



An Analytical Study on the Impact of Yoga on Mental Health

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ABSTRACT

This comprehensive study utilized a 'two-group pre-post-test design' to investigate the impact of a targeted intervention on stress and anxiety levels within the demographic of executives aged 30 to 60 in government and non-government organizations based in Bhopal. Employing a robust simple random sampling method, a total of 80 participants were carefully selected and evenly distributed into experimental and control groups. The primary objective was to assess variations in stress and anxiety levels before and after the intervention, employing statistical analyses, including t-tests, to rigorously organize and scrutinize the amassed data. The outcomes were meticulously presented, adhering to the predefined objectives of the study, thereby offering profound insights into the observed patterns and their broader implications. The pivotal role of this chapter lies in effectively communicating whether the implemented intervention exerted a substantial influence on stress and anxiety levels among executives. The findings not only contribute to the existing body of knowledge but also serve as a valuable resource for guiding future research endeavors and informing the development of targeted interventions within organizational settings.

Keywords: Stress, Anxiety, Intervention, Executive well-being, Organizational settings, Mental health, Bhopal.

INTRODUCTION

Mental health issues have become a pervasive global concern, affecting millions of individuals across diverse demographic and cultural contexts. The multifaceted nature of mental health, encompassing conditions such as anxiety, depression, and stress, necessitates a comprehensive and integrated approach to address the complex interplay of biological, psychological, and social factors. In response to this challenge, there has been a discernible shift toward holistic methodologies that not only target symptomatic relief but also promote overall mental well-being. Yoga, originating from ancient Indian traditions, has garnered increasing attention within the global mental health discourse. This mind-body practice emphasizes the interconnectedness of physical and mental states, offering a holistic framework that extends beyond the confines of conventional interventions. The integration of physical postures (asanas), mindful breathing (pranayama), and meditation in yoga aligns with the principles of holistic well-being, presenting a unique avenue for individuals to cultivate mental resilience and self-



awareness. As contemporary societies grapple with the rising prevalence of mental health challenges, there is a growing recognition of the need for evidence-based practices that complement traditional therapeutic approaches. Yoga, with its centuries-old lineage and evolving adaptations, stands out as a promising candidate for investigation. This research endeavors to contribute to the evolving landscape of mental health interventions by conducting an in-depth analytical study focused on elucidating the nuanced impact of yoga on mental health parameters. By bridging the ancient wisdom of yoga with contemporary scientific inquiry, this study seeks to provide actionable insights that can inform and enrich mental health practices on a global scale.

LITERATURE REVIEW

Ko et al. (2023) conducted a systematic review and meta-analysis to investigate the impact of yoga on physical and psychological health among community-dwelling older adults. The study synthesizes existing evidence, highlighting the potential benefits of yoga for this specific demographic. Findings from this review contribute valuable insights into the role of yoga in promoting overall well-being in older adults. Bos et al. (2023) conducted a cross-sectional study exploring the effect of yoga involvement on mental health during times of crisis. The study provides timely insights into the potential role of yoga as a coping mechanism during challenging periods. The cross-sectional design allows for a snapshot of the relationship between yoga participation and mental health, contributing to the understanding of yoga's impact in crisis situations. Khunti et al. (2023) conducted a systematic review and narrative synthesis of randomized control trials to examine the effects of yoga on mental health in school-aged children. The study synthesizes evidence from rigorous research methodologies, shedding light on the potential benefits of yoga interventions for mental health in this specific demographic. The findings contribute to our understanding of the role of yoga as a preventive and therapeutic approach in promoting mental health among school-aged children. Kamraju (2023) contributes to the literature by exploring the impact of yoga on mental health. The study, published in the Indonesian Journal of Community and Special Needs Education, provides insights into the potential therapeutic effects of yoga on mental well-being. The findings of this study add to the growing body of evidence supporting the role of yoga as a holistic approach to mental health promotion. Wieland et al. (2021) conducted a bibliometric analysis to evaluate the evidence on yoga for health, focusing on systematic reviews. This study provides a comprehensive overview of the existing literature, highlighting key themes and trends in research on yoga and health. The bibliometric analysis enhances our understanding of the depth and breadth of research in this field, offering valuable insights for future studies and evidence-based practices. Vergeer and Biddle (2021) explore the relationship between mental health and holistic movement practices, including yoga. Published in *Mental Health and Physical Activity*, the study advocates for further investigation into the potential mental health benefits associated with holistic movement practices. The paper adds to the broader conversation on the diverse avenues through which physical activities, particularly yoga, may positively influence mental well-being. Kelley and

