

EFFECTIVENESS OF DIFFERENT RELAXATION TECHNIQUES

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Abstract

Relaxation techniques help us to improve physical health and wellbeing through relaxed mental state and body. There are different relaxation techniques practices all over the world. But to find out the simple and effective relaxation technique is essential for experts as well as general public. In this study, effectiveness of 4 different relaxation techniques compared using advanced Computerised Galvanic Skin Response monitor. The relaxation techniques compared in this study are Visual imagery training, Breathing technique, relaxation music and Jacobson's progressive muscle relaxation technique. Subjects were 10 adolescent students, who received all 4 relaxation techniques in different times and the changes in their GSR basal rate observed. After evaluating the result, Jacobson's progressive muscle relaxation found to be the most effective relaxation technique.

Keywords: Galvanic Skin Response Monitor, Relaxation techniques, Siemens.

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Relaxation technique (also known as relaxation training) is any method, process, procedure, or activity that helps a person to relax; to attain a state of increased calmness; or otherwise reduce levels of pain, anxiety, stress or anger. Relaxation techniques are often employed as one element of a wider stress management program and can decrease muscle tension, lower the blood pressure and slow heart and breathe rates, among other health benefits. Relaxation techniques influence improvements in health through physical and psycho physiological changes in the muscular, respiratory, cardiovascular, central and autonomic nervous, endocrine and immune systems (Soriano, 2012).

Various techniques are used by individuals to improve their state of relaxation. Some of the methods are performed alone; some require the help of another person (often a trained professional); some involve movement, some focus on stillness; while other methods involve different elements. Relaxation techniques may be helpful in managing a variety of health conditions, including anxiety associated with illnesses or medical procedures, insomnia, and labor pain. Psychological therapies, which may include relaxation techniques, can help manage chronic headaches and other types of chronic pain in children and adolescents. Relaxation techniques have also been studied for other conditions, but either they haven't been shown to be useful, research results have been inconsistent, or the evidence is limited.

Researchers have evaluated relaxation techniques to see whether they could play a role in managing a variety of health conditions, including the following:

Studies have shown relaxation techniques may reduce anxiety in people with ongoing health problems such as heart disease or inflammatory bowel disease, and in those who are having medical procedures such as breast biopsies or dental treatment. Relaxation techniques have also been shown to be useful for older adults with anxiety. On the other hand, relaxation techniques may not be the best way to help people with generalized anxiety disorder. Generalized anxiety disorder is a mental health condition, lasting for months or longer, in which a person is often worried or anxious about many things and finds it hard to control the anxiety. Studies indicate that long-term results are better in people with generalized anxiety disorder who receive a type of

psychotherapy called cognitive-behavioral therapy than in those who are taught relaxation techniques.

Relaxation techniques such as guided imagery, progressive muscle relaxation, and breathing techniques may be useful in managing labor pain. Studies have shown that women who were taught self-hypnosis have a decreased need for pain medicine during labor. Studies show that relaxation techniques are better than no treatment in reducing symptoms of depression but are not as beneficial as psychological therapies such as cognitive-behavioral therapy.

OBJECTIVE

To find out the effective relaxation technique among the popular techniques

SUBJECT

Sample consisted of 10 students aged between 22 to 26 years old. All were studying different P G courses in S.S.U.S. Kalady. Sample selected based on convenient sampling method.

MATERIALS

Personal Data Sheet

A Personal Data Sheet developed by the investigator was used to collect information on relevant socio demographic characteristics of the participants like age, sex, stream of study, socioeconomic status.

Computerised Galvanic skin response equipment

The Galvanic Skin Response (GSR) logger sensor measures the conductivity of our skin as it changes according to unconscious emotion effects such as sudden noise, smell, touch, pain or view. This sensor has two ranges: conductivity in micro Siemens and arbitrary numbers. The device also supports experiments lasting between 1 second and 31 days.

Laptop

Laptop connected to galvanic skin response equipment for recording the data.

Audio player with headphone

An audio player with a head phone contains the instructions for JPMR, Imagery training, respiration technique, and music for relaxation.

Galvanic skin response electrodes

Galvanic skin response electrodes connected with the subject's index finger and middle finger to record the data and the other side of electrode is connected with the galvanic skin response measurement device.

Recorded Instructions

Relaxation Music and instructions for Imagery training, Jacobson's Progressive Muscle Relaxation, Respiration Technique (deep breathing) are recorded and prepared earlier.

