



ORIGINAL RESEARCH PAPER

Psychology

EFFECTS OF ASMR ON MINDFULNESS, EMOTIONS AND ANXIETY

KEY WORDS:

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ABSTRACT

The autonomous sensory meridian response (ASMR) is a pleasurable physiological sensation. It creates tingling sensations in the crown of the head, in response to a range of audio-visual triggers such as whispering, tapping, and hand movements. This study aims at finding the effect of ASMR on mindfulness, positive negative affect and anxiety. This study will also explore the differences in these variables between the experimental and control group. The sample consists of 40 College students 20 girls and 20 boys each between the ages of 18 to 25 years, from which 10 boys and 10 girls will be asked to watch an ASMR audio-visual and then answer questionnaires based on their experience of the audio-visual. The tools that will used for this study are Freiburg Mindfulness Inventory developed by (Walach, Buchheld, et al., 2006), The Positive and Negative Affect Schedule developed by (Watson, Clark, and Tellegen., 1988), State Trait Anxiety Inventory for adults developed by (Spielberger, Gorsuch, 1983). The other 10 boys and 10 girls are in the control group. The sampling method in this study is convenience sampling no randomization was done while allotting subjects. The statistical analysis that will be used in this study is t-test. The results of the study have showed a significant change in the Negative affect of the experimental group from pre-test to post-test. The Negative affect and anxiety for women in the experimental group have reduced from pre-test to post-test whereas, Positive affect for men in experimental group have increased. The future prospectus for ASMR is that it can be explored in terms of personality traits, depression, stress and its implication as a treatment for mental illness.

INTRODUCTION

The autonomous sensory meridian response (ASMR) has become quite popular in the recent times. ASMR videos are found on every social media platform today including Facebook, Instagram, and YouTube. Many people are uploading ASMR videos worldwide. The common idea behind this is that it is found to be relaxing for some viewers. To put it simply ASMR refers to a tingling sensation in response to audio or visual stimuli. It is often felt in the skull, and frequently reported toward the base of the head and down the spine to the extremities (Barratt & Davis, 2015). ASMR response is usually associated with auditory stimuli; visual triggers such as painting, brushing on the microphone or hand motions along a camera lens often produce an ASMR reaction. Common auditory triggers include crisp sounds, whispers, tapping. (Barratt & Davis, 2015).

ASMR is still a relatively new creation. It describes a feeling of physical sensation of tingling and relaxation that can come over someone when they watch these videos or hear some sounds. ASMR may not work for everybody but some studies have proven that Public interest in ASMR has risen dramatically and ASMR experiencers watch ASMR videos to promote relaxation and sleep. (Poerio, Blakey, Hostler, & Veltri, 2018). This technique can be used in future as a treatment for stress and anxiety. In this study, ASMR will be explored with mindfulness, emotions and anxiety. Mindfulness is the state of being conscious to the present, and to what is happening around within oneself. Emotion is defined as "A feeling comprising physiological and behavioural and possibly cognitive reactions to internal and external events." (Sternberg, 1998). Anxiety is characterised as a feeling of apprehension, worry, and tension and can lead to physiological changes like increased blood pressure.

REVIEW OF LITERATURE

ASMR is a trending topic in today's world and many researches have conducted investigations related to ASMR and other variables. Studies have found that participants largely sought out ASMR as an opportunity for relaxation, to

help with sleep, to manage with stress and small number of individuals used ASMR for sexual stimulation (Barratt, Davis, 2015). ASMR has also proven to correspond with physiological changes such as reduced heart rate and increased skin conductance levels (Poerio, et al., 2018). A fMRI-based investigation has found that ASMR showed significant activation in brain regions associated with both reward and emotional arousal. Brain activation during ASMR showed similarities to patterns previously seen in musical frisson as well as affiliative behaviours (Lochte, Guillory, Richard, Kelley, 2018).

