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RESEARCH ARTICLE

Evaluating most relaxing Audio Accompaniment for Post-Workout Relaxation

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Abstract. This research article aimed to evaluate the most relaxing audio accompaniment for post-workout relaxation. The study involved ten relaxation sessions with different musical accompaniments, and five participants rated their experiences on a relaxation scale, ranging from 1 (not at all relaxing) to 5 (completely relaxed and blissful). The sessions included nature sounds, musical instruments, vocalizations, and silence. The results showed varying responses among the participants (1.8 to 4.6 out of 5), indicating the influence of audio accompaniment on relaxation. The sounds of waterfall (3/5), beach campfire (2.8/5), the piano (3/5), vocalise (3.2/5) and the forest (3.2/5) were average and not fully relaxing, while singing bowls (4.2/5) and Koshi chimes (4.4/5) received highly positive responses. The harp received above average ratings (3.6/5), while silence presented challenges (2.8/5) for some participants; interestingly, session of silence had positive rating post 2 hours of the session. The wind session was the least relaxing (1.8/5), causing anxiety and discomfort. These ratings, collected immediately after the session, were similar to ratings collected after two hours of session confirming consistency of result and post impact. The study had recognized its limitation of the subjectivity of individual experiences and the impact of participants' initial states. Though other sounds suggested during the sessions also had a beneficial effect, the marked effects of wind chimes and singing bowls were highlighted in the study indicating its potential in relaxation. The research suggests incorporating these instruments into regular relaxation routines for enhanced well-being.

Keywords. Audio, Relaxation, Post-Workout, Music, Singing bowls, Koshi Chimes, Silence

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Introduction

Relaxation is a commonly known concept, often associated with pleasurable activities such as spa treatments or massages. Relaxation refers to a state of wakefulness characterized by reduced psychophysiological activity in either the entire body or specific systems [1].

As a yoga practitioner for more than 12 years and a yoga instructor for about 7 years, the first author of the article have recognized the importance of incorporating relaxation and meditation into her classes, whether it was a traditional yoga class, like vinyasa yoga or compiled from the different *body and mind* techniques such as pilates, barre, stretching etc. and even exercises class. In our fast-paced modern world, stress and its associated problems are ubiquitous regardless of one's social activeness [2], which is why relaxation constitutes an important component of classes taken by the author alongside warm-up, balance, and strength exercises. Ensuring adequate rest and deep sleep is crucial for overall well-being [3], so it is really important to prepare body and mind for it, particularly after a long day and an active workout session; as failure to do so, it may overload both the body and mind, leading to issues like insomnia — especially when one is attending late night workout classes such as one taken by the author.

To address this issue, the author typically allocates up to 15 minutes for relaxation, specifically in the shavasana position, during which the author guides participants to relax on the physical level. These instructions require only up to 5 minutes of the valuable relaxation period, after which the author allows individuals to embark on their own personal journeys of self-reflection. As these experiences tend to be highly personal and unique, individuals seldom share them with one another. Therefore, the author considers relaxation and meditation to be a private and individualized practice, akin to a personal hygiene procedure that does not necessitate sharing.

Ironically, the greatest challenge for many individuals lies not in performing strength or stretching exercises, but rather in the aspect of simply lying down and engaging in deep breathing. Often, our stressed and overwhelmed minds prevent our bodies from relaxing, creating unfavorable conditions for achieving a state of relaxation. According to the theories put forth by psychophysiologist W. Cannon [4], certain emotions such as anger or fear, which we all experience at times, serve a biological purpose by preparing the body for heightened muscle activity. This preparation involves an increase in heart rate, accelerated breathing, elevated blood pressure, and higher levels of glucose and cholesterol in the bloodstream. These physiological changes are essential for mobilizing the body to engage in physical activities such as fighting or fleeing, a mechanism inherited from our evolutionary predecessors and shared with animals. However, while this mechanism played a crucial role in the physical survival of primitive humans, it tends to create problems for modern individuals. It is evident that a stressed mind is synonymous with a stressed body; thus, complete relaxation of the body can only be achieved when the mind is calm and free from negative emotions.

Fortunately, methods exist to counteract negativity and restore balance in the body following acute stress, including outdoor recreation, breathing exercises and pranayamas, and art therapy, among others. However, in this study, we focus on the therapeutic effects of music and how it can be employed as an accompaniment to facilitate relaxation during post-workout sessions. The internet is replete with a wide array of relaxing tunes, and while we have personally explored many of them, the subjective response can vary significantly between individuals. Each day presents its own unique set of challenges, and individuals possess varying levels of stress resistance. Consequently, authors' personal experiences cannot be considered universally objective. Thus, we had embarked on this research endeavor to determine which sounds induce the greatest sense of relaxation and tranquility among individuals, considering factors such as natural sounds, musical instruments, vocalizations, and even total silence.

Methods

In this study, a total of five clients were invited to participate in ten relaxation sessions

with different musical accompaniment, each session lasting between 10 to 15 minutes. The purpose of these sessions was to assess the clients' experiences using a rating scale ranging from 1 (not at all relaxing) to 5 (completely relaxed and blissful). The ratings were collected immediately after each session and again two hours later, allowing us to examine both short-term and potential long-term effects on participants' mental state.

