

Let's Look for Relaxing Sounds

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Abstract

This study aimed to find effective relaxing sounds. We conducted three experiments by playing sounds varying in type or loudness for subjects. The 40 dB sound caused stress to decrease; the 80 dB sound caused increased stress. Sounds that subjects already liked caused stress decrease. We concluded that listener preference, not sound characteristics, impacted stress reduction more.

1 Theory and Experiment

In experiment 1, we conducted an experiment to listen to the sound of a river for a week, and measured any stress changes. In experiment 2, we listened to the sound of a bonfire at 40dB, 60dB, and 80dB, and determined the stress changes for the listener. In experiment 3, we prepared the sounds of rivers, oceans, bonfires, and deer screaming, and measured the stress changes of the listeners.

2 Results

In Experiment 1, heart rate and stress index steadily decreased during listening to sounds. In experiment 2, the 40db sound caused stress to drop significantly after the sound. The 80dB sound caused the stress index to up during and after the sound. In experiment 3, stress decreased during listening to the sounds of rivers and the ocean, and the stress index decreased after listening to the sounds of bonfires and deer.

3 Discussion

In experiment 1, we were not used to the experiment yet, so operating the stress measurement app caused stress. In Experiment 2, the stress index significantly decreased while listening to the 40 dB sound because there was little change in the loudness. The sound at 80dB was so noisy that the subject had increased stress during and after. In experiment 3, it was found that the type of sound and the subject's preference changed the stress index not only during listening but also after listening.

4 Conclusion

The subject's preferences, not the characteristics of the sound, affect the relaxing effects, not only during the listening session but also after the listening session.

5 References

・ Sano J,1998, Recommendations for music therapy in the 21st century (1)- Through the mathematical structure of music- , Volume 1 Number 1, p.34-39, Miyagi University Faculty of Nursing Collection ・【Easy to understand meaning of Fourier transform with images】 HP <https://takun-physics.net/8037/>