ASMR videos make use of sounds and music that stimulate people in different ways. It has been found that music influences people in positive and negative ways (Ahmad, Rana, 2015). Sound meditation also helps in reducing tension, anger, fatigue, and depressed mood in people (Goldsby, Goldsby, McWalters, Mills, 2016). Another study had investigated the effect of natural sounds on the anxiety of patients undergoing coronary artery bypass graft surgery (CABG) and found that when compared to the control group the anxiety level of the intervention group was significantly lower than half an hour after the intervention (Amiri, Sandeghi & Bonabi, 2017).

ASMR have also been widely explored with personality traits where, ASMR stimuli were positively correlated with the Openness-to-Experience and Neuroticism dimensions of the Big Five Inventory (BFI) (Fredborg, Clark, Smith, 2017). Other studies have shown that the sensory-emotional experiences associated with ASMR may be partially explained by a distinct subset of characteristics associated with mindfulness (Fredborg et al., 2018)

NEED FOR THE STUDY

ASMR has been widely used today for inducing relaxation similar to that done by Jacobson's Progressive Muscular Relaxation (JPMR), which is used for stress-reducing benefits which is a more scientific method. ASMR can be used as a therapy at home instead of coming to a clinic for the admini

stration. It is a more cost and time effective study. Before standardising ASMR to be used for therapeutic practice, it is important to understand if it has any effect at all on stress and other related variables. This study focuses on understanding if ASMR, in the form it is available now (through YouTube videos, social media etc.) can be used to reduce the levels of State Anxiety and Negative Affect and increase the levels of Mindfulness and Positive Affect.

METHODOLOGY
AIM OF THE STUDY

The aim of the study was to establish the relationship of ASMR with mindfulness, emotions and, state anxiety respectively.

RESEARCH DESIGN

The design used in this study is a pre-post experimental design with control group. It was conducted by giving out questionnaires to participants.

VARIABLES

In this study the dependent variables are mindfulness, emotions and anxiety which is a stimulation to ASMR intervention.

- ASMR is a physiological sensation that is triggered in the crown of the head by tingling sensations, whispering, tapping.
- Mindfulness is being aware of the bodily sensations; thoughts present in the surrounding environment.
- Emotions are the events that are driven by people such as sadness, disgust, love.
- Anxiety is the feeling of persistent worry, nervousness caused due to an external/internal event.
- State anxiety is the present moment feeling of an individual that is caused due to a perceived threatening or distressing event.

SAMPLE DESIGN

The sampling method used in this study was convenient sampling. The sample of the study consisted of 40 young adults ranging from age 18-25 years old in which ten men and ten women were in the experimental group and the rest 10 men and women were in the control group. In the consent form, the participant's initials, age and date of the test taken by the participant was collected. 7 out of 10 women and 8 out of 10 men in the experimental group liked the experience of the ASMR video.

INCLUSION CRITERIA

The participants in this study included were men and women between the ages 18-25. Voluntary consent was required by all participants.

HYPOTHESES

- H1: ASMR will lead to a significant positive difference in mindfulness in the young adults in the experimental group after intervention.
- H2: ASMR will lead to a significant positive difference in positive affect among young adults in the experimental group after intervention.
- H3: ASMR will lead to a significant negative difference in negative affect among young adults in the experimental group after intervention.
- H4: ASMR will lead to a significant negative difference in state anxiety among young adults in the experimental group after intervention.

TOOLS USED

Freiburg Mindfulness Inventory is a 14-item scale developed by Walach, Buchheld, Buttenmuller, Kleinknecht, & Schmidt (2006). The internal consistency of the test Cronbach alpha is 0.86 which indicates a good content validity. Higher the score, more mindful of the person is.

Positive and Negative Affect Schedule (PANAS-SF) is a 20-item

scale developed by Watson, Clark, & Tellegen (1988). The internal consistency of the test Cronbach alpha is 0.86-0.90 and has strong validity reported that with such measures as general distress and dysfunction, depression, and state anxiety. Higher the scores, the higher the positive affect and higher the scores, the higher the negative affect.

State and Trait Anxiety (STAI) is a 20-item scale which measures state anxiety only and the scale was developed by Spielberger, Gorsuch, Lushene, Vagg, & G.A. Jacobs. (1996). The internal consistency of the test Cronbach alpha is 0.86 and indicates that the content validity is a good measure. Higher the scores, the higher the state anxiety. For the present study only state anxiety was considered.

