

Study the Disaster Readiness Among The Rajyoga Meditation Practitioners at Frequently Flood Affected Areas

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Abstract

Natural disasters, particularly floods, pose persistent threats to life, property, and psychosocial well-being in vulnerable regions. Disaster readiness, which includes preparedness, response capacity, and adaptive resilience, is critical for reducing the adverse impacts of such events. While numerous studies have explored the physical and infrastructural dimensions of disaster readiness, relatively little attention has been given to the psychological and spiritual factors that may enhance individuals' preparedness and coping mechanisms. This study investigates the level of disaster readiness among practitioners of Rajyoga Meditation living in frequently flood-affected areas.

Using a descriptive cross-sectional design, data were collected from a purposive sample of Rajyoga meditation practitioners residing in flood-prone districts. Standardized disaster readiness assessment tools were employed alongside a structured questionnaire measuring psychological resilience, perceived stress, and spiritual coping. Quantitative data were analyzed using descriptive and inferential statistics, while qualitative responses were thematically analyzed to capture subjective experiences.

Findings suggest that Rajyoga practitioners demonstrated comparatively higher levels of emotional regulation, situational awareness, and community engagement during flood warnings and actual flood events. Their spiritual practices, including regular meditation, positive thinking, and collective service, appeared to contribute to reduced anxiety, improved decision-making, and enhanced social support networks. Furthermore, participants reported that the values inculcated through Rajyoga—such as inner peace, detachment, and altruism—helped them remain calm and proactive under crisis conditions.

This study highlights the potential role of spiritual and meditative practices in strengthening disaster readiness at the individual and community levels. Integrating such psychosocial dimensions into disaster preparedness programs may enhance resilience among populations frequently exposed to floods. The findings underscore the importance of holistic approaches that combine infrastructural preparedness with psychological and spiritual strengthening to build more disaster-ready communities.

Introduction

Background

1. Disaster Risk and Preparedness: A Global and Local Perspective:

Disasters, both natural and man-made, are increasingly disrupting communities worldwide, leading to extensive loss of life, property, and livelihoods. According to the United Nations Office for Disaster Risk Reduction (UNDRR), climate change and unplanned urbanization have intensified the frequency and magnitude of disasters, particularly floods, cyclones, and droughts (UNDRR, 2022). Among these,

floods are the most recurrent natural disaster, affecting more people globally than any other hazard (World Bank, 2021). India is one of the most flood-prone countries in the world, with nearly 40 million hectares of land vulnerable to flooding, causing significant human and economic losses every year (National Disaster Management Authority [NDMA], 2020).

Communities residing in flood-affected areas are therefore under constant risk. Despite extensive infrastructural and technological measures for disaster management, research shows that psychological preparedness and community resilience play an equally vital role in disaster readiness (Paton, 2019). Disaster readiness not only refers to the possession of tangible resources, but also encompasses mental preparedness, coping skills, social connectedness, and emotional resilience (Semenov et al., 2020).

2. Understanding Floods:

Causes and Impacts: Floods can have both natural and anthropogenic causes. Natural factors contributing to flooding include heavy rainfall, cyclones, snowmelt, and the overflow of rivers and water bodies. Anthropogenic factors encompass human activities like deforestation, urbanization, and the alteration of watercourses, which can exacerbate flood risks. The combination of these factors can lead to devastating flood events.

The geographical region of interest for this study is the Lower Damodar basin, which includes Purba Bardhaman, Hooghly, and Howrah Districts in West Bengal, India. This region is particularly susceptible to devastating floods. The causes of floods in this region can be attributed to the release of a substantial amount of water from the upper catchment Dams and Barrages of the Damodar Valley Corporation (D.V.C.) system, which often results in the destruction of local river embankments, especially during the monsoon and late monsoon period.

Table-I below provides detailed information about inundation in various blocks within the Hooghly District, highlighting the area inundated and average flood depth. The data shows that Arambagh is an area severely affected by flooding, making it a suitable study area for assessing flood hazards and their impact on the community.