PROCEDURE

Experimenter placed a laptop in front of the table. A GSR measurement device connected to his / her laptop. The GSR electrodes are connected to the GSR measurement device. The experimenter set a table and chair for the use of the subject. An audio player connected with the headphone was set in the table, which included the instruction to the subject. Subject seated comfortably and the experimenter established good rapport with him/ her. Then the GSR electrodes connected with the subject's index finger and middle finger. The experimenter started the GSR measurement device. Galvanic Skin Response measured in Micro Siemens unit.

The subject was instructed as follows. "You will get instructions through this headphone. Please follow the instructions exactly. Please don't move your hand which connected with these electrodes during the experiment. Be seated comfortably even if the instructions over through headphone." The first one minute used for measuring the basal rate. Then the experimenter starts the instruction through audio player. The experimenter observed the diagrammatic representation of the data on his/ her laptop. The duration of the instruction was 8 minutes. The subject seated in the chair more than one minute after ending the instructions. The data obtained were saved in the experimenter's laptop. From the interview conducted after data collection through collecting the subject's experience and feelings about the experiment. After finishing the experiment, all equipment's were reset for next trial with another subject.

Precautions

- The experiment conducted in a closed room to avoid distractions.
- The experimenter restricted other people in the room to avoid distraction.
- The experimenter gave small furniture for leg support to the subject to avoid electric discharge through earthing.
- The subjects were not allowed to see experimenter's laptop monitor. If they have seen this monitor, they get feedback from it, and might alter the arousal level based on that information.
- External factors such as temperature and humidity affect GSR measurements, which can lead to inconsistent results.
- Internal factors such as medications can also change GSR measurements, demonstrating inconsistency with the same stimulus level.
- Galvanic skin responses are delayed 1–3 seconds. These show the complexity of determining the relationship between EDA and sympathetic activity.

RESULT

Table 1: mean difference of pre-test and post-test results of relaxation methods.

Relaxation methods	Mean difference
Post Imagery – pre Imagery	- 865.00
Post JPMR – Pre JPMR	3815.00
Post Respiration – Pre Respiration	1354.00
Post Music – pre Music	2000.00

Table one shows the mean difference between pre-test and post-test of different relaxation methods. It is clear from the table that Jacobson's Progressive Muscle relaxation shows more difference compared to other relaxation methods. The mean difference between pre-test and post-test of JPMR is 3815. Table one indicates that music is the second effective relaxation method. The mean difference between pre-test and post-test of music is 2000. Respiration technique is the third effective relaxation technique. The mean difference between pre-test and post-test of respiration is 1354.

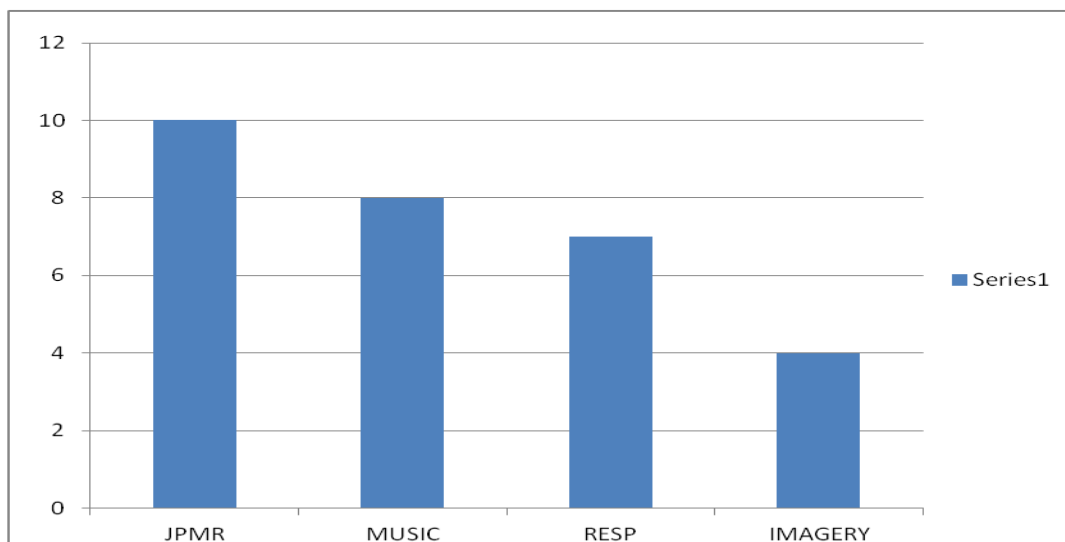
It is observed that, visual imagery is least effective method for inducing relaxation. The mean difference between pre-test and post-test of imagery is -865.