ASMR checklist - This was used to gather information on how the participants felt following their exposure to the ASMR video.

INTERVENTION

The participants in the experimental group were exposed to 9 ASMR videos that included sounds varying from tapping, crunching, and pouring, brushing, writing, crumbling, spinning. The Visuals of the video included pouring water, writing with a sketch pen on a book, typing on a keyboard, spinning the fidget spinner, pressing and playing with a sponge ball, crumbling paper, munching food, brushing a plastic bag and playing with a sugar container. The total duration for all these videos was 5 minutes. These videos were specifically for the purpose of this study.

PROCEDURE

The study was conducted by first explaining the purpose followed by giving consent forms to the participants to indicate their acceptance to be a part of the study. Their demographic details such as initials, age, and the date of the test was also taken along with their informed consent. The questionnaires were administered to the participants manually. An ASMR checklist also was given to the experimental group participants on questions based on feelings, bodily sensations, about ASMR video. For the experimental group (pre-test) the questionnaires were given and was asked to answer based on their experience in the present moment. For the control group (pre-test and post-test) the questionnaires alone were given to the participants to fill. It was ensured that there was no difference in the levels of state anxiety, mindfulness, positive or negative affect between the experimental and control group before the intervention.

ANALYSES

Statistical analyses that were conducted were frequency distribution of the sample, means and standard deviations, independent t-test, and paired t-test. The statistical analyses were conducted using SPSS v20.

RESULT

Fig 1. Physiological changes in men and women while watching the ASMR video

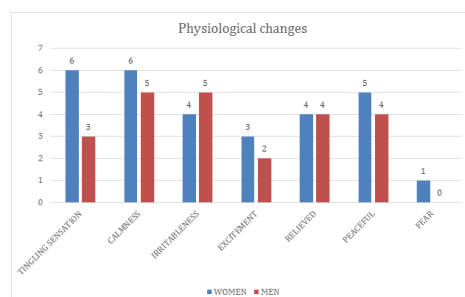


Table 1. Means and Standard Deviations between pre-test and post-test

Variable Name (N=20)	Pre-test Mean	Pre-test Standard Deviation (SD)	Post-test Mean	Post-test Standard Deviation (SD)
Age 18- 25	20.72	2.02	20.72	2.02
Mindfulness	38.32	5.45	37.55	5.31
Positive Affect	30.15	8.72	30.75	9.0
Negative Affect	19.57	7.01	18.57	7.88
State Anxiety	41.35	9.94	40.05	11.4

Table 2. Comparison of experimental and control group between pre-test and post-test

Variable Name (N=20)	Pre-test t-score	Post-test t-score
Mindfulness	0.11 ^{ns}	0.71 ^{ns}
Positive Affect	0.28 ^{ns}	1.33 ^{ns}
Negative Affect	1.53 ^{ns}	2.94**
State Anxiety	0.14 ^{ns}	1.19 ^{ns}

**p value indicates 0.01 level of significance
^{ns}- Not Significant

Table 3 Comparison of experimental and control groups before intervention for women

Variable Name (N=10)	Mean for experimental group	Mean for control group	t-score
Mindfulness	39.3 (5.98)	37.6 (5.44)	0.66 ^{ns}
Positive Affect	30.5 (8.1)	30 (8)	0.13 ^{ns}
Negative Affect	16.8 (3.1)	20.8 (8.7)	1.36 ^{ns}
State Anxiety	40.3 (8.7)	41.9 (12.17)	0.33 ^{ns}

^{ns}- Not Significant

Table 4. Comparison of experimental and control groups after intervention for women

Variable Name (N=10)	Mean for experimental group	Mean for control group	t-score
Mindfulness Post-test	38.4 (5.31)	37.6 (4.67)	0.35 ^{ns}
Positive Affect Post-test	32.6 (9.47)	31.7 (8.13)	0.22 ^{ns}
Negative Affect Post-test	13.3 (2.49)	20.7 (10.1)	2.24*
State Anxiety Post-test	33.4 (7.54)	43.2 (11.94)	2.19*