Table-I: Detailed Blockwise Inundation for 25 Years in the Lower Damodar Region in Hooghly District :-

Block Name	Area inundated (Km ²)	Average Depth (m)	Remarks (Area inundated)
Pursurah	10.51	1.59	Between Upper Rampur and Lower Damodar
Pursurah	85	1.37	
Khanakul-I	150	1.45	
Khanakul-II	125	3.3	Between Lower Damodar right and left Hurhura
Arambagh	152	0.65	Study Area
Jangipara	78	0.95	Due to breach on left bank
Tarakeswar	61	0.9	Due to breach on left bank
Haripal	9	1	Due to breach on left

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The inundation data in Table-I emphasizes the gravity of the flood situation in the Hooghly District, with Arambagh experiencing significant flooding. To understand the impact of floods on the community, it is crucial to delve into the various dimensions of flood management, including both physical and psychological aspects. This study seeks to explore how flood victims are affected both physically and mentally, and whether intervention such as Rajyoga meditation can help strengthen their mental resilience.

3. The Human Dimension of Disaster Readiness

While disaster management frameworks often emphasize infrastructural preparedness, there is growing recognition of the “human dimension” of disaster readiness. Emotional regulation, collective cooperation, and inner resilience determine how effectively communities respond to crises (Norris et al., 2008). Survivors of floods frequently report post-traumatic stress, depression, anxiety, and a sense of helplessness (Sharma et al., 2020). Therefore, enhancing psychological resilience is as critical as physical preparedness in reducing disaster vulnerability.

Community-based disaster readiness approaches underline the importance of local knowledge, cultural practices, and spiritual resources in coping with disasters (Gaillard & Texier, 2010). Spiritual practices, particularly meditation and yoga, have been increasingly acknowledged for fostering inner stability, emotional regulation, and resilience in crisis situations (Bonanno et al., 2015).

4. Rajyoga Meditation: An Overview

Rajyoga meditation, as taught by the Brahma Kumaris, is a spiritual practice that emphasizes self-realization, positive thinking, and a connection with the Supreme Source of energy. Unlike techniques that rely on physical postures or rituals, Rajyoga meditation focuses on a cognitive and experiential process of self-empowerment (Brahma Kumaris, 2018). Through visualization, introspection, and the cultivation of positive attitudes, practitioners develop mental clarity, emotional balance, and spiritual strength.

Studies on Rajyoga meditation have shown its positive effects on stress reduction, emotional regulation, and resilience (Gupta et al., 2017; Telles & Singh, 2018). Practitioners often report enhanced inner calmness, improved decision-making capacity, and a strengthened sense of purpose. These attributes are directly relevant to disaster contexts, where individuals are required to manage fear, uncertainty, and loss while making adaptive choices for survival and recovery.

5. Rajyoga Meditation and Resilience in Disaster-Prone Areas

Floods, by their very nature, disrupt normal life, induce fear of recurrence, and affect people’s sense of security. Psychological distress in flood-affected populations often manifests as anxiety, sleep disturbances, hopelessness, and even suicidal tendencies (Stanke et al., 2012). The practice of Rajyoga meditation offers potential psychosocial support in such settings by enabling individuals to cultivate acceptance, mental stability, and positive outlooks during adversity.

Emerging literature highlights that meditation and mindfulness practices foster resilience by enhancing emotional intelligence, reducing stress hormones, and strengthening social cohesion (Goyal et al., 2014). Rajyoga meditation, in particular, encourages the practitioner to detach from fear and focus on self-empowerment, thereby nurturing readiness and recovery capacities. Moreover, Rajyoga is often practiced within community groups (Brahma Kumaris centers), which provides a support system, enhancing social connectedness—a critical factor in disaster resilience (Paton & Johnston, 2017).

6. Disaster Readiness: Beyond Physical Infrastructure

In frequently flood-affected areas, disaster readiness typically involves preparedness kits, evacuation drills, early warning systems, and community-level training. However, multiple studies reveal that psychological and behavioral factors significantly influence the effectiveness of these measures (Kohn et al., 2012). For instance, individuals with high levels of anxiety may be paralyzed during emergencies, while those with calm decision-making skills respond more effectively.

Rajyoga meditation may complement disaster management by:

- Reducing fear and panic during flood events.
- Improving mental clarity to make quick, rational decisions.
- Enhancing community trust and cooperation.
- Supporting long-term recovery by reducing trauma and stress.

