

# Attitudes towards mental health in Indians who practice yoga regularly and those who do not

Shreya Komar<sup>1</sup>, Shaila Komar<sup>2</sup>

<sup>1</sup> Eastern Regional High School, Voorhees, New Jersey

<sup>2</sup> Cognizant Technology Solutions, College Station, Texas

## SUMMARY

Whether it is through implicit association or intentional practice, yoga has been known to help individuals maintain good mental health. However, many communities, such as South Asian communities, often project the stereotype that embodies neglecting topics such as mental health and considering them taboo. As a result, the effects of yoga on Indians and their attitudes towards mental health is a subject that still needs to be closely examined. It is imperative that ongoing research address the possible ways Indian communities can destigmatize and improve mental health. In this online survey-based study, we focused on examining whether yoga would alter individuals' attitudes toward mental health. We aimed to measure whether a practice rooted in South Asian culture would allow people to value mental health more. Furthermore, we expanded the body of research concerning mental health in South Asian (specifically Indian) communities and determined whether certain practices could be used to improve mental health conditions in the Indian community. We hypothesized that 1) participants who regularly practiced yoga would be more familiar with the term mental health, 2) participants who practiced yoga would value their mental health more, and 3) participants who practiced yoga regularly would be more open about their mental health and be more likely to reach out for professional help if needed. We did not find a statistical significance for any of our hypotheses which suggests that yoga may not have an effect on perceptions of mental health in yoga-practicing Indian adults.

## INTRODUCTION

Originating in Northern India over 5,000 years ago, the practice of yoga is deeply rooted in South Asian culture (1). Many argue that it was born along with the dawn of civilization itself (1). Since then, the practice of yoga has spread across the globe. The discipline encompasses various bodily postures, breathing techniques, and meditations that work to induce a state of relaxation and better bodily health. There are about 19 different types of yoga and 66 basic postures (1). However, at its core, yoga consists of Āsana (bodily postures) and Prāṇāyāma (proper breathing), which are further supported by the pillars of positive thinking and a balanced vegetarian diet (1).

Since its introduction, yoga has encouraged individuals to live meaningful lives by establishing a balance within themselves and the outer world (2). Along with the practice

of various bodily postures, those who practice yoga regularly aim to inculcate a state of mental peace. According to Harvard Health, yoga practice can be thought of as mental exercise (3). The authors claim that yoga directly results in better mental health by strengthening certain parts of the brain, leading to better memory and brain function (3). Finally, MRI scans have shown that people who do yoga have a thicker cerebral cortex and hippocampus compared with non-practitioners (3). Growth in the regions of the brain that are associated with emotion, consciousness, thought, and memory may lead to better self-awareness and positive mental and emotional practices (3). Thus, the data supported that yoga can be beneficial to mental well-being.

Several studies indicate that the practice of yoga can improve mental health conditions (4–6). A study conducted by Park *et al.* draws on research that noted yoga had positive effects on many physical, spiritual, and mental health indicators (4). Another study that tested the effects of yoga and mindfulness on health care workers found that practicing mindfulness for at least 20 minutes daily led to better mental health conditions in its participants (5). Most recently, a study aimed at examining health characteristics in individuals who practiced yoga found that yoga had positive effects such as improved happiness, energy levels, and sleep on mental well-being and helped reduce mental illnesses (6). Additionally, individuals who practiced yoga more often were more likely to experience these mental health benefits (6). However, the majority of the study subjects consisted of educated white women (6). Thus, the study subjects may not have represented large portions of the population, including the culture of origin for yoga—Indian individuals. However, these studies still provide insight into the possible mental benefits of practicing yoga long-term.

Home to an immensely diverse population, citizens of India vary in perspectives and attitudes. India has one of the highest depression rates in the world (7). Research pertaining to Indians is underrepresented in most fields of psychology and studies have shown that South Asian immigrants often experience a culturally linked stigma (8). A study conducted by Pew Research Center, found most adult Indians do not practice yoga (9). Thirty-five percent report ever practicing yoga (9). Within that group, twenty-two percent practice yoga monthly, seven percent daily, and six percent weekly (9). Therefore, it is imperative that ongoing research bridges the gap in the representation of a multitude of perspectives and addresses the mental health concerns of this group (10).

