



Increasing students' mood state and self-confidence: 3 weeks plywood bow pvc archery program

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ABSTRACT

The decline in the psychological aspect between the mood state and student self-confidence in the COVID-19 era became a gap in this research. The purpose of this research is try to increasing of two psychological aspects between students' self-confidence and mood state through learning archery with PVC plywood bows. The research method used was experimental and as many as 70 students from Universitas Muhammadiyah Malang were prepared to be subjects in this research. Data analysis used the IBM SPSS version 25.0 application to test descriptive statistics, normality and homogeneity of data and paired sample t-test to determine the increase in mood state and self-confidence state before and after the intervention program. The level of significance chosen was .05. The results of the research found that archery learning with PVC plywood bows had a significant positive effect on increasing two psychological aspects, namely students' mood state and self-confidence. Thus, this research concludes that eventhough there are many obstacles in the learning conditions in the COVID-19 era, then learning archery with PVC plywood bows has been proven to increase of students' mood state and self-confidence for the better.

Keywords: Plywood bow pvc archery; mood state; self-confidence

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INTRODUCTION

In March 2020, COVID-19 (Leal Filho et al., 2021), that comes from Wuhan city China country, began to attack Indonesians society. The World Health Organization (WHO) issued a statement that COVID-19 is a global pandemic (Blanco et al., 2020). With the warning issued by WHO, the Indonesian government has implemented a number of measures to prevent COVID-19 from spreading massively in the society, for example applying social and physical distancing (Mahdy, 2020), lock down either then to prohibiting daily activities in groups with relatively large numbers in public places, shops, industry (Lee & Chen, 2020) and schools. The existence of policies issued by the Indonesian government, there has been an increase in negative effects on society,

especially on students, such as laziness, depression, stress, frustration, anxiety, fear and loss of self-confidence to learn (Espino-Díaz et al., 2020; Jumareng & Setiawan, 2021). In addition, several studies have reported that in an outbreak of COVID-19 it often creates negative moods such as panic, helplessness, and anger (Du et al., 2021).

Mood state is one of the psychological aspects that have an important role and need to be improved in students in the current era of COVID-19. Mood state has a definition as an unstable emotional state of a person, due to the impact of environmental conditions (Keikha et al., 2015). In addition, the mood state is claimed to be an important factor for students in undergoing the PE learning process, because a positive mood state will have an impact on high attendance levels (Vázquez et al., 2009). Negative mood state causes depression, stress, saturation, and fatigue, resulting in a lower attendance level (Chacón-Borrego et al., 2018). Many previous studies have discussed the mood state of athletes when exercising and its impact on athlete's performance (Keikha et al., 2015). Then the results of previous research also reported that the mood state will affect performance when exercising, for example a positive mood state will cause athletes to be more confident and enthusiastic when facing competitions, while a negative mood state causes feelings, such as anger, confusion, anxiety, saturation, depression (Neil et al., 2011). The majority of previous researchers have focused on investigating mood states in the context of sports, physical activity and the context of PE before the new COVID-19 era (Noce et al., 2016). However, there is a lack of literature that investigates the mood state of students when studying in PE class during the COVID-19 era, so it is urgent why this research needs to be followed up.

Self-confidence is one of the aspect of psychology that generally has a definition as a student's belief on their owns ability to do the best assignment in school or sports activities (Anh Ngoc & Thuc, 2020). Self-confidence is one of the aspects that must be increase the students themselves, because a high level of self-confidence they will be more enthusiastic to studying at school and at home during the COVID-19 pandemic. Recent studies report that most of the current education system crises are caused by low self-esteem which causes the students to less participate in learning activities (Akbari & Sahibzada, 2020). Then according to Purnomo and Hariono (2020) self-confidence is needed for a student to be implicated in learning activities. The results of another study found that the self-confidence factor is the key for athletes to achieve optimal performance in a competition and a high level of confidence is claimed to be able to overcome other psychological factors, such as anxiety, mood, worry, nervousness, or anxiety about a situation (Balyan et al., 2016). However, it is better when someone has a low level of self-confidence, then often leads to higher levels of anxiety, depression, stress and has an impact on decreased performance (Marshall & Gibson, 2017). In addition, according to the study results by Jeon (2016) reported that low levels of self-confidence it will greatly affect a person's motivation.

Archery is defined as a sport using a bow to shoot a target. Archery is one of sport that claimed have an effect on increase students' psychological aspects and called as mental sport (Kim & Kang, 2019). And previous research results indicate that archery has the potential to improve psychological aspects (Zolkafi et al., 2020). Previous studies have tried to analyze several exercises to improve aspects of mood state (Chang et al., 2020), and self-confidence (Merici & Ilhan, 2016). However, no previous studies have tried to improve aspects of mood state and self-confidence through the training of archery by using a PVC plywood bow and no literature is available yet. This effort is expected to be able to presentation further research directions on learning psychological skills and to provide useful data for designing learning psychological skills in the field of archery. The

aim of this research was to determine the effect of students' mood state and self-confidence through archery by using a PVC plywood bows during the COVID-19 era.

