Progressive Muscle Relaxation to Reduce Anxiety in Junior High School Students

Dedek Jannatul Makwa¹, Erny Hidayati²
¹Faculty of Psychology Ahmad Dahlan University, Yogyakarta, Indonesia
²Faculty of Psychology Ahmad Dahlan University, Yogyakarta, Indonesia

Abstract: Anxiety is potentially experienced by anyone, including students in an academic environment [3]. Some of the anxiety felt by students is when facing some less mastered subjects such as mathematics and English. Besides, students also feel anxious about teachers who have a way of teaching that tends to be fierce, assertive, and very disciplined. Students also feel anxious about facing class lessons when the learning media they have are incomplete. The anxiety experienced by students causes physical reactions such as increased heart rate, trembling, cold sweats, hot and weak bodies. Besides, the anxious experienced causes disruption of concentration while studying. The purpose of this study was to determine the effectiveness of progressive muscle relaxation in reducing anxiety experienced by students. The assessment methods used were individual interviews, Focus group discussion, and measurement of student anxiety using the BAI (Beck Anxiety Inventory) measurement tool. Participants are first-grade junior high school students. The intervention given showed that there were differences in anxiety levels before and after progressive muscle relaxation with a value of $Z = -2.375$ and a significance of $p = 0.018$ ($p < 0.05$) using the test Wilcoxon. Based on the intervention evaluation sheet, participants stated that the reaction due to anxiety felt reduced, and the body felt more comfortable.

Keywords: Anxiety; adolescent; relaxation.

1. Introduction

Many things can trigger anxiety in students at school. For example, the curriculum target is too high, the learning climate is not conducive, the assignment is very dense, the attitude and treatment of teachers are not friendly, fierce, and less competent, implementing strict school discipline, the school climate is not comfortable, and the limited facilities and infrastructure learning is also a factor that triggers the formation of anxiety in students in schools which comes from school management factors [6].

The Behavioral theory states that anxiety is a repeated learning process from an event that makes you anxious or a painful feeling, where it is very sensitive because it is related to the response received by the autonomic nervous system (ANS), so that when a person experiences an event that is almost the same, so the same response, namely anxiety will appear faster [18]. Physiologically, relaxation training provides a relaxing response, which can be identified by decreasing blood pressure, heart rate, and increasing skin resistance [18]. The behavior approach aims to eliminate wrong behavior and form new behavior. Behavioral approaches can be used in curing a variety of behavioral disorders of simple to complex, both individually and in groups. According to the Behavioristic perspective, anxiety is acquired through the learning process, especially through conditioning and observational learning [14].

Anxiety is a form of feeling threatened by something, usually with a less clear threat object. Anxiety can be interpreted if a person has feelings of discomfort and fear about an event because they are not sure what the outcome will be. This anxiety has conscious aspects such as fear, surprise, helplessness, guilt, or threat [11]. Anxiety is an obscure and pervasive worry associated with feelings of uncertainty and helplessness. This emotional state has no specific object. Anxiety is different from fear, which is an intellectual assessment of the danger. Anxiety is an emotional response to that judgment. The capacity to be anxious is necessary for survival. Anxiety disorders are the most common psychiatric problems in the United States [27]. According to Beck, there are four aspects of anxiety, first is the subjective aspect of feeling afraid, uncomfortable, feeling unable to relax, and not ready to deal with things effectively. The next aspect is neurophysiologic in the form of numbness or tingling, increased shock response, and difficulty concentrating when experiencing anxiety. Next is the autonomic aspect in the form of a feeling of heat, sweating, increased heart rate and the last is aspect panic-related such as a feeling of fear of losing control when feeling anxious [26].