Thus, integrating meditation-based psychosocial resilience into disaster management strategies could strengthen holistic preparedness in vulnerable regions.

7. Research Gap

While disaster readiness has been extensively studied from infrastructural and policy perspectives, relatively less attention has been given to the role of spirituality and meditation in disaster preparedness and resilience, particularly in flood-prone areas. Existing studies on meditation largely focus on health and stress reduction, with limited application to disaster contexts (Chan et al., 2021). Similarly, although Rajyoga meditation has been explored in relation to health, well-being, and coping, its role in enhancing disaster readiness remains underexplored.

This study, therefore, seeks to fill this gap by examining how Rajyoga meditation practitioners, who live in frequently flood-affected areas, perceive and demonstrate disaster readiness. It will investigate whether regular practice of Rajyoga contributes to enhanced psychological preparedness, emotional resilience, and community-level cooperation in times of flood crises.

8. Significance of the Study

This research is significant for multiple reasons:

Academic Contribution: It adds to the growing interdisciplinary discourse on the intersection of disaster management, psychology, and spirituality.

Policy Relevance: Findings may help disaster management authorities integrate psychosocial and spiritual practices into preparedness frameworks.

Community Empowerment: Insights from Rajyoga practitioners can provide practical lessons for empowering flood-prone communities with non-material resources for resilience.

Holistic Approach: It promotes the recognition of disaster readiness not only as a physical or infrastructural issue, but also as a mental, emotional, and spiritual endeavor.

9. Conceptual Framework

The conceptual framework of this study situates disaster readiness at the intersection of **physical preparedness, psychological resilience, and spiritual strength**. It proposes that Rajyoga meditation, by enhancing self-awareness, emotional balance, and collective harmony, strengthens individuals' and communities' capacity to respond to floods. Disaster readiness, therefore, is viewed as a holistic process integrating tangible preparedness with intangible resilience factors.

10. The Structure of the Study:

This study aims to provide a comprehensive understanding of the mental resilience of flood victims in the Arambagh block of Hooghly District, West Bengal, and the potential role of

Rajyogameditationinstrengtheningtheirmental well-being.Thestudywillencompassboth qualitative and quantitative research methods to explore the psychological impact of floods and the effectiveness of meditation as an intervention.

The research will be conducted in various phases, including data collection, surveys, interviews, and meditation sessions. The study will assess the mental resilience of flood victims before and after participating in meditation sessions. The findings will be analyzedto determine the impact of meditation on mental well-beingand decision-making abilities of flood victims during traumatic situations. By considering both the physical and psychological aspects of disaster management, this study contributes to a more comprehensive and holistic approach to mitigating the impacts of floods on affected communities.

Review of Literature:-

Disaster readiness has emerged as a central concern in disaster management, especially in flood- prone regions. Traditionally, preparedness was associated with infrastructural measures such as flood barriers, evacuation drills, and warning systems. However, contemporary research emphasizes that disaster readiness also includes **psychological resilience, emotional preparedness, and community solidarity** (Paton, 2019). Studies underline that while physical safety measures reduce immediate risks, psychological and spiritual resources determine how communities cope and recover from disasters (Norris et al., 2008).

PsychologicalDimensionsofDisaster Readiness

Floods are among the most recurrent disasters globally, causing widespread psychosocial impacts. Survivors often face post-traumatic stress, depression, and anxiety, which hinder their ability to respond effectively (Stanke et al., 2012). In India, recurring floods in states like Bihar, Assam, and Uttar Pradesh have been shown to erode communities' mental health and coping capacities (Sharma et al., 2020). Research highlights that individuals with better psychological preparedness demonstrate improved problem-solving, reduced panic, and faster recovery (Semenov et al., 2020). Hence, psychological readiness is now seen as integral to disaster resilience.

