

1.0 INTRODUCTION :

Yoga, a profound spiritual discipline and holistic health practice, has evolved over the centuries to meet the diverse needs of practitioners across cultures and regions. Rooted in ancient texts, yoga integrates physical posture, breathing control, meditation, and ethical principles to support physical, mental, and spiritual well-being. (Pandurangi et al., 2017). Today, it is recognized not only as a spiritual pursuit but also as an important contributor to modern healthcare, enhancing wellness, quality of life, and longevity (Büssing et al., 2012). Yoga has shown effectiveness in managing a range of health conditions, including chronic pain, diabetes, heart disease, and cancer, and has proven beneficial for mental health by supporting improvements in anxiety, depression, and immune function (Ross & Thomas, 2010). This positions yoga as a valuable complement to conventional medical approaches, with the potential to support global healthcare goals.

In recent decades, Hatha Yoga has gained widespread appeal, driving the quest for a healthier lifestyle. The focus on disease prevention has shaped modern practice, bringing it to the global mainstream. Today, yoga offers a range of integrated practices that address different needs, from intense physical workouts to mindful and meditative pathways (Field 2016). The adaptation of yoga as an accessible health solution has led to increased scientific exploration of its impact on wellness, supporting its use in clinical settings and reinforcing its role as a holistic wellness practice (Park et al., 2015).

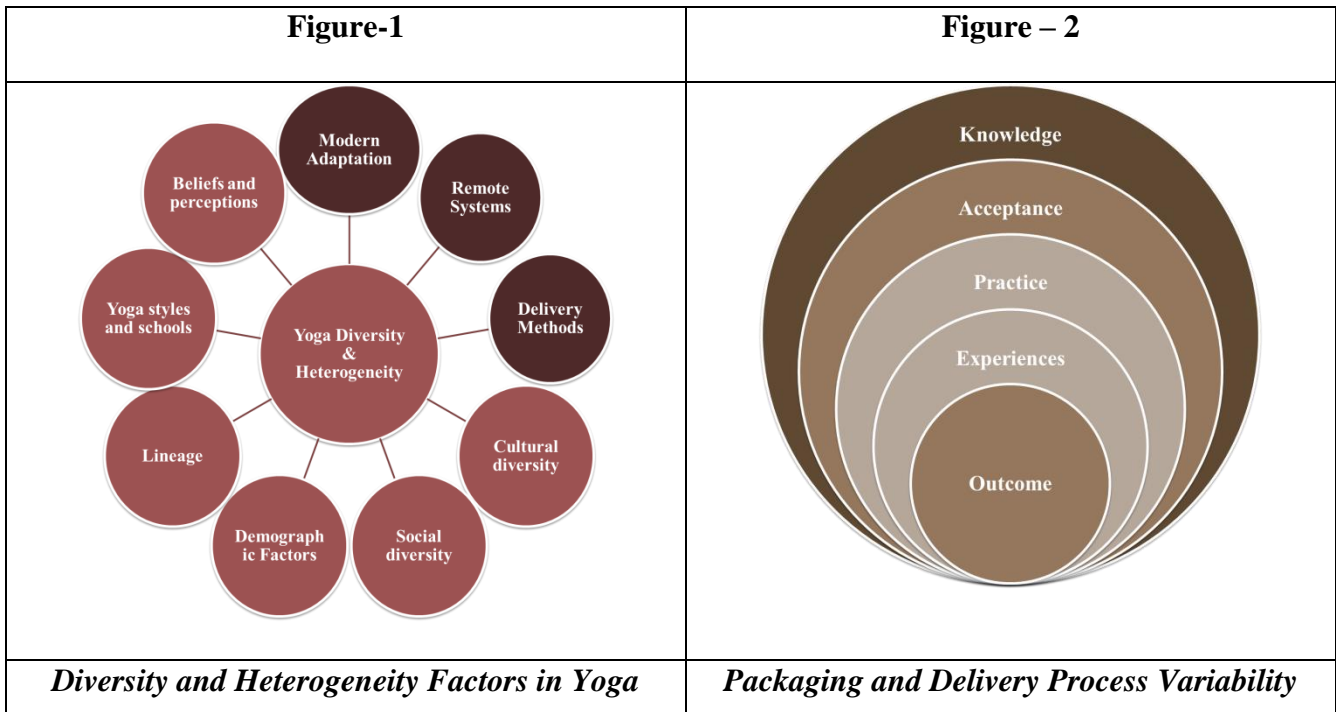
Despite the growing range of benefits, yoga integration into mainstream healthcare continues to face certain challenges due to variations in practice styles, demographic factors, delivery methods, lack of protocols, and reliability of research outcomes, as highlighted by McCall et al. (2013). The diverse components of yoga practices, including physical postures, breathing techniques, and meditation styles, make it difficult to establish standardized cause-and-effect relationships, thereby