*p value indicates 0.05 level of significance
^{ns}- Not Significant

Table 5. Comparison of experimental and control groups before intervention for men

Variable Name (N=10)	Mean for experimental group	Mean for control group	t-score
Mindfulness Pre-test	37.4 (3.59)	38.7 (6.91)	0.52 ^{ns}
Positive Affect Pre-test	28.9 (9.96)	31.9 (9.87)	0.47 ^{ns}
Negative Affect Pre-test	19 (5.67)	21.7 (8.94)	0.80 ^{ns}
State Anxiety Pre-test	42.4 (9.52)	41.7 (10.53)	0.15 ^{ns}

*p value indicates 0.05 level of significance
^{ns}- Not Significant

Table 6. Comparison of experimental and control groups after intervention for men

Variable Name (N=10)	Mean of experimental group	Mean of control group	t-score
Mindfulness Post-test	35.5 (4.1)	38.7 (6.96)	1.25 ^{ns}
Positive Affect Post-test	25.1 (8.64)	33.6 (8.84)	2.17*
Negative Affect Post-test	17.2 (6.46)	23.1 (7.29)	1.91 ^{ns}
State Anxiety Post-test	42.4 (13.29)	41.2 (11.13)	0.21 ^{ns}

*p value indicates 0.05 level of significance
^{ns}- Not Significant

Table 7. Comparison of experimental and control group pre-test and post-test – using Paired t-test.

Variable Name (N = 20)	t-values for Experimental Group	t- values for Control Group
Mindfulness	1.49 ^{ns}	0 ^{ns}
Positive Affect	0.63 ^{ns}	1.51 ^{ns}
Negative Affect	2.76**	0.34 ^{ns}
State Anxiety	1.71 ^{ns}	0.17 ^{ns}

**p value indicates 0.01 level of significance
^{ns}- Not Significant

Table 8. Comparison of mean for Experimental and Control Group from pre-test to post-test for women

Variable Name (N = 10)	t-values for Experimental Group	t-values for Control Group
Mindfulness	0.66 ^{ns}	1.40 ^{ns}
Positive Affect	0.93 ^{ns}	1.46 ^{ns}
Negative Affect	3.45**	1.09 ^{ns}
State Anxiety	2.26*	0

*p value indicates 0.05 level of significance
^{ns}- Not Significant

Table 9. Comparison of mean for Experimental and Control Group from pre-test to post-test for men

Variable Name (N = 10)	t-values for Experimental Group	t-values for Control Group
Mindfulness	1.4 ^{ns}	0 ^{ns}
Positive Affect	1.46 ^{ns}	0.91 ^{ns}
Negative Affect	1.1 ^{ns}	0.41 ^{ns}
State Anxiety	0 ^{ns}	0.14 ^{ns}

^{ns}- Not Significant

Table 10. Comparison for Experimental group based on whether the participants liked the experience of ASMR video

Variable Name (N=20)	t-values for Yes Responses	t-value for No Responses
Mindfulness	1.11 ^{ns}	0.94 ^{ns}
Positive Affect	0.86 ^{ns}	0.07 ^{ns}
Negative Affect	2.03 ^{ns}	1.81 ^{ns}
State Anxiety	1.45 ^{ns}	0.87 ^{ns}

^{ns}- Not Significant

DISCUSSION

As indicated in Figure 1, there was more number of women who reported that they experienced tingling sensations (6%), calmness (6%), relief (4%) and peacefulness (5%). More number of men experienced irritableness (5%). There was one women who reported that she felt fear while watching the video. The study shows that there was no experience of

tingling sensations seen in males when compared to females. The females had positive emotions and experienced bodily sensations which was supported by the study done by Lochte, Guillory, Richard & Kelley (2018).

Table 1 shows that the means have reduced post-test for Mindfulness, Negative Affect and State Anxiety.

In Table 2, significant difference in the domain Negative Affect was observed in the experimental group ($t(20) = 2.94, p = 0.01$). Thus, H3 has been accepted. This indicates that the post-test experimental group has a reduced Negative Affect. There was no significant difference between the pre-test and post-test in the domains of Mindfulness, Positive Affect and State Anxiety for both the experimental and control group, and there is no significant change in the negative affect as well for the control group. Thus, H1, H2 and H4 are rejected.