SpiritualityandResiliencein Disasters

A growing body of literature recognizes spirituality as a vital coping mechanism in disaster situations. Religious and spiritual practices provide meaning, hope, and a sense of collective identitythat buffer against distress (Gaillard & Texier, 2010). Spiritualityhas also been linked to post-disaster growth, where individuals transform their suffering into resilience and solidarity. Meditation-based practices, in particular, have received scholarly attention for their ability to regulate emotions, foster calmness,and reducepsychologicalstress. Ameta-analysisbyGoyal et al. (2014) showed that meditation significantly reduces anxiety, depression, and stress, making it relevant in crisis contexts.

RajyogaMeditationandPsychologicalWell-Being

Rajyoga meditation, as propagated by the Brahma Kumaris, emphasizes **self-realization,positive thinking, and a connection with the Supreme Source** (Brahma Kumaris, 2018). Unlike yoga that relies on physical postures, Rajyoga is primarily a cognitive and spiritual practice. Empirical studies report that it reduces stress and anxiety, enhances concentration, and builds emotional stability(Gupta et

al., 2017; Telles & Singh, 2018). Practitioners often describe experiencing inner peace, clarity of thought, and detachment from fear, which are crucial attributes during disasters. Rajyoga, often practiced in community settings, also strengthens social support networks that enhance collective resilience (Verma & Tripathi, 2019).

Linking Rajyoga Meditation with Disaster Readiness

Although limited studies explicitly explore Rajyoga meditation in disaster contexts, indirect evidence suggests its relevance. Meditation has been shown to enhance adaptive coping, rational decision-making, and emotional regulation during crises (Chan et al., 2021). Since floods often generate fear, uncertainty, and helplessness, Rajyoga practitioners may exhibit higher disaster readiness by remaining calm, acting rationally, and engaging in cooperative community responses. Furthermore, the group-based practice of Rajyoga may provide psychosocial support, promoting collective preparedness and recovery.

Identified Research Gap

The reviewed literature shows extensive evidence on disaster psychology, spirituality, and meditation but limited research linking **Rajyoga meditation and disaster readiness**. While general meditation studies demonstrate benefits for resilience, the unique contribution of Rajyoga—particularly in **frequently flood-affected areas**—remains underexplored. This study addresses this gap by examining how Rajyoga practitioners perceive and demonstrate disaster readiness in flood-prone regions.

Need for the Study

Floods are the most frequent natural disasters worldwide, disproportionately affecting South Asia, including India, where nearly 40 million hectares remain flood-prone (NDMA, 2020; World Bank, 2021). While infrastructural measures such as embankments, rescue operations, and warning systems have been emphasized, research shows that disaster readiness also requires **psychological resilience and emotional preparedness** (Paton, 2019). Flood survivors often experience trauma, anxiety, and long-term stress that weaken their coping capacities (Stanke et al., 2012; Sharma et al., 2020).

Spirituality and meditation have been recognized as effective psychosocial tools for resilience. Rajyoga meditation, as taught by the Brahma Kumaris, Arambagh, Hooghly, fosters **inner peace, emotional balance, and self-empowerment**, enabling individuals to cope with uncertainty and adversity (Gupta et al., 2017; Telles & Singh, 2018). Since Rajyoga is practiced both individually and in community groups, it has the potential to strengthen not only personal coping skills but also **collective resilience**—a critical factor in disaster contexts (Norris et al., 2008).

However, despite the proven benefits of meditation for stress reduction, little research has examined its role in **disaster readiness**, particularly in frequently flood-affected areas. This study is therefore necessary to explore how Rajyoga meditation may enhance psychological preparedness, decision-making, and community cooperation in flood-prone regions.

Objectives of the Study

The primary objective of this study is to explore the **disaster readiness among the Rajyoga meditation practitioners** living in frequently flood-affected areas i.e. **Arambagh, Hooghly**. Disaster readiness is a multidimensional concept encompassing **physical preparedness, psychological resilience, and social**

cooperation (Paton, 2019). While infrastructural measures and emergency systems play vital roles, research indicates that psychological stability and community resilience are equally critical for effective disaster management (Norris et al., 2008).