One of the interventions that can be used to overcome anxiety is progressive muscle relaxation. Relaxation is an effort to relax physical tension, which in turn relaxes mental tension. One way of relaxation therapy is respiratory by regulating breathing activities. Breathing relaxation training is carried out by adjusting the breathing mechanism to either tempo or rhythm and a slower and deeper intensity. Regularity in breathing causes a relaxed mental attitude and body, causing muscles to be flexible and able to accept situations that
stimulate emotional outbursts without stiffening them [28]. Relaxation techniques are one of the behavioral therapies that are part of self-control techniques, where relaxation techniques are useful for regulating an individual's emotional and physical aspects of anxiety, tension, stress, and others [8]. Another explanation states that relaxation techniques are included in a behavioral therapy approach, with techniques developed focusing on repetitive components, for example, words, sounds, prayer phrases, body sensations, or muscle activity [8]. The results of research conducted by Sari and Subandio showed that relaxation technique training was proven to be effective in reducing anxiety levels in primary caregivers of cancer patients who were research participants as seen from the decrease in BAI scores[21].

Another intervention that can be done to overcome anxiety is psychoeducation. Rachmaniah(2012) examined other interventions to reduce anxiety through Psychoeducation [16]. The results of his research stated that psychoeducation affected reducing anxiety and coping in parents who had children with thalassemia major. Psychoeducation is an intervention in the form of providing psychological information and understanding that is shown to facilitate understanding of a matter and how to deal with it. This technique aims to provide information with a psychological understanding aimed at making it easier to understand something and how to deal with it. [20]. In addition to psychoeducation, participants were also asked to monitor their changes in behavior or physical reactions that occur when faced with anxious situations after receiving relaxation training. According to Nuryati [15], self-monitoring is an individual's ability to capture clues that are around him, both personal and situational specifically to change his appearance to create a positive impression which includes the individual's ability to monitor his behavior and also individual sensitivity to monitor himself. The concept of self-monitoring was put forward by Snyder [25] as an individual's ability to regulate their behavior to environmental situations and the reactions of others or based on internal factors such as beliefs, attitudes, and interests of the individual concerned.

2. Method

This study used an experimental group pretest-postest design. Participants in this study were first-grade junior high school students. Data collection in this study used individual interview techniques, focus group discussion, and anxiety measurement using the BAI (Beck's Anxiety Inventory) measurement tool. The BAI measuring instrument has high internal consistency, a value of α> 0.90 [26]. BAI (Beck's Anxiety Inventory) is a scale that contains 21 items regarding anxiety, emotional, physiological and cognitive symptoms experienced by someone. Participants were asked to rate each symptom based on the available 4-point scale. The higher the participant's score, the higher the level of anxiety experienced, on the other hand, a low score indicates lower anxiety in the participants. Based on the results of the assessment that has been carried out, it is known that there are 8 participants experience anxiety in the medium category and there is 1 participant who experiences anxiety in the high category.

Progressive muscle relaxation is an intervention given to participants to reduce anxiety which consists of four intervention sessions. In the first session, participants were given psychoeducation on the understanding of anxiety, how someone experiences anxiety, the effects of anxiety experienced, and how to deal with anxiety. Furthermore, participants are taught to practice progressive muscle relaxation, breathing relaxation, and imagery relaxation. Participants were then asked to practice relaxation independently either at home or at school when faced with situations stressors within one week. Participants were asked to monitor their anxiety conditions when practicing relaxation independently at home and school.

3. Result

The results of the interventions that were carried out on study participants showed that some participants experienced a decrease in anxiety after receiving the intervention. Psychoeducation about anxiety, anxiety symptoms and efforts to overcome anxiety given to participants had a positive impact. Research participants gain new, correct understanding of anxiety, the symptoms of anxiety and the measures that can be made to deal with perceived anxiety. The decrease in anxiety experienced by participants after receiving progressive muscle relaxation intervention and self-monitoring of independent relaxation practices can be seen from the pre-test and post-test results with the BAI measuring instrument in the following table:
**Table 1. Pretest-Posttest Anxiety Score**