In this study, we aimed to contribute to the body of work on the effects of yoga on mental health attitudes in the Indian community. Additionally, we sought to demonstrate that practicing yoga regularly could have a positive effect on the

way Indian adults view and take care of their mental health. Thus, leading to a healthier and happier life. With our online survey, we set about to learn if 1) participants who regularly practiced yoga would be more familiar with the term mental health, 2) participants who practiced yoga would value their mental health more, and 3) participants who practiced yoga regularly would be more open about their mental health and be more likely to reach out for professional help if needed.

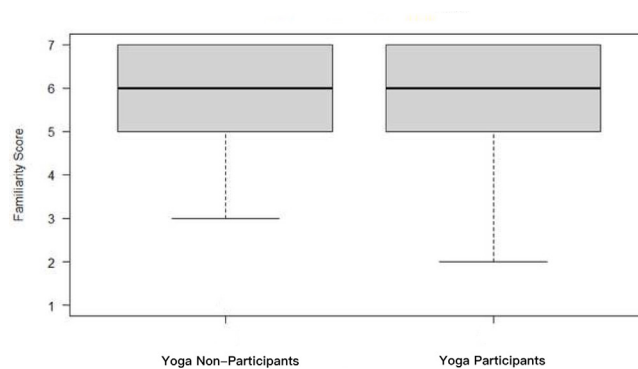
## RESULTS

We assessed whether there was a difference in the attitudes towards mental health among Indian adults who practiced yoga regularly and those who did not practice yoga regularly. We tested the three-factors: Their familiarity with the term “mental health,” the value they placed on personal mental health, and their openness in conversations about one’s mental health with professionals or one’s own community (family and friends). We hypothesized that participants who regularly practiced yoga would score significantly higher in all three factors: familiarity, value, and openness. To assess this, we designed a survey that contained eight questions aimed at understanding their attitudes towards mental health (**Appendix A**). Each question presented respondents with answers numbered 1–7 which ranged from strong negative attitudes to strong positive attitudes respectively. Thus, a score of 1 on a particular question indicated the strongest possible negative attitude response whereas a score of 7 indicated the strongest possible positive attitude response.

First, to test participants’ familiarity, we analyzed scores from the question, “how familiar are you with the term mental health”. Then, the responses for people who practiced yoga regularly and those who did not were averaged separately to calculate a mean score. The mean score for yoga practitioners was  $5.873 \pm 1.319$  and for those who do not practice yoga regularly, it was  $5.895 \pm 1.414$  (**Figure 1**). Thus, we found that there was no statistical difference in the familiarity of the term mental health between those who practiced yoga regularly and those who did not ( $p=0.92$ ).

Second, for determining the value of mental health among both groups, a mean value score was calculated for each participant. This was done by averaging the scores of the two questions that were aimed at testing the value of one’s own mental health: 1) “How important is keeping good mental health to you?” and 2) “I value my physical health more than my mental health.” (**Appendix A**). The responses from the second question were reverse scored before averaging. A higher score would indicate a greater value of mental health. Participants who regularly practiced yoga had higher mean value scores (mean=  $5.775 \pm 1.130$ ) than the non-yoga practitioners (mean= $5.725 \pm 1.108$ ). However, the difference was not statistically significant to support the second hypothesis ( $p=0.51$ , **Figure 2**).