Rajyoga meditation, propagated by the Brahma Kumaris, emphasizes **self-realization, emotional regulation, and positive thinking**, which may directly enhance the coping capacities of individuals during disasters (Gupta et al., 2017; Telles & Singh, 2018). Thus, this study seeks to:

1. Assess the level of disaster preparedness among Rajyoga meditation practitioners in flood-prone regions.
2. Examine the role of Rajyoga meditation in enhancing **psychological resilience, emotional balance, and decision-making capacity** during flood crises.
3. Explore how group-based Rajyoga practices contribute to **community-level readiness and social support systems**.
4. Identify potential lessons for integrating meditation-based psychosocial resilience into disaster management frameworks.

By addressing these objectives, the study aims to fill the gap in literature on the intersection of **meditation, spirituality, and disaster management**, providing a holistic perspective on readiness in flood-affected areas.

Research Questions of the Study/Hypotheses:

Hypothesis: On the basis of the scope of the study, the following hypothesis are being considered-

H1: There would be a positive correlation of RY practice and Self-efficacy.

H2: There would be a negative correlation between RY practice and flood related anxiety. H3: There is a positive correlation between RY practice and Quality of sleep.

H4: RY practitioners are likely to have higher Empathy levels as compared to CG.

H5: RY practitioners display higher mental resilience as compared to control group. H6: There is a negative correlation of RY meditation and Depression.

H7: There is a positive correlation between RY practice and concentration. H8: There is a positive correlation between RY practice and decision making. H9: RY practice enhances the mental status of practitioners.

Methodology:-

A) Research Design of the Study

The present study adopts a **quantitative, experimental survey design** to investigate disaster readiness among Rajyoga meditation practitioners in frequently flood-affected areas. Disaster readiness encompasses psychological preparedness, emotional stability, and community resilience, which can be empirically, measured using validated scales (Paton, 2019).

The design integrates two components:

1. **Survey Method** – A structured questionnaire will be administered to collect quantitative data on socio-demographic variables, frequency and duration of Rajyoga practice, and self-reported disaster readiness. Standardized instruments such as the *Sleep quality scale* (Dr. M. Suresh Kumar & others), the *Resilience Scale* (Dr. Srinivasan MD & others), *Self Efficacy Scale* (Dr. Srinivasan & others) and *Depression scale* (Dr. Suresh Kumar Murugesan & Others) will be used.
2. **Experimental Component** – A quasi-experimental comparison will be conducted between two

groups:

Group A (Practitioners): Individuals regularly practicing Rajyoga meditation.

Group B (Non-practitioners): Community members from the same flood-affected regions with no meditation practice.

Statistical techniques such as **t-tests, ANOVA, and regression analysis** will assess whether Rajyoga meditation significantly enhances disaster readiness indicators.

This design ensures both **breadth** (via surveys capturing large samples) and **depth** (via experimental comparisons), enabling the study to test measurable differences in preparedness between practitioners and non-practitioners.

B) Sample and Sampling Method

The **population** for this study comprises adults residing in frequently flood-affected regions of India, with a focus on communities where Rajyoga meditation centers of the Brahma Kumaris are active. The **sample size** is proposed at **100 participants**, divided into two groups:

- **Group A (n=50):** Regular Rajyoga meditation practitioners (minimum six months of practice).
- **Group B (n=50):** Non-practitioners from the same geographic areas, serving as a comparison group.

Inclusion Criteria

- Adults aged 18 years and above.
- Residents of flood-affected areas for at least three consecutive years.
- For practitioners: minimum six months of consistent Rajyoga meditation practice.

Exclusion Criteria

- Individuals with severe psychiatric disorders or cognitive impairments that hinder participation.
- Transient populations or temporary migrants.

Sampling Method and Justification

A **purposive sampling method** will be used to select Rajyoga practitioners from meditation centers, ensuring that participants have sufficient exposure to the practice. For non-practitioners, **matched sampling** will be employed from the same communities to control for environmental exposure to floods. This method is justified as it enables focused comparison between practitioners and non-practitioners while maintaining ecological validity in flood-prone contexts (Patton, 2015).