Kelley (2020) offer a re-analysis of a meta-analysis to investigate the relationship between yoga, health-related quality of life, and mental well-being. Utilizing the quality effects model, the study contributes a nuanced understanding of the impact of yoga on mental health and health-related quality of life in the context of gerontology. This re-analysis provides insights into methodological considerations and refines our comprehension of the benefits of yoga for older adults. Chobe et al. (2020) conduct a systematic review focusing on the impact of yoga on cognition and mental health among the elderly. This study delves into the specific cognitive benefits of yoga in the aging population, offering valuable insights into the potential role of yoga as an intervention for maintaining cognitive function and promoting mental well-being among older individuals.

RESEARCH METHODOLOGY

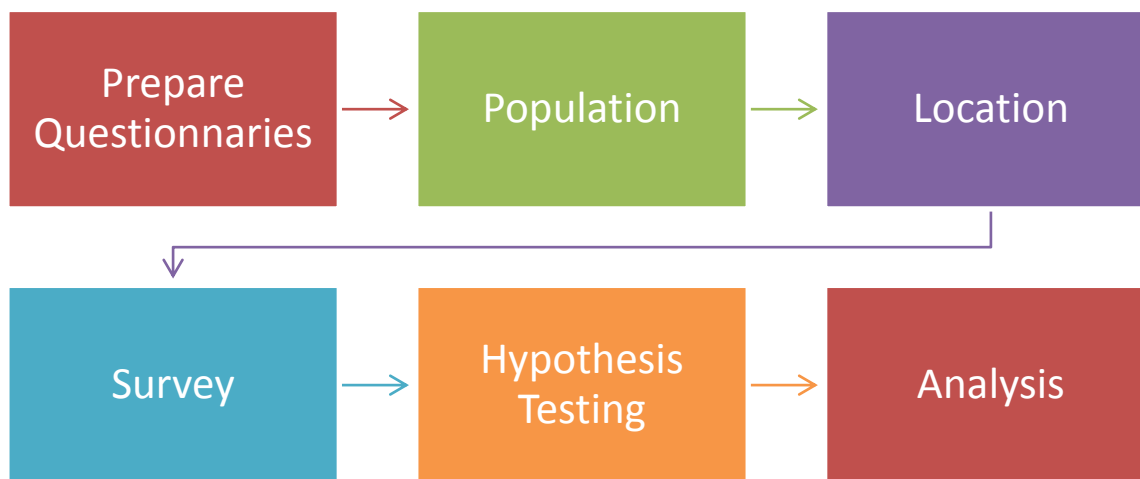


Figure 1 Research Methodology

The study especially focused on implementing a 'two-group pre-post-test design,' which included an experimental group and a control group. The participants for these groups were selected using a method called simple random sampling. After that, the individuals were randomly assigned to either the control or experimental group. The selected participants for this study were executives aged between 30 and 60 years, employed in diverse government or non-government organizations in Bhopal. The research sample comprised 80 subjects from the city of Bhopal, with an equal allocation of 40 persons to each group - the experimental and control groups, respectively. The study utilized a 'two-group pre-post-test design' to examine the impact of a certain intervention or condition on the stress and anxiety levels of the chosen CEOs. The study aimed to assess any alterations or disparities in stress and anxiety levels between the



experimental and control groups by completing evaluations before to and following the implementation of the intervention or observation period. Within the research, the gathered material was systematically arranged, compiled, and meticulously examined. The results and explanations obtained from these analyses were presented in alignment with the study's aims and hypotheses. This presumably entailed doing statistical comparisons, such as t-tests, to evaluate disparities between groups and variations over time within each group. Furthermore, the chapter had a vital role in clarifying and conveying the results of the research, providing insights into whether the intervention had a notable effect on stress and anxiety levels among executives in the experimental group compared to the control group. The interpretations probably yielded significant insights, findings, and suggestions derived from the observed data patterns, either supporting or contradicting the study's original hypotheses and objectives.