inducing the generalization of research findings (Matko, Karin et al., 2021). The integration of digital platforms has transformed yoga, enhancing its accessibility and adaptability, but also increasing its heterogeneity, raising important questions about the consistency and authenticity of yoga delivery. Remote and In-person deliveries can be defined as follows:

Remote/Online Delivery	Includes yoga classes and sessions, either live or on-demand, online via, and channels such as Zoom, Google Meet, Teams, Apps, etc., either individually or in groups. It includes all audio video applications and devices.
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In-Person Delivery	Includes yoga classes and sessions, in-person either individually or in groups, session conducted by a Yoga Teacher/Guru/Coach in-person.
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This digital shift, accelerated by the COVID-19 pandemic, has made yoga more convenient, but also poses challenges in maintaining the discipline and authenticity associated with traditional in-person practice. The remote delivery paradigm of yoga offers significant advantages, such as accessibility, convenience, inclusiveness, and global reach, while also promoting innovation and advancing technology. However, it presents challenges in maintaining efficacy and authenticity, with the risks of diluting traditional goals and facing issues of validity and reliability. Disadvantages include the absence of standardized protocols, deviation from traditions, and the rise of commercialized practices, often leading to unintended adverse effects. Furthermore, the approach introduces heterogeneity, such as diverse global beliefs, customs, and perceptions, which complicates efforts to unify practices and ensure consistency in delivery. While remote yoga boosts global popularity, careful navigation is required to preserve its essence.

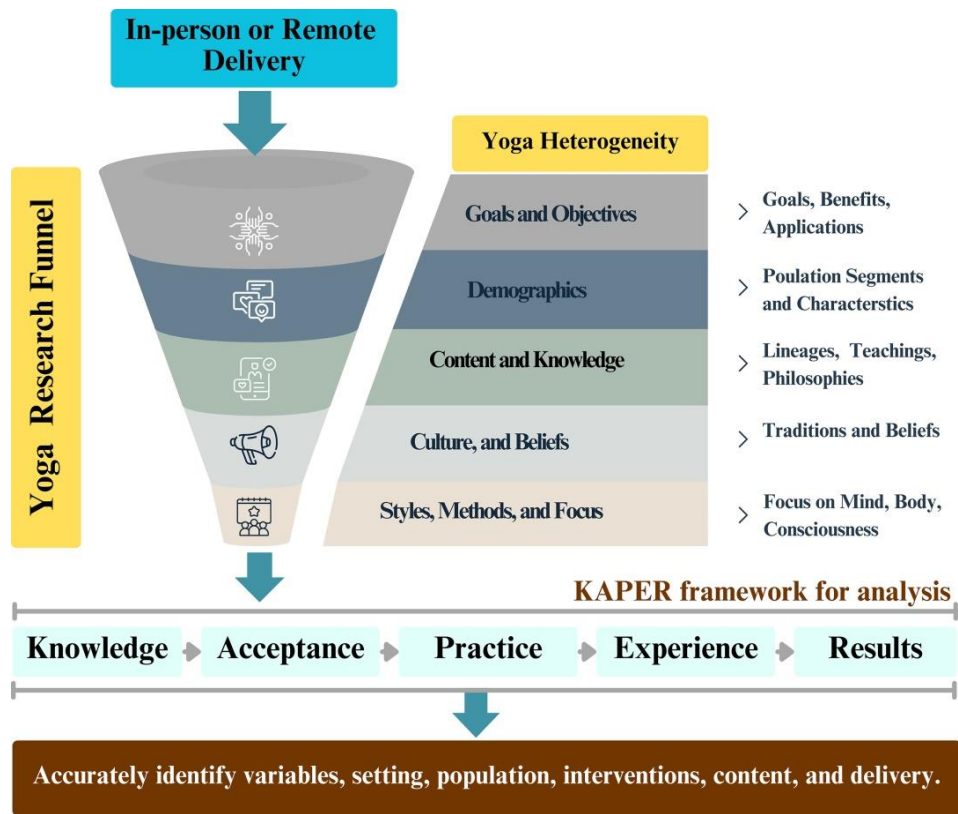


The diversity and heterogeneity of yoga, particularly in remote delivery, arise from multiple factors, as shown in **Figure-1**. These include variations in yoga styles, lineages, cultural and social diversity, demographic factors, beliefs, perceptions, and modern adaptations, such as remote systems and delivery methods.