METHOD

The method used in this research is quasi-experimental with a quantitative approach. Experimental research is a research that is carried out strictly to determine the cause and effect correlation between the variables in a research. One of the main characteristics of experimental research is the existence of treatment that given to research subjects. This experimental research basically only fulfills two of the four requirements to be included in the pure experiment category. This research design is included in the experimental design category by using the principle of Pretest-Posttest One Group Design.

Participants

The participants taken by the researcher was the archery extracurricular members with the permission from Universitas Muhammadiyah Malang, totaling 70 students with the following subjects' characteristics namely: (1) active members of archery in extracurricular activities that registered in Perpani Malang regency, and (2) the member of archery extracurricular who are novice archery. The forms of pre-test and post-test by using questionnaires and treatments of archery learning extracurricular activities at the students of Universitas Muhammadiyah Malang. Before the research was carried out, all subjects asked to make a letter of willingness to participate in all activities in this study (Jumareng et al., 2021). The characteristics of the subject are presented in Table 1.

Table 1. Characteristics of Subject (Mean ± SD)

N=70	Mean ± SD
Age (y)	20.67±1.34
Height (cm)	1.61±2.17
Weight (kg)	57.67±4.45

Instrument

The instrument is a measuring tool that functions to determine the abilities of the person being studied. In this study, the instruments used included:

Mood State.

To measure the mood state of students in PE class, you can use The Mood States Questionnaire (MSQ). This instrument has 5 items, all respondents asked questions about the existence of positive feelings (activeness) and negative feelings (restless, sad, tired or bad mood). Each item is on a Likert scale from 1 to 5 points, a value of 1 = "none or nothing" to a value of 5 = "enough". This instrument has a validity level of .64 (Chacón-Borrego et al., 2018), and a reliability of .70.

Self-Confidence.

The instrument for measuring self-confidence can use a questionnaire that adopted from Sari et al. (2015) with 19 items, but researchers developed it into 20 item. To fill in this questionnaire using a Likert scale with points 1 to 5. This instrument has a validity level of .88 and a reliability of .79.

Research Procedure

This research has received permission from the Universitas Muhammadiyah Malang with approval date 01/01/2022. All subjects were given 40 minutes to fill in the mood

state and self-confidence instruments in the pretest and posttest activities. After completing the questionnaire, it was collected and analyzed by 3 sports psychology experts. The treatment program is given 3 times a week, namely on Wednesdays, Thursdays and Saturdays with a duration of 60 minutes for 9 meetings. This study strictly applies the standard COVID-19 protocol, namely the researcher measures the subject's body temperature and gives them a hand sanitizer as well as using a mask.

Intervention Program

The intervention program is implemented from 08.00-09.00 Western Indonesian Time. In providing an intervention program, namely archery learning. There are several stages that are taught to the subject, including: (1) Stance. At this stage the subject is taught about a standing position. (2) Nocking the Arrow. At this stage the subject is taught about attaching the nock to the nocking point. (3) Set. At this stage the subject is taught how to hold the bow. (4) Set-up. At this stage teaches to the subject focus on the target. (5) Draw. At this stage the subject is taught how to pull the strings. (6) Anchor. At this stage the subject is taught how to store strings (e.g., at the tip of the nose or chin). (7) Aim and Release. At this stage the subject is taught about engage in sharp shooting at the target and teaches how to release the strings. To avoid the emergence of feelings of saturate at the students when participating in learning process, then researcher applies a game, in which if the subject can engage in sharpshooting at the target, then a prize will be given.

Data Collection

The research data collection consists two steps: First, directly observation to the students when carrying out of archery learning by using a PVC plywood bows during the COVID-19 era. Observation is a relief activity that will be researched. Second, by the questionnaire was carried out in the pre-test and post-test activities. The questionnaire is a technique for collecting data through questions or written statements for respondents to answer.

Analyzing of Data

Data analysis in this research used the assistance of IBM SPSS version 25.0 application. The first step is to looking for descriptive of statistics. The second is to testing the normality (Kolmogorov-Smirnov) and the last to using the Paired sample t-test to see the differences before and after giving the intervention. The level of significance chosen was 0.05.

RESULTS AND DISCUSSION

Based on the results with manual calculations and using the IBM SPSS for windows release 25.0 program. Table 2 describes the mean pretest and posttest values of the mood state and self-confidence variables which show an increase before and after the intervention.

Table 2. Descriptive statistics (n = 70)

Variable	Description	Mean ±SD
Mood State	Pretest	49.00±7.82
	Posttest	53.63±7.35
Self-Confidence	Pretest	48.00±7.98
	Posttest	53.47±7.31

Based on Table 3, it can be explained that the significance value of students' mood state and self-confidence in archery learning for the pre-test and post-test obtained a significance of p-value greater than the alpha value 0.05. Its means that the data met normal assumptions. Then the research data is suitable for use for further research.

