



A STUDY ON THE EFFECTS OF INDIAN CLASSICAL MUSIC AND PRANAYAMA ON PHYSIOLOGY AND PSYCHOLOGY OF HUMAN BEINGS

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ABSTRACT:

The present paper explores the combined effects of Indian classical music and pranayama on the physiology and psychology of human beings. Music, as a form of therapy, provides emotional expression and healing, particularly when verbal communication fails. Pranayama, or controlled breathing, enhances the calming effects of music by directly influencing the autonomic nervous system. The study investigates how music, coupled with pranayama, can alleviate physiological conditions such as hypertension, anxiety, and depression, offering insights into their use as non-invasive therapeutic techniques. The effects of both on heart rate, blood pressure, respiratory rates, and psychological well-being are discussed.

KEYWORDS:

INDIAN CLASSICAL MUSIC, PRANAYAMA, PHYSIOLOGY, PSYCHOLOGY, NON-INVASIVE THERAPEUTIC TECHNIQUES, PSYCHOLOGICAL WELL-BEING.

INTRODUCTION

Indian classical music has long been recognized for its ability to influence emotional states and aid in healing, particularly through its structured melodic sequences known as ragas. Meanwhile, pranayama (Sanskrit for 'control of breath') is an integral part of yogic practices that has been shown to regulate both physical and mental health by improving autonomic function.

This study aims to examine the dual impact of classical music and pranayama on physiological variables such as blood pressure, pulse rate, and respiratory rate, and to explore their effects on reducing psychological distress such as anxiety and depression. The integration of breath control with music amplifies the healing process by enhancing parasympathetic activity and reducing sympathetic nervous system arousal.

RESEARCH METHODOLOGY

The study follows a descriptive and experimental approach, focusing on the effects of Indian classical music, combined with pranayama, on different age groups. The research design features two groups: one group exposed to music and pranayama, and a control group that received no intervention.

- **Sample Selection:** The study involved 180 individuals divided into three age groups: 15-25, 25-45, and 45 and above, with equal representation of males and females. All participants were pre-tested to measure blood pressure, heart rate, and respiratory rate before the intervention.

- **Procedure:**

- **Pre-test:** All participants rested for 10 minutes in a seated position before taking baseline measurements.

- **Intervention:** The study group participated in a 15-minute session combining Indian classical music (ragas) and pranayama exercises. The control group was

observed without intervention.

- **Post-test:** After the intervention, physiological variables were re-measured in both groups to assess changes.

- **Instruments and Tools:** Digital BP apparatus, stethoscope, and other devices were used for accurate measurements.

SCIENTIFIC MECHANISMS OF INDIAN CLASSICAL MUSIC AND PRANAYAMA

Indian classical music, particularly its slower ragas, has been found to stimulate alpha and theta brain waves, promoting relaxation and reducing stress. When combined with pranayama, which involves rhythmic, controlled breathing, these effects are enhanced due to the direct influence on the autonomic nervous system.

- **Alpha Brain Waves and Music:** Slow ragas synchronize with brain rhythms, inducing a state of calm by increasing alpha wave activity.

- **Pranayama and Autonomic Nervous System:** Pranayama enhances parasympathetic activity, reducing sympathetic nervous system arousal, leading to lower blood pressure, heart rate, and respiratory rate.

RESULTS AND DISCUSSION

The results show significant improvements in physiological variables and psychological well-being in the study group, particularly among participants practicing both pranayama and music therapy.

- **Mean Systolic BP** decreased significantly, and pulse rate and respiratory rate were also notably reduced after the intervention.

Participants also reported reduced anxiety and increased feelings of calmness and focus, highlighting the psychological benefits of music and pranayama.

COMPARATIVE ANALYSIS: INDIAN CLASSICAL MUSIC VS. WESTERN MUSIC THERAPY

The effects of Indian classical music, when combined with pranayama, were more profound than results typically seen in Western music therapy. Western therapy often focuses on rhythmic content, while the Indian approach focuses on holistic healing through both mind and body.

CONCLUSION

The study concludes that Indian classical music, combined with pranayama, has a profound impact on both physiological and psychological well-being. Significant reductions in blood pressure, pulse rate, and respiratory rate were observed, along with improvements in mental states like reduced anxiety and enhanced emotional balance.

REFERENCES

1. Bruscia, Kenneth E. "Defining Music Therapy." Barcelona Publishers, 1989.
2. Bruscia, Kenneth E. "Case Study in Music Health." Barcelona Publishers, 2010.
3. Jourdain, Robert. "Music, the Brain, and Ecstasy: How Music Captures Our Imagination." Harper Collins Publishers, 1997.
4. Kulkarni, Vashudha. "Indian Music and Psychology." R.G. Publishers, 2013.
5. Levitin, Daniel J. "This is Your Brain on Music: The Science of a Human Obsession." Atlantic Books Ltd., 2011.
6. Mefferian, Katrina. "Adolescents Music and Music Therapy: Methods and Techniques for Clinicians, Educators, and Students." Jessica Kingsley Publishers, 2010.
7. Ortiz, John M. "Sound Psychology." Weiser Books, 1997.
8. Patel, Anirudh. "Music, Language, and the Brain."

Atlantic Books Ltd., 2011.

9. Tiwari, Kiran. "Music and Psychology." Kanishka Publishers, 2008.

10. Wheeler, Barbara L. "Music Therapy Research." Barcelona Publishers, 1995.

11. Wheeler, Barbara L. "Music Therapy Handbook." Guilford Publication, 2014.

12. Brown, Richard P., and Patricia L. Gerbarg. "Sudarshan Kriya Yogic Breathing in the Treatment of Stress, Anxiety, and Depression: Part I—Neurophysiologic Model." *The Journal of Alternative and Complementary Medicine*, vol. 11, no. 1, 2005, pp. 189-201.

13. Jerath, R., et al. "Physiology of Long Pranayamic Breathing: Neural Respiratory Elements May Provide a Mechanism That Explains How Slow Breathing Shifts Autonomic Nervous System." *Medical Hypotheses*, vol. 67, no. 3, 2006, pp. 566-571.

14. Thayer, Julian F., et al. "A Meta-Analysis of Heart Rate Variability and Neuroimaging Studies: Implications for Heart Rate Variability as a Marker of Stress and Health." *Neuroscience & Biobehavioral Reviews*, vol. 36, no. 2, 2012, pp. 747-756.

15. Telles, Shirley, et al. "Physiological Effects of Yoga and Pranayama: A Bibliometric Review." *Journal of Ayurveda and Integrative Medicine*, vol. 3, no. 3, 2012, pp. 119-125.

16. Bernardi, Luciano, et al. "Effect of Rosary Prayer and Yoga Mantras on Autonomic Cardiovascular Rhythms: Comparative Study." *BMJ*, vol. 323, no. 7327, 2001, pp. 1446-1449.

17. Telles, Shirley, and Naveen, K. V. "Yoga for Rehabilitation: An Overview." *Indian Journal of Medical Research*, vol. 141, no. 6, 2015, pp. 773-781.