Figure 2 highlights the key components of the yoga delivery process: knowledge, acceptance, practice, experience, and outcomes. Each of these components is influenced by the diverse ways yoga is packaged and delivered, which adds further complexity to the remote yoga paradigm. These elements contribute to the multifaceted nature of yoga practice worldwide. This study focused on understanding and addressing these divergences within the context of remote yoga delivery frameworks.

The move toward remote delivery raises important questions about the comparability of outcomes between in-person and remote yoga sessions, highlighting the need for rigorous, standardized studies to validate remote yoga’s efficacy in wellness and clinical intervention (De Michelis, 2007). Key factors contributing to yoga heterogeneity are summarized in **Figure 3**.

Figure 3



Heterogeneity in yoga

This study aimed to investigate the reliability and comparability of remote yoga with in-person yoga in two crucial areas: the effectiveness of the delivery structure and the inclusivity of the content. This was addressed in two studies: one mixed method and one quantitative. Quantitative studies conducted a cross-sectional analysis to compare remote yoga with in-person practices in culturally diverse populations in North America (West) and India (East). Qualitative studies focus on the expert narrative regarding the gaps between remote and in-person yoga methodologies.

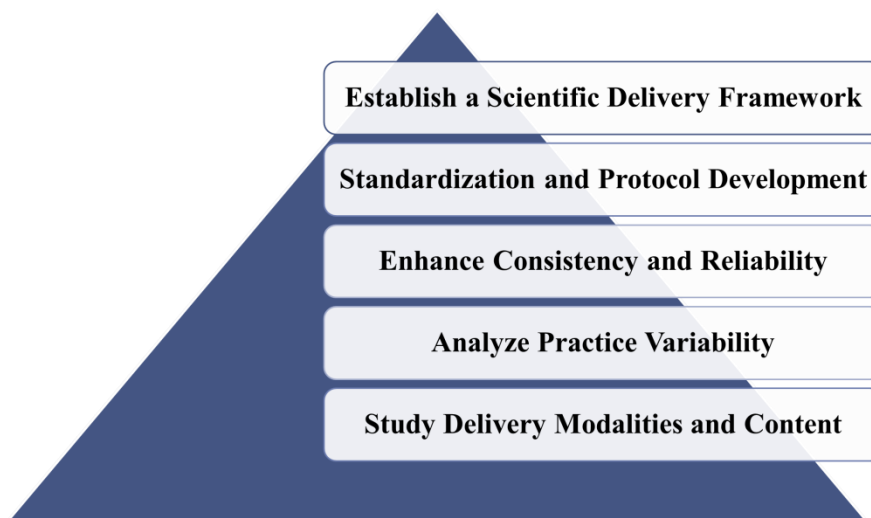
The first mixed-method study used a six-item Telehealth Usability Questionnaire (TUQ) inventory to measure the effectiveness and usability of remote yoga compared with traditional in-person practices.

The second study addressed the comparability of the inclusiveness of yoga content delivered remotely

to in-person modalities using the 14-item Essential Properties of Yoga Questionnaire (EPYQ) inventory.

Together, these studies illustrate the impact of critical delivery factors on improving the effectiveness of remote yoga in healthcare. This study also provides additional insights into the relationship between demographic and cultural differences, delivery modes, and quality of content. As illustrated in **Figure 4** By addressing these gaps, this study provides a foundation for improving the delivery and usability of remote yoga, advocating the need for a structured, systematic, and data-driven approach.

Figure 4



Addressing Gaps and Barriers in Remote Yoga Delivery

This study aims to move beyond typical “black box” research findings by identifying specific components that account for differences, facilitating reliable, culturally adaptive yoga practices that can effectively support health and wellness goals across various populations. This research sought to enhance the understanding of remote and in-person yoga practices through two complementary studies, each highlighting unique aspects of yoga delivery to improve reliability for healthcare integration. As

remote yoga (teleyoga) has become more widespread, these studies have examined both the usability of remote delivery and the depth of yoga content offered. These findings emphasize the need for culturally sensitive, demographic-specific, and reliable yoga interventions to support effective healthcare integration.