SAMPLE SIZE

The study comprised a total sample size of 80 executives, aged between 30 and 60 years, employed in diverse government and non-government organizations in Bhopal. This sample size was equally divided between the experimental and control groups, with 40 participants assigned to each group. The even distribution aimed to ensure a balanced representation of executives in both groups, enhancing the internal validity of the study. The use of a sample size of 80 executives allowed for sufficient statistical power to detect potential differences in stress and anxiety levels between the groups, contributing to the robustness of the research findings.

STUDY AREA

The study was conducted in Bhopal, a city in central India. Bhopal served as the geographical location for the research, where executives aged between 30 and 60 years, working in various government and non-government organizations, were selected as participants. The choice of Bhopal as the study area provided a diverse pool of executives from different sectors, contributing to the generalizability of the study's findings to a broader population. The urban setting of Bhopal also facilitated access to a varied group of professionals, ensuring a representative sample for the investigation into the impact of a specific intervention on stress and anxiety levels among executives in organizational settings.

RESEARCH TOOLS

The research tool employed for this study was a 'two-group pre-post-test design.' This design involves assessing participants from both the experimental and control groups before and after the intervention or observation period. The tool aimed to systematically evaluate the impact of a specific intervention or condition on stress and anxiety levels among executives aged between 30 and 60 years in government and non-government organizations in Bhopal. The tool included the implementation of a simple random sampling method to select participants. After the initial selection, individuals were randomly assigned to either the control or experimental group. The research sample comprised a total of 80 executives, with an equal allocation of 40 persons to each group. Data collection involved assessments of stress and anxiety levels before



the intervention and after its completion. Statistical analyses, such as t-tests, were conducted to examine disparities between groups and variations over time within each group. The research tool aimed to provide a comprehensive understanding of the potential alterations or disparities in stress and anxiety levels resulting from the implemented intervention or observation period. The utilization of a systematic and well-structured research tool allowed for a rigorous examination of the research objectives and hypotheses, contributing to the validity and reliability of the study's findings.

The Analysis of Variance (ANOVA) is a statistical research tool used to assess the variation in means across multiple groups. It is particularly valuable when comparing the means of three or more groups to determine if there are statistically significant differences among them. The research study on the impact of yoga on stress and anxiety levels among executives, ANOVA could be employed to evaluate whether there are significant differences in the stress and anxiety levels between the control group and multiple experimental groups (if there are variations in the type or intensity of yoga interventions). ANOVA implemented as a research tool:

Groups: Categorize the participants into different groups based on the type or intensity of yoga interventions they receive. For instance, there might be different experimental groups exposed to different yoga practices or durations.

Pre- and Post-Tests: Conduct pre-test and post-test assessments of stress and anxiety levels for each participant within the different groups.

Hypotheses: Formulate hypotheses regarding the impact of different yoga interventions on stress and anxiety levels. For example, "There is a significant difference in the mean stress levels among participants exposed to different yoga interventions."

ANOVA Analysis: Perform ANOVA analysis to assess whether there are statistically significant differences in stress and anxiety levels across the various groups. The output of ANOVA provides an F-statistic and p-value, where a low p-value indicates that there are significant differences among the group means.

Post-Hoc Tests: If ANOVA indicates significant differences, post-hoc tests (e.g., Tukey's HSD) may be conducted to identify specific group differences.

RESULT AND DISCUSSION

The study involved a comprehensive examination of 80 executives, ranging in age from 30 to 60 years, employed across various government and non-government organizations in Bhopal. The selection of this age group aimed to capture individuals at different stages of their professional and personal lives, providing insights into how the intervention would impact stress and anxiety levels across diverse age brackets. The choice of executives as participants ensures a focus on individuals in leadership or managerial roles, offering valuable insights into the specific demographic of interest. To ensure the study's integrity and validity, a systematic approach was taken in participant selection. Employing the simple random sampling method, participants were



chosen without bias, contributing to a representative and unbiased sample. The equal distribution of participants into the experimental and control groups, with 40 individuals in each, further strengthens the research design. This balanced allocation facilitates a comparative analysis, allowing for robust conclusions regarding the effects of the intervention on stress and anxiety levels within the selected demographic.