Finally, to assess openness among the participants, a mean openness score was calculated for each participant to describe their willingness to talk to their community about mental health or reach out for professional help. This score was calculated by averaging the response scores from the last two questions (**Appendix A**). Participants who practiced yoga regularly had an overall higher mean openness score (mean= $5.049 \pm 1.389$ ) compared to those who did not practice yoga regularly (mean= $5.021 \pm 1.627$ ). However, this was not sufficient to suggest that yoga participants had more

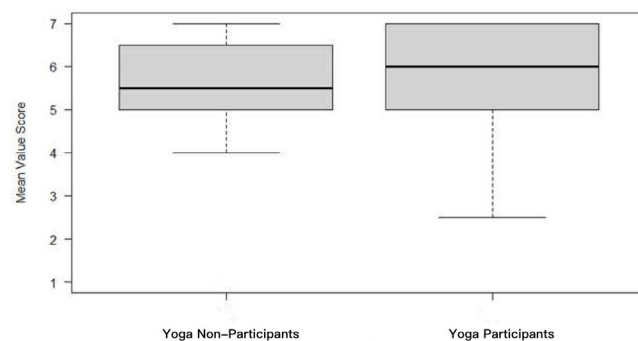


**Figure 1: Distribution of familiarity with the term mental health among yoga participants and non-participants.** The box and whisker plot shows the mean familiarity scores which were calculated for participants who regularly practiced yoga ( $n=71$ ) and those who did not ( $n=86$ ) by averaging the responses to question 1. Mean scores of 5.873 and 5.895 were calculated respectively with higher scores representing greater familiarity in the group that regularly practiced yoga ( $p=0.92$ ). The bottom line (whisker) that projects out of the box represents the lowest 25% of responses.

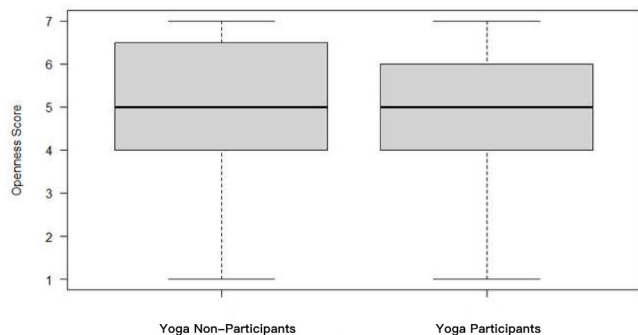
openness ( $p=0.72$ , **Figure 3**) Thus, evidence was not found to support any of the three hypotheses proposed. Although participants who regularly practiced yoga had higher mean scores for the value and openness, we did not find statistically significant results.

## DISCUSSION

This study showed that participants who regularly practiced yoga trended towards positive attitudes in their mental health. However, evidence was not found to statistically support the three hypotheses of this study. More data collected from different questions pertaining to mental health is necessary to fully determine and study the nuances in the Indian community’s attitudes towards mental health and



**Figure 2: Distribution of mean value scores of respondents’ valuation of mental health.** The box and whisker plot shows the mean value scores which were calculated by averaging the scores of responses to the two questions that assessed how much the participants ( $n=157$ ) valued mental health (**Appendix A Questions 3, 4**). This score was then used to compare participants who regularly practiced yoga (mean= 5.775) and those who did not (mean=5.657), upon which a p-value of 0.51 was obtained. A higher score represents a greater valuation of mental health in the group that practiced yoga. The bottom line (whisker) that projects out of the box represents the lowest 25% of responses while the top line (whisker) that projects out of the box represents the highest 25% of responses.



**Figure 3: Distribution of mean openness scores of respondents.** The box and whisker plot shows the mean openness scores which were calculated by averaging the scores of responses to the two questions that assessed how open the participants (n=157) were about talking about their mental health (**Appendix A, Questions 5, 6**). This score was then used to compare the responses between participants who regularly practiced yoga (mean=5.049) and those who did not (mean=4.965). A higher score represents greater openness about mental health in the group that practiced yoga ( $p=0.72$ ). The bottom line (whisker) that projects out of the box represents the lowest 25% of responses while the top line (whisker) that projects out of the box represents the highest 25% of responses.

how they may be affected by traditional practices like yoga. Lastly, there was no statistically significant difference in the mental health attitudes between people who practiced yoga regularly and people who did not in a questionnaire about mental health.