From table 3, it is evident that there is no difference between the experimental and control group for mindfulness, positive affect, negative affect and state anxiety before the intervention for women. From Table 4 it is evident that there was a significant difference in the domains Negative Affect ($t(10) = 2.24, p = 0.05$) and State Anxiety ($t(10) = 2.19, p = 0.05$) for the women in the experimental group after the intervention. Whereas there was no significant difference in the other domains such as Mindfulness and Positive Affect.

Table 5 makes it evident that there is no significant different between the experimental and control groups for mindfulness, negative affect, positive affect, and state anxiety before the intervention for men. However, it is observed in table 6 that there is a significant change in their positive affect post-test, wherein their positive affect has increased in the post-test ($t(18) = 1.91, p = 0.04$). It is also reported that there was no significant difference in the domains such as Mindfulness, Negative Affect, and State Anxiety for men. It is evident that in the present study that the women have an increased Negative Affect when compared to the males which is supported by the study conducted by Poerio, Blakey, Hostler, & Veltri (2018).

Table 7 illustrates that there was a significant difference in the domain Negative Affect ($t(20) = 2.76, p = 0.01$) in the experimental group. There is no significant difference in mindfulness, positive affect, and state anxiety for the experimental group. There is no significant difference for any of the variables in the control group. The domain State Anxiety in the control group is much lesser than the experimental group which is corroborated by the study conducted by Goldsby, Goldsby, McWalters & Mills (2016).

In table 8, it is indicated that the women reported that there was a significant difference in the domains from pre-test to post-test Negative Affect ($t(10) = 3.45, p = 0.05$) and State Anxiety ($t(10) = 2.26, p = 0.05$) in the experimental group. There was no significant difference in the other domains Mindfulness and Positive Affect. From table 9, it is evident that there is no significant change in any of the variables from pre-test to post-test in men.

In table 10, there does not seem to be any significant difference in mindfulness, positive affect, negative affect and state anxiety based on whether or not they were satisfied by the video.

FINDINGS

1. ASMR led to a significant change in Negative Affect, State Anxiety and Positive Affect domains in the post-test for the experimental group.
2. ASMR led to decreased negative emotions in the experimental group.
3. ASMR did not show any significant change in the mindfulness domain for neither the experimental nor control group.

4. ASMR video led to increased pleasant emotions in men in the experimental group.
5. ASMR video led to reduced negative emotions in women in the experimental group.
6. ASMR video led to a reduced state anxiety for women in the experimental group.
7. The concept of ASMR was unknown to men and none of them had seen an ASMR before.
8. Only one women reported fear while watching the ASMR video.

CONCLUSIONS

1. The means for Mindfulness, Negative Affect and State Anxiety have reduced in the post-test.
2. The Negative affect has reduced in the experimental group after the intervention.
3. There is no change in the mindfulness, positive affect and state anxiety after the intervention in the experimental group.
4. There is no change in the mindfulness, positive affect, negative affect and state anxiety in the control group post-test.
5. The Negative affect and state anxiety for women in the experimental group reduced after the intervention, Positive affect for men in the experimental group has increased after the intervention.
6. More women than men found the ASMR video to be soothing.
7. There is no change in mindfulness, positive affect, negative affect and state anxiety after the intervention for the experimental group based on their positive or negative experience with the ASMR video.

LIMITATIONS

1. Due to the small size of the sample, generalizations are not possible.
2. Since convenient sampling method was used, the sample in the study might not be truly representative of the wider population.
3. The causes of fear response was not probed in the study.

FUTURE DIRECTIONS

1. Older age group needs to be considered as there does not seem to be high levels of Mindfulness among the younger populations.
2. More focus on different physiological variables such as stress, chronic pain, insomnia etc.
3. There needs to be extensive research done on ASMR since it helps in reducing levels of depression, anxiety, insomnia, stress and so on.
4. Moderation effect of gender on ASMR.

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