (trembling), 72 (legs feel heavy) and 73 (lethargic body). While the other 43 items were analyzed several times with the pattern matrix turned out to have a factor load of less than 0.300, the 43 items were aborted from the anxiety scale of the Indonesian national army.

1. Cognitive Factors

Cognitive factors are the first factor in the anxiety of Army Soldiers when facing physical fitness tests with correlations between variables in the range of 0.521 to 0.925. An army soldier's anxiety items from cognitive factors are: a) I feel less concentrated on carrying out a physical fitness test this time, with a factor load = 0.663, b) I often daydream when facing a physical fitness test, a factor load = 0.925, c) Feelings I became

nervous when I was about to face a physical fitness test, factor load = 0.521, d) I was afraid if the physical fitness test score this time was not up to standard, factor load = 0.692, e) I was worried about not passing the physical fitness test, factor load = 0.596 and f) I remember a number of incidents during the physical fitness test that caused the soldier to die, factor load = 0.692.

2. Affective Factors

Affective factors are the second factor in the anxiety of Army Soldiers when facing physical fitness tests with correlations between variables in the range 0.412 to 0.797. An army soldier's anxiety items from affective factors are: a) My emotions become unstable when facing physical fitness tests, factor load value = 0.596, b) I feel hesitant in facing physical fitness tests this time, factor load value = 0.797, c) I feel like I want to avoid the physical fitness test, factor load value = 0.657, d) I get stressed when I face the physical fitness test, factor load value = 0.668 and f) If it may be replaced, I will find a jockey / substitute to carry out a physical fitness test, factor load value = 0.468

3. Somatic Factors

The somatic factor is the third factor in the anxiety of Army Soldiers when facing physical fitness tests with correlations between variables in the range of 0.449 to 0.743. An army soldier's anxiety items from somatic factors are: a) I often urinate when facing a physical fitness test, factor load value = 0.601, b) My body broke out in a cold sweat while taking a physical fitness test, factor load value = 0.449, c) My heart / chest palpitations are abnormal when facing physical fitness tests, factor load value = 0.726, d) My blood pressure goes up when checked by the health team before carrying out physical fitness tests, factor load value = 0.468, f) The night before the physical fitness test I had difficulty sleeping as usual, factor load value = 0.473, g) When carrying out a physical fitness test my breath was often wheezing / irregular / irregular , factor load value = 0.488, h) My face looks pale when faced with a physical fitness test, factor load value = 0.490, i) My body and mind become tense. He faced a physical fitness test, factor load value = 0.743.

4. Motor Factors

Motor factor is the fourth factor in the anxiety of Army Soldiers when facing physical fitness tests with correlations between variables located in the range of 0.466 to 0.753. An army soldier's anxiety items from motor factors are: a) My leg muscles often cramp when faced with a physical fitness test, the load value factor = 0.696, b) Unconsciously I often scratch my head even though it doesn't itch when I face a physical fitness test, the value factor load = 0.753, c) My body and body stiffen when faced with a physical fitness test, factor load value = 0.721, d) My neck and neck muscles stiffen when facing a physical fitness test, factor load value = 0.692, e) I often walk pacing when facing a physical fitness test, factor load value = 0.657, g) My feet feel heavy to move when carrying out a physical fitness test, a factor load value = 0.680 and h) My body became lethargic when facing a physical fitness test, factor load value = 0.600.

IV. Conclusion

Based on the results of adaptation, validity, reliability and factor analysis, it can be concluded from the 73 statements used for the anxiety scale of the Army Soldiers in facing physical fitness tests only 30 statements consisting of 4 factors that can be included in the anxiety scale of the Army Soldiers because they have moderate level of validity and high level of reliability.

The percentage contribution of constructs of anxiety of Army Soldiers in facing physical fitness tests, it appears that the contribution made by the first factor or cognitive factor is 6 statements with a percentage of 20.00%, the second factor is 6 items affective statement with a percentage of 20.00%, the third factor is somatic as many as 10 statement items with a percentage of 33.3% and the fourth factor is motoric as much as 8 statement items with a percentage of 26.67%.

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