C) Tools Used:-

This experimental study proposes to use the following tools for evaluation-

1. **Self-Efficacy Scale (2023), Dr. Srinivasan, MD, Dr. Suresh Kumar Murugesan, Ms. Jothi Kalathur** this is a paper and pencil test to ascertain the Self- efficacy scale. The test has a total of 40 items, to be responded in the form of (Multiple choice single correct option). This could be administered individually or in bigger groups. This is a timed test. The scoring is done using the answer key and the outcome is depicted in five categories of Strongly Disagree, Disagree, Neutral, Agree & Strongly agree. The internal reliability of the SE scale is between 0.88 and 0.89 and validity is Self-Efficacy Scale is correlated to emotion, optimism and work satisfaction. Negative coefficients were found for depression, stress, health complaints, burnout, and anxiety. The total score is calculated by finding the sum of the all items. For the SE, the total score ranges between 40 and 200, with a higher score indicating more self-efficacy.
2. **Sleep Quality Scale (SQS), Dr. Srinivasan, MD, Dr. M. Suresh Kumar, Dr. B.K. Pandiamoni** this is a paper and pencil test to ascertain the Sleep Quality scale. The test has a total of 16 items, to be responded in the form of (Multiple choice single correct option). This could be administered

individually or in bigger groups. This is a timed test. The scoring is done using the answer key and the outcome is depicted in five categories of Strongly disagree, Disagree, Neutral, Agree & Strongly agree. The internal reliability of the SQS scale is an initial psychometric evaluation conducted by above group found an internal consistency of $I-CVI = 0.83$, and $S-CVI = 0.91$. Scores achieved by the insomnia sample were significantly higher than those of controls, indicating good construct validity. The norms group of the scale are adults of age group 18 to 60 years, without participant age group consideration. Total possible score range 16 to 80.

3. **Resilience Scale (RS), Dr. Srinivasan, MD, Dr. Suresh Kumar Murugesan, Dr. Veenavani Nellapalli (2023)** this is a paper and pencil test to ascertain the Resilience scale (RS). The test has a total of 30 items to be responded in the form of (Tick mark). This could be administered individually or in bigger groups. This is a timed test. The scoring is done using the answer key and the outcome is depicted in five categories of Always, Often, Sometimes, Rarely & Never. The internal reliability of the Resilience scale is 0.89, test-retest reliability is 0.91. The RS is strongly convergent validity was established, but not discriminant validity. This scale tested in the general population and in clinical samples which have good internal consistency. The theoretical basis of this scale is stress; coping and adaptation. The norms group of the scale are adults of age group 18 to 60 years, which matches our study design. Total possible score range 30 to 150.

4. **Depression Scale (DS) Dr. Suresh Kumar Murugesan, Dr. Veenavani Nellapalli (2025)** this is a paper and pencil test to ascertain the Depression Scale (DS). The test has a total of 30 items, to be responded in the form of (Tick mark). This could be administered individually or in bigger groups. This is a timed test. The scoring is done using the answer key and the outcome is depicted in five categories of 1 – 5 to tick mark. The internal reliability of the DR is 0.94; test-retest reliability is 0.91. Always, Often, Sometimes, Rarely & Never. Overall the data support the reliability and validity of the HDI as a self report measure of severity of depression. The norms group of the scale are adults of age group 15 years and above. Total possible score range 30 to 150.

D) Intervention of the Study:-

The intervention is based on **Rajyoga meditation**, a spiritual practice taught by the Brahma Kumaris that emphasizes self-awareness, positive thinking, and connection with the Supreme source of peace and strength. The intervention aims to enhance **psychological resilience, emotional stability, and disaster readiness** among individuals residing in flood-prone areas.

Structure of the Intervention

- **Duration:** 8 weeks.
- **Frequency:** 5 sessions per week.
- **Session Length:** 45–60 minutes per session.
- **Sequencing:**
 1. **Introduction & Relaxation (5 min):** Settling the mind with deep breathing.
 2. **Guided Rajyoga Meditation (25–30 min):** Focusing on self-identity as a peaceful soul, visualization of inner strength, and connection with the Supreme.
 3. **Application to Disaster Context (10 min):** Reflection on coping with fear, uncertainty, and decision-making during floods.
 4. **Group Discussion & Sharing (5–10 min):** Encouraging peer support and collective resilience.

Sessions will be conducted at **local Brahma Kumaris Rajyoga centers, Arambagh, Hooghly, West**

Bengal in flood-affected communities, providing a supportive and familiar environment.