Table 2: Number effective trials

Relaxation Method	Number of effective trails among ten subjects
JPMR	10
Music	8
Respiration	7
Imagery	4

Table 2 shows number of effective trials. It can be observe from the data that JPMR is the most effective relaxation technique because when it was administer on ten persons and all the trials were prove as effective. Music is the second effective relaxation technique among the four techniques. Eight out of ten trails of music found to be effective as relaxation. Respiration technique result shows that it is the third effective relaxation technique among the four. Seven respiratory trials were effective out of total ten. Imagery is the least effective relaxation technique among the four. When imagery trials were administer on ten persons, just four of them were found effective.

Graph 1: Shows the number of effective trials among ten subjects.



DISCUSSION

It can be observe from the data that JPMR is the most effective relaxation technique because when it administered on ten persons and all the trials proved as effective. It is a type of technique that focuses on tightening and relaxing specific muscle groups in sequence. By concentrating on specific areas, tensing and then relaxing a person can become more aware of his body and physical sensations. In JPMR there are two levels of tasks one is mental and another one is physical. Here the participants are simultaneously engaged in mental and physical activity that is why the relaxation is more effective than other three. JPMR is based on the assumption that relaxation of muscles results in the relaxation of the mind. It shows the mind body relationship. There are many studies which supported these findings. The study conducted by Peciuliene, Perminas, Gustainiene and Jarasiunaite (2015) on Effectiveness of Progressive Muscle Relaxation and Biofeedback Relaxation in Lowering Physiological Arousal among Students with Regard to Personality Features. The study found that both types of relaxation helps to lower skin conductance in persons with higher scores of openness, agreeableness and conscientiousness and helps to lower heart rate in persons with higher scores of neuroticism and extraversion. Current Study supports these findings.

It is also can be observe from the data that Music is the second effective relaxation technique among the four. When it administered on ten persons and eight trails found to be effective. Listening to music can have a tremendously relaxing effect on our mind and body, especially slow, quiet classical music. This type of music can have a beneficial effect on our physiological functions, slowing the pulse and heart rate, lowering blood pressure, and decreasing the levels of stress hormones. As music can absorb our attention, it acts as a distraction at the same time it helps to explore emotions. This means it can be a great aid to meditation, helping to prevent the mind wandering. Certain music is appropriate for meditation as it can help the mind slow down and initiate the relaxation response.

Music is often linked to mood. A certain song can make us feel happy, sad, energetic, or relaxed. Because music can have such an impact on a person's mindset and well-being, all forms of music may have therapeutic effects, although music from one's own culture may be most effective. Music may achieve its therapeutic effects in part by elevating the pain threshold.

From the data, it is clear that respiration technique is the third effective relaxation technique among the four. Seven respiratory trials were effective out of total ten. Deep breathing exercises are a foundational principle of managing life's stresses. Deep breathing can release stress and provide other noticeable health benefits. The many benefits of deep breathing include a reduction in stress and blood pressure, strengthening of abdominal and intestinal muscles and relief of general body aches and pains. Deep breathing also promotes better blood flow, releases toxins from the body and aids in healthy sleep. These benefits result in an increased energy level. The secret is simply to breathe, deeply and often.

The present study result supported by Paul, Elam and Verhulst (2007) who examined Students' Perceptions of Using Deep Breathing Meditation to Reduce Testing Stresses. Findings indicate that Deep Breathing Meditation technique provided students with a promising solution for meeting challenging academic and professional situations.

It observed from the data that imagery is the least effective relaxation technique among the four. When imagery trials were administered on ten persons just four of them were found effective. It is a technique in which individuals focus on mental images in order to evoke feelings of relaxation. Imagery is based on the concept of mind-body connection. Mind-body connection upholds the interaction between body and mind as one important factor in a person's overall health and well-being. In guided therapeutic imagery, a person can call on mental images to improve both emotional and physical health. Imagery has a positive effect on heart rate, blood pressure, breathing and oxygen rates, brain waves, temperature, and hormone balance. Guided imagery can help relieve symptoms caused or made worse by stress, such as: chest pain (angina), high blood pressure, high blood glucose, headaches and digestive and breathing problems.

However, in the case of relaxation, imagery may not be effective always. It is because instructions for imagery received by different subjects would be based on their own perception, memory related with that image and their preparatory set (set of information). For example, image of sea in one person may make fear and in other person may feel excitement. A jungle is another example. That type of subjective perceptual factors might influence negatively in current experiment.

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