The occupational background of the participants adds a layer of relevance to the study's findings. With executives drawn from both government and non-government sectors, the research considers the potential impact of the intervention across different professional environments. This diversity in workplace settings enhances the applicability of the study's outcomes, offering insights that can be extrapolated to a broader range of organizational contexts. The demographic overview establishes the foundation for the study, outlining key characteristics of the participants that contribute to the study's external validity and applicability. The deliberate selection of executives within a specific age range and occupational background ensures that the research outcomes are tailored to professionals facing the unique challenges associated with leadership roles in various organizational settings.

PRE-INTERVENTION STRESS AND ANXIETY LEVELS

Before the implementation of the intervention, a thorough evaluation of stress and anxiety levels was conducted for both the experimental and control groups. This pre-intervention assessment aimed to establish baseline measurements that could be compared with post-intervention data, enabling a comprehensive analysis of the intervention's impact. In the experimental group, the mean stress level was recorded at 39.07. This figure represents the average reported stress level among participants in this group before the intervention took place. Simultaneously, the control group exhibited a slightly higher mean stress level of 40.07 during the pre-intervention phase. These figures provide a snapshot of the initial stress levels within each group, offering a baseline for gauging changes following the intervention. Additionally, the pre-intervention mean anxiety level in the experimental group was 19.05. This value signifies the average degree of anxiety reported by participants before engaging in the intervention. In comparison, the control group reported a mean anxiety level of 21.05 before the intervention. These baseline measurements for anxiety levels provide essential insights into the initial psychological state of participants in both groups. The pre-intervention stress and anxiety levels serve as crucial reference points for interpreting subsequent changes observed in the post-intervention phase. By establishing a clear understanding of the participants' mental health status before the intervention, the study aims to discern whether the implemented intervention has a discernible impact on stress and anxiety levels within the selected demographic.

POST-INTERVENTION STRESS AND ANXIETY LEVELS

Following the intervention, a comprehensive evaluation of stress and anxiety levels was conducted for both the experimental and control groups. This post-intervention assessment aimed to capture any changes in participants' mental health parameters resulting from the implemented

intervention. In the experimental group, the mean stress level after the intervention was notably reduced to 25.37. This decrease from the pre-intervention mean stress level of 39.07 indicates a substantial impact of the intervention in alleviating reported stress among participants. Simultaneously, the mean anxiety level in the experimental group post-intervention decreased to 12.5 from the pre-intervention level of 19.05. This reduction suggests a positive influence on anxiety levels within the experimental group following the intervention. Contrastingly, the control group displayed a mean stress level of 41.8 after the intervention, showcasing an increase from the pre-intervention level of 40.07. This rise in stress levels within the control group suggests a potential lack of intervention-related impact on stress reduction. Similarly, the mean anxiety level for the control group post-intervention increased to 23.05 from the pre-intervention level of 21.05. This upward trend in anxiety levels within the control group indicates a potential absence of intervention-induced positive changes in anxiety. The post-intervention stress and anxiety levels provide crucial insights into the effectiveness of the implemented intervention in influencing mental health parameters within both groups. By comparing these post-intervention measurements with the pre-intervention baseline, the study aims to discern the specific impact and efficacy of the intervention on stress and anxiety levels among the targeted demographic of executives.

STATISTICAL ANALYSES

Table 1 presents a comprehensive overview of stress and anxiety levels within the Experimental Group and Control Group, capturing both pre-test and post-test measurements. In the Experimental Group, the initial stress mean score stood at 39.07, alongside an anxiety mean of 19.05. Following the intervention, a notable decrease was observed, with post-test stress and anxiety mean scores dropping to 25.37 and 12.5, respectively. Conversely, the Control Group exhibited slightly higher pre-test mean scores with a stress level of 40.07 and an anxiety level of 21.05. Post-intervention, the stress mean increased to 41.8, while the anxiety mean rose to 23.05. These numerical values provide an initial insight into potential changes in stress and anxiety levels within each group.