<table>
<thead>
<tr>
<th>No</th>
<th>Name</th>
<th>Pre-test Category</th>
<th>Post-test Category</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>ASH</td>
<td>Moderate</td>
<td>Moderate</td>
<td>Score reduced by 6 points and still in the moderate category</td>
</tr>
<tr>
<td>2</td>
<td>AK</td>
<td>Moderate</td>
<td>Moderate</td>
<td>Score reduced by 6 points and still in the moderate category</td>
</tr>
<tr>
<td>3</td>
<td>AES</td>
<td>Moderate</td>
<td>Low</td>
<td>Score reduced 4 points from medium category to low category</td>
</tr>
<tr>
<td>4</td>
<td>CMA</td>
<td>Moderate</td>
<td>Low</td>
<td>Score decreased 10 points from medium category to low category</td>
</tr>
<tr>
<td>5</td>
<td>DNS</td>
<td>Moderate</td>
<td>Low</td>
<td>Score decreased 8 points and still in medium category</td>
</tr>
<tr>
<td>6</td>
<td>LSW</td>
<td>Moderate</td>
<td>Moderate</td>
<td>Score reduced 1 points and is still in the medium category</td>
</tr>
<tr>
<td>7</td>
<td>NA</td>
<td>High</td>
<td>High</td>
<td>score is reduced by 4 points and is still in the high category.</td>
</tr>
</tbody>
</table>

Based on the results of the pre-test and post-test table above, it can be seen that three participants experienced a decrease in the anxiety category from the moderate category to the mild category, which is AES, CMA, DNS, each participant score decreased by 4, 10 and 8. Three other participants experienced a decrease in their anxiety score, but the anxiety category experienced was in the same category, which is still in the medium and high categories. The decreased in the scores for each participant's ASH, AK, NA, and LSW were 6, 6, 4, and 1 point. It shows that the relaxation techniques succeeded in reducing the anxiety that has been felt so far, while in some participants the anxiety category before getting the intervention and after receiving the intervention was still in the same category the decrease in anxiety scores that was felt was quite good. It is probably due to the good motivation of the participants when carrying out a series of processes of giving interventions to overcome the anxiety experienced by each participant.

Participants who experienced the highest decline in scores were CMA and DNS. CMA experienced a decrease in their score by 8 and DNS experienced a decrease in their score by 10. It occurred probably because, in every intervention process, CMA and DNS seriously followed all the interventions that were carried out. Besides, the two participants also seemed to focus on undergoing all the intervention processes differently from other friends who liked to joke and sometimes ignore the facilitator, other participants only did the things instructed by the facilitator even though DNS was more passive in the group than CMA.

Participant that experienced the lowest score decline was LSW, which was only 1 point and was still in the same category before being given the intervention, namely the moderate category. It is probably due to the problem that dominates the subject's anxiety, which is another problem, namely family problems. Although the participant also said that she experienced academic anxiety, it seems that the anxiety related to family problems has a bigger portion. In the group, the LSW subject is the most active participant but sometimes the conversation and concentration are not focused in the group, it is also the possibility of a low decrease in anxiety scores that occurs participant LSW. The same thing as the LSW, the NA experienced a decrease in the score that was not too high, only better than LSW, which was 4 points. The anxiety category on the NA was still the same before being given the intervention, which was in the high category. The possibility of anxiety experienced by the NA was dominated by other problems besides academic anxiety, NA said that she experienced anxiety...
related to the family, which is the existence of a conflict in the family. Another factor that possibly influenced the lower decline in anxiety scores in NA was her passive, closed-group attitude. NA was not very open to expressing opinions in the group from the start and tended to be silent in group discussions.

Based on the analysis of non-parametric difference test data using the Wilcoxon analysis method in the SPSS 16 program, it shows that there is a significant difference in anxiety scores ($Z = -2.375$, $P = 0.018$) in the anxiety score before therapy ($M = 27.00$, $SD = 7.257$) and after therapy. ($M = 21.43$, $SD = 8.658$).

<table>
<thead>
<tr>
<th>Table 2. Statistical Results Wilcoxon Test</th>
</tr>
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<tbody>
<tr>
<td>N</td>
</tr>
<tr>
<td>----</td>
</tr>
<tr>
<td>Pre Anxiety</td>
</tr>
<tr>
<td>Post Anxiety</td>
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<table>
<thead>
<tr>
<th>Table 3. Statistics Results Wilcoxon Test</th>
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<tbody>
<tr>
<td>Post Anxiety - Pre Anxiety</td>
</tr>
<tr>
<td>Z</td>
</tr>
<tr>
<td>Asymp. Sig. (2-tailed)</td>
</tr>
</tbody>
</table>

Figure 1. Pre-test & Post-test Partisipan Graphic

4. Discussion

Anxiety is an unpleasant emotional state, which has unclear sources and often accompanied by physiological and behavioral changes. Based on the DSM IV-TR physiological and behavioral changes that follow anxiety are restlessness or feeling tense or anxious, feeling tired easily, difficulty concentrating or the mind becomes blank, irritability, muscle tension, and experiencing sleep disturbances. by the findings obtained in-group members, which is the presence of physical symptoms such as difficulty concentrating, increased heart rate, shaking, cold sweats, and not sleeping well when experiencing anxiety.

