

Indie Rock Assists with Relaxation

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Abstract

This study will examine whether listening to indie rock will reduce a subject's stress levels. The participant will listen to music while their physiological response is monitored. The participant's heart rate will be observed before and during the songs play to measure the difference in beats per minute. If the heart rate decreases while the music plays as compared to their heart rate before music, this will show that listening to "Salt" by Alex G is an effective stress reduction strategy.

Indie Rock Assists with Relaxation

I believe that listening to “Salt” by Alex G., a form of indie rock music, will significantly decrease an individual’s level of stress. In modern society there are an abundance of stress inducing activities including work, school and family. Because of this surplus of stressors, it is important to know that there is both positive stress and negative stress. Positive stress is explained as being as time sensitive, with purpose and is offset by relaxation, while negative stress has no purpose, is not offset by relaxation and is ongoing (Mandel 1996). Experts have estimated that up to 75% of fatigue and medical disorders are directly contributed to negative stress (Smith, 2008). Smith (2008 p.46) said that these medical disorders are acknowledged as the “main catalysts in the development or progression of serious medical complications including hypertension, gastrointestinal problems, headaches and migraines and cardiovascular disease.” These statistics show the overwhelming need for negative stress reduction techniques in contemporary society. However, constructing an effective method for relaxation proves to be difficult. This difficulty is due to each stress inducer, environment and individual people being drastically different from one another. Another difficulty includes the ease of stress reducing activities. It can be difficult for people to find the time to conduct other stress reducing techniques. I believe that listening to calming, yet up-beat music such as “Salt” will act as an effective and easy relaxation technique for all participants.

There are a myriad of different genres of music. I have chosen to use indie rock or, more specifically “Salt”, because it has smooth dynamic transitions, pleasing tonality and chords, the tempo of andante, and a calm percussive quality. These specific characteristics of music are important to relaxation (Robb, Nichols, Rutan, Bishop & Parker, 1995). Sudden and drastic changes in tempo can jar and startle a listener. And, while dissonance can enrich music through

tension and release, too much tension can cause unease. An overwhelming percussion can create enjoyable excitement, however that is not my desired result. The tempo is chosen to be no more than 72 beats per minute so as to be at or below a resting heart rate (Robb, 2000). All of these desired traits in relaxing music can be found within this song.

Relaxation can be a difficult thing to accomplish when in a new environment or while being in the company of a stranger conducting an experiment on you. This is why Davis and Thaut (1989) emphasize the importance of the participant's preference for music. An individual's choice in music is obviously based on what they find to be most enjoyable. Therefore, choosing a song for the participant may not be as relaxing to that person as their own music. However, it is important to recognize that memories can influence people's regulation of emotion and produce behavior changes (Smith, 2008). This previous association could influence the experiment's results. An individual may also choose to sing along to or follow the lyrics of a song. This act of singing can distract a participant from concentrating on or following possible instructions in the experiment such as progressive muscle relaxation (PMR) directions (Robb, 2000). In addition, Elliot (1994) found no significant difference between pre selected or patient preferred music within his study of patients in coronary care. Therefore, selecting the song for the participant will not cause any discomfort and will ensure that the song they listen to adheres to the set prerequisites for relaxation. I believe it is essential to avoid any previous connections to the music playing in order to limit the amount of variables in the experiment.

In a study conducted by Sheri L. Robb (2000), music was used in a single relaxation session for PMR. In her study she had four groups where people either listened to music and participated in progressive muscle relaxation (M+PMR), only did the progressive muscle relaxation (PMR), listened to music alone (ML), or laid in silence (S). The results showed that

the most effective relaxation method was M+PMR with 6.2 points higher than S using the STAI (State-Trait Anxiety Inventory) . Overall, those listening to music had fewer reports of fatigue after the session (Robb 2000). This means that these methods fall under what Roth and Cohen (1986) would refer to as approach strategies. Approach strategies are used by an individual to confront a stressful situation. Listening to music relaxes a person and allows them to confront their source of stress with a clear head (Smith, 2008). Hanser's (1985) study concluded that music can produce physiological arousal (e.g. blood pressure, pulse rate, and temperature) while initiating a simultaneous drop in psychological measures of anxiety. These findings support the idea that listening to "Salt" by Alex G will incite alert states of relaxation. This alert state of relaxation will allow the participant to feel relaxed without feeling fatigued, and can therefore confront their source of stress. Overall, these studies reported a 53% decrease in mental tension and an infrequent 13% report of a desire to sleep after the experiment (Smith, 2008). Whether coupled with PMR or on its own, music significantly decreased the amount of a participant's stress. The impact music has on each group is enough to support its individual effectiveness. Although M+PMR yielded the highest rate of decreased stress, practicing PMR as a routine activity is not practical. Listening to music, a simple task that can be performed on a daily basis, lead to a significant drop in anxiety and stress while maintaining an alert state of relaxation.