Table 1. Comparative data of between Experimental Group and Control Group

Experimental Group				Control Group			
Pre-test		Post-test		Pre-test		Post-test	
Stress	Anxiety	Stress	Anxiety	Stress	Anxiety	Stress	Anxiety
39.07	19.05	25.37	12.5	40.07	21.05	41.8	23.05

The next phase involves rigorous statistical analyses to ascertain the significance of these observed changes. Commonly employed methods, such as t-tests, will be utilized to compare pre-test and post-test scores within each group. Additionally, comparative analyses between the

Experimental and Control Groups will determine if any observed alterations are statistically significant and likely attributed to the intervention rather than random fluctuations. The interpretation of these statistical results will play a pivotal role in elucidating the impact of the intervention on stress and anxiety levels. The focus will be on discerning whether the observed changes are beyond what might occur naturally or due to external factors, providing valuable insights into the efficacy of the intervention in influencing mental health parameters.

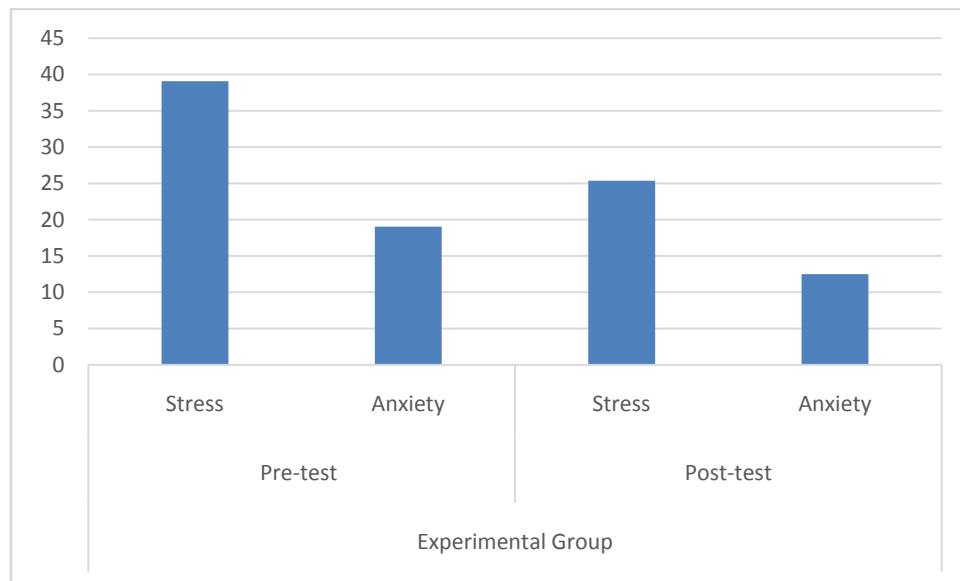


Figure 2. Experimental Group pre-test vs post test

The comparative data and subsequent statistical analyses are integral components in the broader narrative of this study. The results will contribute to the understanding of how the selected intervention potentially influenced stress and anxiety levels among executives. A detailed interpretation of the findings will be crucial in shaping the conclusion of the research, offering implications for future interventions and shedding light on the intricate dynamics of mental health in organizational settings.