The psychological problems experienced by adolescents, anxiety is one of the most common psychological problems experienced by adolescents. In electronic news, it is revealed that today's adolescents experience anxiety easily than adolescents in the previous generation because the current academic demands are heavier than those of their parents in the past and the anxiety that occurs in adolescents can lead to drug or drug abuse [9].
One of the anxieties that occur in adolescents is academic anxiety. Academic anxiety is a feeling of tension and fear of something that will happen, and these feelings interfere with the implementation of various tasks and activities in academic situations [9]. Academic anxiety that occurs in adolescents is the result of academic pressure that comes from the teaching and learning process or matters related to learning activities. Academic pressures that are usually experienced by adolescents are exams, competition for values, time demands, teachers, class environment, career, and the future [9]. Anxiety has a huge effect on student behavior. Research conducted by Sarason and colleagues proved that students with high levels of anxiety did not perform as well as students with low levels of anxiety on several types of tasks, namely tasks characterized by challenges, difficulties, achievement assessments and time limits. Anxiety with a reasonable intensity can be considered to have a positive value as motivation, but if the intensity is very strong and negative, it will cause harm and can interfere with the physical and psychological condition of the individual concerned [17].

On the other hand, schoolwork demands are very beneficial for the development and advancement of adolescents, but on the other hand, if the schoolwork given exceeds the potential of adolescents, it will cause academic anxiety in these adolescents. This supports the finding in the group intervention process that the participants experienced anxiety because of the adaptation process from the elementary school to the junior high school. Differences in learning rhythms and increasing academic demands plus other causes such as not distributing textbooks for certain subjects, teaching methods of teachers who tend to be fierce, assertive, and overly disciplined, and increasingly dense academic activities that must be followed make participants experience academic anxiety. This anxiety made the participants unfocused when studying, which caused another anxiety, namely worrying that the grades would drop and the parents would scold them because of the bad grades.

In behavioral theory, states that anxiety is a repeated learning process from an event that makes anxiety or a painful feeling, where it is very sensitive because it is related to the response received by the autonomic nervous system (ANS), so that when someone experiences an almost similar event, the same response, namely anxiety, will appear faster[19]. Physiologically, relaxation training provides a relaxing response, which can be identified by decreasing blood pressure, heart rate, and increasing skin resistance [18]. Relaxation techniques are included in a behavioral therapy approach, with techniques developed that focus on repetitive components, for example, words, sounds, prayer phrases, body sensations, or muscle activity [8].

The techniques that are trained in relaxation technique training are: (1) deep breathing relaxation, deep breathing relaxation hereinafter referred to as(RPD), (2) progressive muscle relaxation, hereinafter called Progressive Muscle Relaxation (ROP) The first technique to be trained in training relaxation technique is RPD. This breathing relaxation has a function to relax the body by regulating breathing regularly, slowly, and deeply, because when we feel stressed or anxious, the body will be tense and the breathing becomes short [1]. The second technique that is trained is ROP. ROP is a relaxation that starts from relaxing the movement of one muscle to another, when one muscle is relaxed, it switches to another muscle until the whole body is relaxed.

After being taught about relaxation techniques, participants are asked to do relaxation independently when experiencing anxious situations. Participants are given sheets of self-monitoring to help observe behavior and changes that occur during relaxation when faced with anxious situations. Self-monitoring is the individual's ability to capture clues that are around them, both personal and situational specifically to change his appearance to create a positive impression which includes the individual's ability to monitor his behavior and also individual sensitivity to monitor himself [15]. The concept of self-monitoring was put forward by Snyder (1974) as an individual's ability to regulate their behavior to environmental situations and the reactions of others or based on internal factors such as beliefs, attitudes, and interests of the individual concerned [25]. Self-monitoring helped participants to be able to monitor the anxiety they experience after receiving relaxation training to deal with anxiety.