The effectiveness of music for relaxation can be measured through more than the STAI. Smith (2002) discussed how music targeted the emotional states of participants. The effect was mood regulation, distraction from current mood and an increase in the positive feelings of the room (Smith, 2002). This shows that not only does the body relax through heart rate, but that the participant recognizes their relaxation and feels their mood improve. Listening to music produced both a physiological and psychological relaxation. Gerra et al. (1998) reported that the

selection of music was critical when looking to induce specific moods. Therefore, selecting a soothing, calm song is essential when looking to reduce anxiety levels and provide mood regulation. The experiment with music therapy on organ transplant patients used a variety of tests, including a detailed list of patient's physical reactions. Patient's facial expressions were noted before and after receiving 15-30 minutes of music therapy. In the pre-music therapy observations there was a report of eight grimaces in patients. With the post-music therapy observations there were only two grimaces reported. The notes of positive verbalizations went up from twenty-four to a total of forty-four after the music therapy (Madison & Silverman, 2010). The significant decrease of grimaces and obvious increase of positive verbalizations show the music therapy's effectiveness. It only took 15-30 minutes to cut down on one third of grimaces and nearly doubled the positive verbalizations. The results of the t-tests even showed a statistically significant improvement of pain ($p < .01$) to match the patients' observable effects and verbalizations (Madison & Silverman, 2010). This study backs the idea that music can improve relaxation, mood regulation and act as a distraction from current mood states. Listening to music has the ability to produce psychological and physiological relaxation, both of which were tested through many means. The multitude of tests conducted through varying approaches validate my hypothesis of music's effectiveness for relaxation.

Each of these studies coupled with their reliable and valid statistics, show that music can help individuals relax physiologically and psychologically, regulate mood, and help improve their overall health. Listening to music such as "Salt" will assist with anxiety reduction because of the specific musical qualities and invoke an alert state of relaxation. I believe that listening to "Salt" by Alex G, which is classified as indie rock, for approximately 4 minutes and 40 seconds will lower a person's stress by 25%.

Method

Participant

The participant in this experiment will be a student of the SUNY Broome Psychology 110 (05) course of fall, 2015. The subject can be either male or female and must be between the ages of 18 and 30.

Materials and Apparatus

For this study to be conducted, I will need the Biopac MP40 to monitor the participant's heart rate. I will also need a chair for the subject to relax in. I will use the song "Salt" by Alex G. Headphones and a music player are necessary to play the music from.

Procedure

Before the study is conducted, I require informed consent from the participant. I will explain the steps of the experiment and receive their permission before we continue. The next step will be to sit the participant down and attach the Biopac MP40 to the participant, then record their resting heart rate before any music is played. After this, I will have the person place the headphones on. I will begin to play Alex G's song "Salt" through the music player. During this, I will continue to monitor their heart rate. After approximately 4 minutes and 40 seconds, the song will end and I will have them remove the headphones and unhook them from the Biopac MP40. The following step will be to debrief the participant and ensure that he or she is alright. The final step will be to let the participant leave the experiment.

Method of Analysis

After conducting the experiment, the participant's heart rate with and without music will be compared. The differences in BPM will be analyzed to determine whether or not the music decreased their amount of stress. The heart rate will act as a construct for measuring stress. If the

participant's heart rate decreased by 25% while the music was played then this will show that the music decreased their level of stress and can be used as a proper stress reduction technique, thus supporting my hypothesis.

References

- Davis, W.B., & Thaut, M.H. (1989). The influence of preferred relaxing music on measurement of state anxiety, relaxation, and physiological responses. *Journal of Music Therapy, 26*, 168-187.
- Elliot, D. (1994) The effects of music and muscle relaxation on patient anxiety in a coronary care unit. *Heart & Lung, 23*, 27-35.
- Gerra, G., Zaimovic, A., Fanchini, D., Palladino, M., Giucastro, G., Reali N., et al. (1998). Neuroendocrine responses of healthy volunteers to 'techno-music': Relationships with personality traits and emotional state. *Internal Journal of Psychophysiology, 28*, 99-111.
- Hanser, S.B. (1985). Music therapy and stress reduction research. *Journal of Music Therapy, 22*, 194-206.
- Madison, A., & Silverman, M. (2010). The effect of music therapy on relaxation, anxiety, pain perception, and nausea in adult solid organ transplant patients. *Journal of Music Therapy, 47*, 1-8.
- Mandel, S.E. (1996). Music for wellness: Music therapy for stress management in a rehabilitation program. *Music Therapy Perspectives, 14*, 38-43
- Robb, S.L. (2000). Music assisted progressive muscle relaxation, progressive muscle relaxation, music listening, and silence: a comparison of relaxation techniques. *Journal of Music Therapy, 37*, 4-16.
- Robb, S.L., Nichols, R.J., Rutan, R.L., Bishop, B.L., & Parker J.C. (1995). The effects of music assisted relaxation on preoperative anxiety. *Journal of Music Therapy, 32*, 2-21.

- Roth, S., & Cohen, L.J. (1986). Approach, avoidance, and coping with stress. *American Psychologist, 41*, 813-819.
- Smith, C. (2002). The effects of music on anxiety levels in working adults. In L. Bunt & S. Hoskins (Eds.), *The handbook of music therapy* (pp. 180-183). NY: Brunner-Routledge.
- Smith, M. (2008). The effects of a single music relaxation session on state anxiety levels of adults in a workplace environment. *Australian Journal of Music Therapy 19*, 1-21.