Therapist Qualifications

Intervention will be facilitated by **certified Rajyoga meditation teachers** from the Brahma Kumaris, trained in meditation instruction and community engagement. Facilitators will also receive orientation on **psychosocial aspects of disaster management** to align the intervention with disaster readiness objectives.

E) Statistical Data Analysis

The study will employ **quantitative statistical analysis** using the Statistical Package for Social Sciences (SPSS, Version 26 or above). Both **descriptive** and **inferential** statistics will be applied to analyze the collected data.

Descriptive Statistics

Descriptive measures such as **mean, median, standard deviation, frequencies, and percentages** will be used to summarize demographic variables (age, gender, education, years of residence in flood-affected areas) and baseline characteristics of both groups (Rajyoga practitioners and non-practitioners). Graphs and tables will present data distribution for disaster readiness, resilience, and coping scores.

Inferential Statistics

To test hypotheses and answer research questions, appropriate inferential tests will be conducted:

- **Independent Samples t-test:** To compare disaster readiness and resilience scores between Rajyoga practitioners and non-practitioners.
- **Paired t-test / Repeated Measures ANOVA:** To evaluate pre–post intervention changes among Rajyoga practitioners.
- **One-way ANOVA:** To assess differences across groups based on duration/intensity of Rajyoga practice.
- **Pearson’s correlation & Regression Analysis:** To examine relationships between meditation practice variables (frequency, years of practice) and disaster readiness indicators.

A **95% confidence interval** and **p < 0.05 significance level** will be set for all inferential analyses. This combination of descriptive and inferential statistics ensures robust interpretation of findings on the role of Rajyoga meditation in disaster readiness.

Expected Outcomes and Contributions

This study on disaster readiness among Rajyoga meditation practitioners infrequently flood-affected areas anticipates identifying how meditation influences psychological resilience, preparedness, and community support during crises. Without claiming results, it is expected that practitioners may demonstrate enhanced emotional stability, spiritual anchoring, and proactive coping behaviors that strengthen both individual and collective disaster readiness.

Practical implications span multiple domains. *Clinically*, the study may highlight Rajyoga as a non-invasive, cost-effective tool for managing disaster-related stress, anxiety, and trauma, offering potential integration into community mental health practices. *Spiritually*, Rajyoga’s focus on soul-consciousness and connection with the Supreme may foster inner stability, faith-based coping, and service-oriented resilience, inspiring practitioners to contribute actively to disaster relief. *Educationally*, the findings can

support the inclusion of meditation-based resilience training in disaster education curricula, empowering communities with psychosocial and practical readiness skills.

Academic contributions to Yogic Science includes expanding its application to disaster preparedness, bridging spirituality with humanitarian studies, and providing evidence-based validation of Rajyoga's role in resilience. The study may propose a holistic model of disaster readiness, integrating spiritual, psychological, and practical dimensions, thereby strengthening Yogic Science as a discipline relevant to both individual well-being and societal resilience.

Limitations and Delimitations of the Study

This study, focused on disaster readiness among Rajyoga meditation practitioners in frequently flood-affected areas, acknowledges certain limitations. **Methodologically**, the reliance on self-reported responses may introduce subjectivity and social desirability bias. The sample is restricted to accessible practitioners, limiting generalizability beyond the study population. If conducted cross-sectionally, the research captures preparedness at a single point in time, without assessing long-term changes in resilience or coping after multiple disaster exposures.

Contextually, the scope is confined to flood-prone regions, which means findings may not be applicable to other disaster contexts such as earthquakes, droughts, or pandemics. Moreover, cultural and regional factors may influence both the practice of Rajyoga and disaster coping strategies, affecting transferability to broader populations.

Epistemologically, disaster readiness is a multidimensional construct, involving psychological, spiritual, social, and practical aspects. While the study foregrounds a Yogic Science perspective, this orientation may overlook alternative secular or biomedical explanations of resilience.

The **delimitations** of the study include a focus solely on Rajyoga meditation practitioners, excluding other yogic or mindfulness traditions; geographical boundaries limited to flood-affected communities; and a conceptual scope restricted to preparedness and coping, rather than long-term rehabilitation or infrastructural responses. These boundaries ensure depth but narrow applicability.

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