Table 3. Normality test (n = 70)

Variable	Description	p
Mood State	Pretest	0.432
	Posttest	0.217
Self-Confidence	Pretest	0.223
	Posttest	0.238

Based on Table 4, it can be explained that the significance value of students' mood state and self-confidence in archery learning for the pre-test and post-test obtained a significance of p-value greater than the alpha value 0.05.

Table 4. Homogeneity Test (n = 70)

Variable	Description	p
Mood State	Pretest	0.961
	Posttest	0.606
Self-Confidence	Pretest	0.742
	Posttest	0.740

Based on Table 5, it shows that the mood state variable has a value ($t = 9.879$; $p\text{-value} = 0.005$), while the self-confidence variable has a value ($t = 10.664$; $p\text{-value} = 0.000$). These data show that archery learning by using a PVC plywood bow can significantly increase the psychological aspects of mood state and self-confidence in students.

Table 5. Effect of Archery on Mood State and Self-Confidence (Mean \pm SD)

Variables	Pretest Mean \pm SD	Posttest Mean \pm SD	t	p
Mood State	4.62 \pm 3.92	5.40 \pm 4.11	9.879	0.005
Self-Confidence	5.47 \pm 4.29	6.20 \pm 4.70	10.664	0.000

This research aims to increase of students' mood state and self-confidence through learning archery by using a PVC plywood bow. The first finding in this study shows that archery using a PVC plywood bow has been shown to significantly change the low mood of students even though it is during the COVID-19 pandemic. The mood enhancement of students occurs because learning archery using a PVC plywood bow makes it easier for students to learn archery. In addition, the students looked excited and happy when using the PVC plywood bow. The results of this study are in line with previous studies which reported that psychological factors with archery are closely related (Kim & Oh, 2017). Research conducted by Zolkafi et al. (2020), show that traditional archery training can affect psychological factor. Thus, it can be concluded that learning archery using a PVC plywood bow creates a more enjoyable learning process for students, so that the mood state and self-confidence of students to learn will be higher in the era of COVID-19.

The second finding in the study proved that archery learning by using a PVC plywood bow is very important in providing opportunities for students to be directly involved in various learning experiences that they have never done before. In order to sprout up of students 'learning and psychological experiences, then need new and fun games can increase the students' self-confidence during learning at school. Archery characteristics have many components that can be increase of the students' self-confidence, so they are

very enthusiastic because they get more material in a fun way. The results of this study are supported by previous studies which reported that archery learning effects on the development of self-confidence (Kim et al., 2021). In addition, the factor causing students confidence learn to increase is because of archery is a fun game, so it can reduce the level of fear, boring in participating learning activities (Aysan, 2016).

By increasing the aspects of self-confidence and mood state at the students, it will greatly affect the quality of student performance when practicing archery in spite of fact during competitions. For example, other studies have found the benefits from developing a mood state, namely being able to remember subject matter in the long term (Zhang et al., 2017). In addition, the increasing mood state can lead to enthusiasm, enjoyment, friendliness and reduce depression, anger, and hostility (Mazzeschi et al., 2014). Recent research conducted in China found that the positive mood of athletes have a major role in achieving a high achievement in the Wushu sport. A positive mood before competition is a psychological basis for athletes to achieve the best results in competition (Li et al., 2020). Thus, psychological aspects, especially self-confidence and mood state have an important role in sports and physical education activities. This research finds that archery is an effective tool to increasing of both psychological aspects during the COVID-19 era. Many previous studies have found that archery has many benefits, such as it can be increasing the psychological aspects of concentration, anxiety, motivation, and can control a person's mental condition (Kim et al., 2021). The results of this study serve as an empirical basis for learning archery using a PVC plywood bow as a training method to increase psychological changes that have an impact on archery player performance (Lee & Kwag, 2018).

Besides that, Subramanyam (2013) research reports that a sportsman must be able to develop his self-confidence, because it will have a significant impact on optimal performance in a competition. Research conducted by Marcelino et al. (2014), also found the benefits of increased self-confidence, namely that it can reduce anxiety levels and increasing the athlete's performance when competing. Low self-confidence will result in low achievement while high self-confidence will result in high achievement (Purnomo & Hariono, 2020).

CONCLUSION

This research is the empirical evidence shows that archery by using a PVC plywood bow is proven have a significant effect to increase of the students' mood state and self-confidence in the COVID-19 era. This study has limitedness, namely that the subjects used only comes from one school in Indonesia, then the results obtained a small representative about the effect of archery by using a PVC plywood bow. However, this research also has a great impact on scientific development in the field of archery that related to psychology and to be one of the literatures that can provide the information for lecturers, teachers in spite of archery trainers about the strengths of archery learning by using PVC plywood bow toward increasing two psychological aspects, namely mood state and self-confidence. The research recommends to the future research by adding a relatively large number of subjects from several schools in Indonesia. In addition, future research should try to compare between learning archery by using a PVC plywood bow with online archery games. Or it can improve other psychological aspects such as self-esteem, adversity quotient or self-efficacy and mental toughness

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