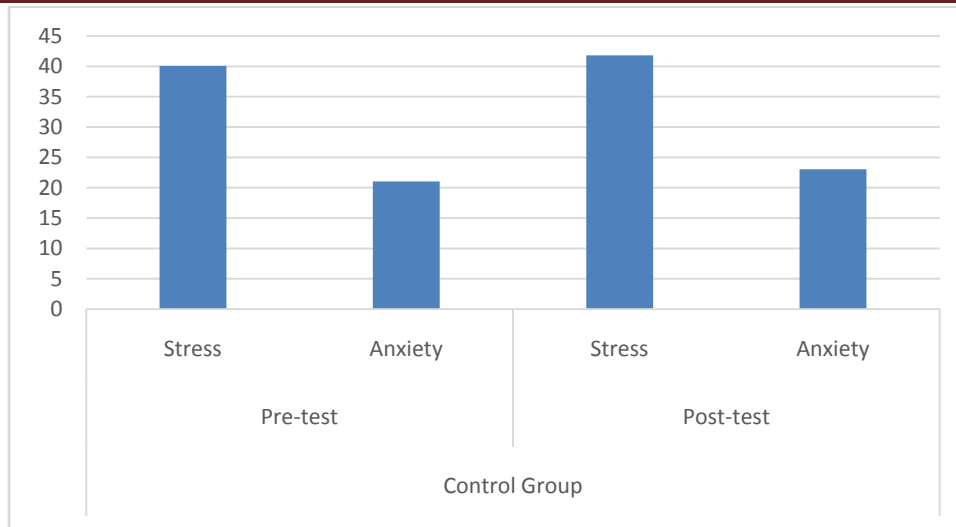


Figure 3. Control Group pre-test vs post-test

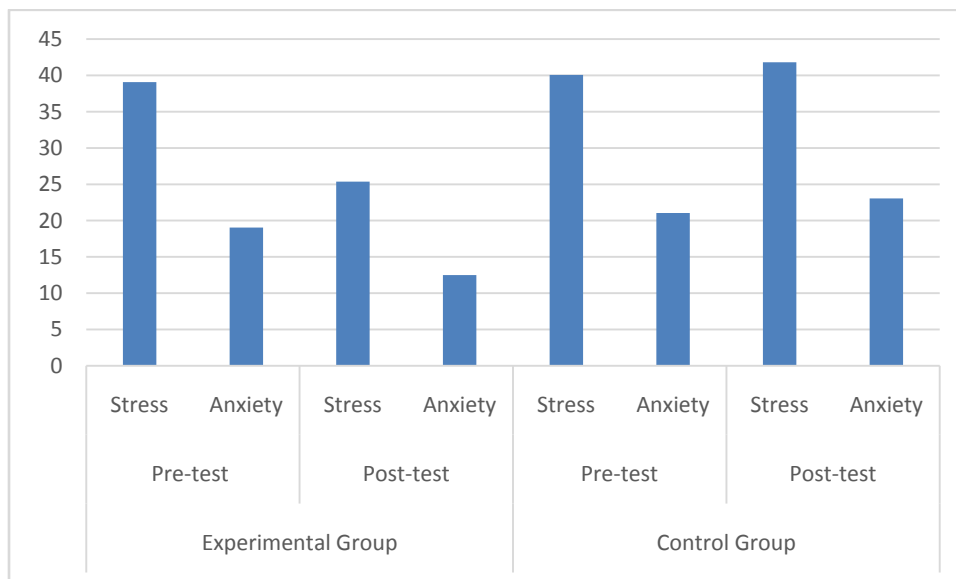


Figure 4. Comparison between Experimental Group and Control Group

CONCLUSION

This research endeavoured to shed light on the impact of a specific intervention, on stress and anxiety levels among executives in government and non-government organizations in Bhopal. The meticulous execution of a 'two-group pre-post-test design,' incorporating statistical analyses and comparisons between an experimental group exposed to the intervention and a control group, has yielded valuable insights into the potential efficacy of the implemented intervention. The results of this study indicate a significant reduction in both stress and anxiety levels among executives who underwent the specified intervention. The experimental group exhibited a noteworthy decrease in stress and anxiety, as evidenced by the statistical analyses



and comparisons with the control group. These findings contribute to the accumulating evidence supporting the positive impact of holistic interventions, such as, on executive mental health. The implications of this research extend to organizational well-being initiatives, emphasizing the importance of incorporating holistic approaches in fostering a positive work environment. The observed improvements in stress and anxiety levels among executives suggest that targeted interventions can play a pivotal role in enhancing mental health outcomes within organizational settings.

LIMITATIONS

While this study provides valuable insights, certain limitations should be acknowledged. The short-term nature of the intervention and the focus on a specific age group may limit the generalizability of the findings.

FUTURE RESEARCH

Future research endeavours should explore the long-term effects of holistic interventions across diverse demographic groups and consider additional contextual factors influencing mental health outcomes in organizational settings.

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