There are several limitations to this study. First, the terms yoga and mental health were not defined. Therefore, participants may have interpreted the meaning of these terms quite differently. Second, the sample size (n=157) consisted of a majority of Indian females (74.4%) and thus results may have been influenced by gender. Age may have also played a role as the majority of responders (40%) were in the age group of 40-49 followed by 35.5% being from the age group 30-39, 14% being from ages 40-59, 5.8% were less than 30 years old, 3.2% were older than 65, and only 1.3% were from ages 60-64. were Additionally, the type of yoga was not specified, e.g., Hatha, Vinyasa, or Bikram. It is possible that different types of yoga may have affected attitudes toward mental health differently. Future research should address these various types of yoga in relation to attitudes towards mental health. Furthermore, the survey did not ask the participants where they were located and only specified that the participants identify as Indian. Although the survey was distributed online primarily to residents living in India, the study did not collect residence information. Thus, we could not determine whether geography and residence environments may have influenced mental health perceptions. Finally, another limitation could be that the survey was based on self-reporting, which may have resulted in internal biases from the study participant, leading to somewhat inaccurate or skewed responses.

Future studies should take into account gender, yoga type, age, and geography. Further research may also seek to implement open-ended responses as opposed to Likert-type responses to be able to gauge a deeper understanding of mental health perceptions. Additional studies may consider more indicators such as specific yoga type, restricted age conditions, and the difference in personal definitions of mental

health. Moreover, responses to the survey may have been biased or random based on the individual's understanding of the term mental health. For example, the survey responses indicated that around 14% of participants answered a four or lower on the question that asked about familiarity with the term "mental health," and thus this lack of understanding may have hindered them in answering the following questions to their full potential.

Overall, analysis of the survey responses showed that there was no difference in mental health attitudes among yoga and non-yoga practitioners. Although we did not find a significant effect of regular yoga practice, this study is a valuable contribution to the limited number of mental health yoga studies on Indians. We hope that it encourages more researchers to ask similar questions that relate to the mental well-being of South Asians.

## MATERIALS AND METHODS

### Permissions and Participants

Before this study was conducted, a Scientific Review Committee (SRC) reviewed and approved the research plan. All participants of this study were identified as Indian and were  $\geq 18$  years of age. All participants were made aware of the intention and purpose of the survey. They were also informed that their responses and participation in the study were completely optional, and they may withdraw at any time. The survey collected 157 responses where 71 participants (45.2%) indicated that they practiced yoga regularly and 86 (54.8%) participants indicated that they did not. Participants were made aware that for the purposes of this study, practicing yoga regularly meant practicing for a minimum of 3 times a week for at least 20 minutes. Participants were asked to select their gender as either male or female. 116 participants identified as female (74.4%) and 40 participants identified as male (25.6%). They were also asked to select their age from the following categories: <30 (9 participants), 30–39 (55 participants), 40–49 (62 participants), 50–59 (22 participants), 60–64 (2 participants), >65 (5 participants). However, no further analysis was done within age and gender groups.

### Survey Design and Testing

All participants filled out an online survey that consisted of eight questions. The first two questions asked for gender and age, respectively. The third question asked whether or not the participant practiced yoga regularly, and the following questions pertained to the topic of mental health (**Appendix A**).

### Data Collection

Responses were collected on a Likert scale of 1 to 7. A Likert scale is a psychometric scale commonly used in survey-based research to assess attitudes and emotions (11). In our survey respondents were presented with numbers from 1 to 7 where 1 denoted a strong negative attitude (e.g., 'strongly disagree') and ranged to 7 which denoted a strong positive attitude (e.g., 'strongly agree'). The first question was used to assess familiarity with the term mental health. Responses from the second and third questions were for the value of mental health, and scores from the last two questions were averaged to test openness. Most of the participants in the study claimed to be residents of India, and some may

have been Indians living in the United States. The data were analyzed using an independent sample t-test in R version 4.1.1.

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