It is important to note that these sessions were scheduled on weekday evenings, specifically on Tuesdays and Thursdays at about 8 pm. This timing was chosen deliberately as the participants were likely to be tired after a full day of work, providing a favorable environment for analyzing the impact of audio relaxation. The following are the audio accompaniment details for each session: Session 1: Nature sounds - WATERFALL Session 2: Musical instrument - SINGING BOWLS Session 3: Nature sounds - FOREST Session 4: Musical instrument - PIANO Session 5: VOCALISE Session 6: Nature sounds - BEACH CAMPFIRE Session 7: Musical instrument - KOSHI CHIMES Session 8: HARP Session 9: SILENCE Session 10: WIND

Results

Session	1		2		3		4		5	
Sound	Nature sounds WATERFALL		Musical instrument SINGING BOWLS		Nature sounds FOREST		Musical instrument PIANO		VOCALISE	
Relaxation Level after the class	0h after	2h after	0h after	2h after	0h after	2h after	0h after	2h after	0h after	2h after
Respondent No.1	4	5	5	5	5	4	2	2	4	3
Respondent No.2	2	3	4	5	3	5	1	1	1	1
Respondent No.3	3	3	4	4	3	3	4	5	5	5
Respondent No.4	2	3	4	4	2	3	4	4	3	3
Respondent No.5	4	5	4	4	3	3	4	4	3	4
AVERAGE	3	3.8	4.2	4.4	3.2	3.6	3	3.2	3.2	3.2
Session	6		7		8		9		10	
Sound	Nature sounds BEACH CAMPFIRE		Musical instrument KOSHI CHIMES		Musical instrument HARP		SILENCE		Nature sounds WIND	
Relaxation Level after the class	0h after	2h after	0h after	2h after	0h after	2h after	0h after	2h after	0h after	2h after
Respondent No.1	1	1	5	5	4	4	2	3	2	3
Respondent No.2	4	4	5	5	3	3	5	5	2	2
Respondent No.3	3	3	4	5	4	5	2	2	2	3
Respondent No.4	3	3	4	4	3	4	2	4	2	3
Respondent No.5	3	4	4	4	4	4	3	4	1	3
AVERAGE	2.8	3	4.4	4.6	3.6	4	2.8	3.6	1.8	2.8

Table 1: Post-workout relaxation experiences of class participants with 10 different audio sessions on the scale ranging from 1 (not at all relaxing) to 5 (completely relaxed and blissful). h - hours, n=5

Discussion

In this study, we conducted a series of relaxation sessions using different audio accompaniments and assessed the participants' experiences and levels of relaxation. We observed varying responses among the participants (Table 1), indicating that the choice of audio accompaniment played a definite role in their relaxation experience. The first research session was with sounds of waterfall. Overall experience was nice and relaxing, although the heavy and powerful sound of the falling water did not give the opportunity to relax completely, some of the respondents found these sounds oppressive and dangerous.

The musical accompaniment of the Session No.2 was singing bowls; soothing and calming

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sounds of this musical instrument found a positive response among the respondents and was highly rated. The relaxing effect of the session lasted for a long time, many noted that going to bed that day was pleasant and quick.

The sound of forest was accepted with indifference; many could not formulate and define their feelings and the degree of relaxation after the session.

For the 4th Session we chose a calming piano piece, which had a polar effect on respondents. While one person found it completely relaxing, another participant couldn't find inner peace and balance, even during and after the session.

During the fifth session, beautiful vocalise was played, but it did not elicit a relaxing response from the majority of the group. Despite the smooth and pleasant voice of the singer, participants noted that it distracted their concentration and focus from their own minds and bodies.

The Natural sound of the beach campfire wasn't much relaxing either, same like forest – the respondents left with no impression and rated this session quite moderately.

During Session No. 7 the group got acquainted with the beautiful Koshi chimes musical instrument and it had the most positive response among the respondents. For some the sounds of chimes was a total discovery. Some became convinced of the magical lulling and calming effect of this musical instrument and clearly felt the therapeutic properties of chime tones.

For the Session No. 8 the classical harp was chosen and despite the angelic sound coming from it, the rates were average.

Session No. 9 was held in total silence, what became a challenge for some of the respondents as they were forced to stay in silence with their thoughts and with their active and inflamed mind. Many found such experience as difficult, but also mentioned that if the duration of the session were longer, then after a while their minds would most likely have achieved a better state of balance and tranquility.

Last session turned out as the least relaxing, almost everyone found the sound of the wind very disturbing, which caused anxiety and discomfort.

It is important to acknowledge that this research may not be entirely objective, as the selection of sounds and melodies was solely based on the researcher's discretion, which, despite their similarity, could leave a different impression on the individual. Additionally, participants' initial psycho-emotional states played a role in their responses. Participants arrived at the sessions with varying levels of daily stress and exhaustion, which played a dual role in their experiences. Each individual had a distinct starting point, with some already in a relaxed and calm state, while others needed additional time to achieve a state of rest.

However, these conditions also contributed to a greater level of objectivity and provided a realistic portrayal of individual differences and responses. Despite the variations among the melodies and sounds, two sessions received unanimously high ratings: wind chimes and singing bowls. These ancient instruments [5], widely used in sound bath sessions and sound healing therapies, demonstrated their therapeutic potential and the mesmerizing beauty of their sounds.

Scientifically, it has been proven that the wave range of singing bowls corresponds to the alpha waves emitted by the human brain during meditation [6]. External exposure to alpha waves contributes to increased neural connections in the brain, expanding consciousness [7]. Similarly, wind chimes produce gentle vibrations during the session, which can have a healing effect on the body and stimulate neuronal activity, including concentration and memory [8]. Despite the fact that other sounds suggested during the sessions also have a beneficial effect, the healing effect of these two just cannot go unnoticed supporting its healing potential to be part of a regular routine.

Compliance with ethical standards Consents from participants (Class clients) were obtained.
Conflict of interest The authors declare that they have no conflict of interest. **Financial support and sponsorship** None

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