Besides, an intervention in the form of psychoeducation was also given to group participants who experienced anxiety. Rachmaniah (examined other interventions to reduce anxiety, namely through psychoeducation [16]. The results of his research stated that the psychoeducation given affected reducing anxiety and coping in parents who had children with thalassemia major. In this case, providing information about the anxiety experienced, the symptoms, and efforts to overcome anxiety increases the participants' knowledge of the problems they are experiencing and there is a new understanding of ways that can be done to deal with the anxiety that has been experienced so far. Psychoeducation is a health education for patients with both physical and mental illness which aims to overcome the psychological problems they experience. Physical diseases here can be in the form of hypertension, cancer, skin diseases, tuberculosis, and so on. While mental disorders can include depression, anxiety, and schizophrenia. Psychoeducation therapy can be in the form of passive psychoeducation such as providing information with leaflets or via email or website and can also be active psychoeducation in the form of counseling or providing health education individually or in groups [16].
The results of research conducted by Kaliakbarovain India found that group therapy using psychoeducation given to patients could reduce the frequency of withdrawal from TB patients [7].

This training is conducted in groups. Training conducted in groups has a positive effect, when a person is in a group situation that has the same characteristics or problems, allowing mutual support to one another, sharing experiences between participants, exchanging information, and a feeling of togetherness between participants as a support group [21]. If all participants have the same characteristics or problems, all members can provide support to one another, can share their experiences so that a feeling of togetherness between participants is created. Group therapy is a type of psychological intervention performed by therapists with a group of clients. Group therapy is more intensive in providing psychological help. This therapy is effective after cohesiveness in the group is formed and each member feels comfortable with each other, which allows each member of the group to be able to talk and share their problems freely. The existence of psychological safety for the group will allow a person to more easily express his feelings compared to expressing them outside the group. Group members will tell other group members what form of support they need and their hopes [2].

Interventions given to group members have a positive impact on reducing the anxiety that has been felt by all participants. All participants experienced a decrease in their anxiety scores. Some participants who previously had anxiety in the moderate category turned into a mild category after receiving interventions in the form of relaxation techniques, self-monitoring, and psychoeducation. The factors that influence the success of the intervention given may be caused by the cooperative group participants in following all the intervention processes given as well as good motivation to overcome the anxiety that has been felt so far. Besides, several obstacles occur during the process of giving the intervention, namely the limited time given by the school so that the intervention design that has been prepared cannot be given according to the plan. There was a wrong understanding from the group participants that the relaxation that had to be done independently had to be in the order in which the facilitator guided the relaxation so that the independent relaxation carried out by the participants was not optimal.

5. Discussion

Through the assessment that has been carried out, experiencing anxiety at school in situations when not mastering a particular subject in class, especially mathematics, English, and religious subjects. Students also experience anxiety when the teacher who teaches is very assertive, fierce, and too disciplined. Apart from that, another situation is when students do not have complete learning media such as textbooks on certain subjects so that students feel anxious if this will affect the final score obtained. Symptoms of anxiety experienced by students are increased heart rate, cold sweats, hot body, trembling, and weakness. The interventions conducted showed that the relaxation and self-monitoring provided had a significant impact on reducing the anxiety experienced by the participants. In the process of evaluating the intervention, participants said that the relaxation exercises that were carried out could reduce the anxiety symptoms that are usually experienced. Participants felt more relaxed and comfortable when doing progressive muscle relaxation exercises when faced with situations that triggered anxiety.

References


**Author Profile**

**Dedek Jannatul Makwa** received the Bachelor’s Degree in Psychology Major Ahmad Dahlan University and now she is a Post-graduate student in Clinical Psychology Major.

**Erny Hidayati** completed her Bachelor and M.A in Clinical Psychology Major. She is a Lecturer in Faculty of Psychology Ahmad Dahlan University.