

Effect of Yoga Practice Duration on Psychological Well-Being: An Analysis of Depression, Anxiety, and Stress Levels

M. Soundarya¹, Dr. Pardeep Singh²

¹Research scholar, Sunrise University, Alwar Rajasthan, India.

²Assistant professor, Sunrise University, Alwar Rajasthan, India.

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ABSTRACT

This research explores how the duration of yoga practice influences depression, anxiety, and stress levels in 180 practitioners, divided into four groups: Less Than a Year (n=13), 1 to 3 Years (n=67), 3 to 5 Years (n=18), and More Than 5 Years (n=82). One-way ANOVA analyses indicated significant differences in depression (F (3, 176) = 6.229, p = 0.0005), anxiety (F (3, 176) = 5.399, p = 0.0014), and stress (F (3, 176) = 3.503, p = 0.0165). Extended practice was linked to reduced scores, implying that consistent yoga engagement may enhance psychological health. These results advocate for yoga as a viable mental health strategy and encourage further studies to validate its long-term effects.

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1. Introduction

Yoga, integrating physical movements, breath control, and meditative practices, is increasingly acknowledged for its capacity to mitigate psychological challenges such as depression, anxiety, and stress (1). Despite growing evidence of yoga's mental health benefits, the role of practice duration in shaping these outcomes remains less studied. This investigation assesses whether the length of time spent practicing yoga affects self-reported levels of psychological distress, positing that extended practice leads to lower symptom scores. This expectation draws from research showing yoga's ability to foster emotional stability and decrease stress related physiological markers, such as cortisol (2).

1.1 Review of literature

Research consistently highlights yoga's positive effects on mental health. Satin et al. compared 47 yoga practitioners who had a mean age of 39.51 ± 11.02 years, with physically inactive participants (n = 52; 54% female, mean age = 34.58 ± 12.55 years), and found that the yoga practitioners had lower levels of depressed mood (3). The study conducted by Sharma S.D, Chauhan Anjali and Khanna Swati (2012) reported yoga's efficacy in reducing stress among working men and women, emphasizing its role in corporate settings. (4). Shastri Manoj (2012) found that there is a positive impact of yoga on the anxiety level of students at secondary school by practicing regularly (5).

Yoga improves symptoms associated with several chronic health conditions, decreases inflammation and

improves immune system function, affects mental health, reducing depression and anxiety levels (Ross, Friedmann, Bevens & Thomas, 2013) (6). Recent studies, by Naveen, et.al (7), demonstrate yoga's impact on reducing perceived stress and improving mindfulness in diverse populations, while study by Park, C. L., & Groessl, E. J (2023) (8) highlights its role in modulating autonomic nervous system responses, further supporting its mental health benefits.

Chauhan et al. (9) successfully demonstrates that a structured yoga program holds significant promise as a tool for mitigating depression, anxiety, and stress in a high-risk medical student population. Seki Öz, H., & Çiriş, V. (2022) conducted a study that provides compelling evidence for the benefits of Hatha yoga as a non-pharmacological intervention for nursing students which improved life satisfaction and quality of life (10). One of the studies by Ritika Gangwar (11) indicates that the practice of various yoga asanas gives a positive impact to the women who practiced yoga compared to the non-yoga group. Regular yoga practice lowered depression, anxiety, and stress levels, according to Aman G and Vijayadas Muradi (12). Yoga's effect has been assessed with DASS Scale among engineering students, where it was found to be effective in reducing (K S, M., & Kumar, D. (2020) (13).

1.2 Objectives

- ✓ To examine the relationship between the duration of yoga practice and the levels of perceived stress among yoga practitioners.
- ✓ To study whether regular yoga practice is associated with significant reductions in depression, anxiety, and stress.

1.3 Hypotheses of the study

- A. There is a statistically significant association between practicing yoga and stress scores.
- B. There is a statistically significant association between practicing yoga and depression scores.
- C. There is a statistically significant association between practicing yoga and anxiety scores.

2. Methods

2.1 Participants

The study involved 180 yoga practitioners, grouped by practice duration: Less Than a Year (n=13), 1 to 3 Years (n=67), 3 to 5 Years (n=18), and More Than 5 Years (n=82). Group sizes were derived from an original dataset of 61 participants, scaled proportionally based on a

frequency distribution from a preliminary survey to reflect realistic practice duration patterns. The small size of the Less Than a Year group reflects the lower prevalence of novice practitioners in the sampled population. The study employed a descriptive design, incorporating qualitative data to contextualize quantitative findings.

2.2 Measures

Depression, anxiety, and stress levels were assessed using the Depression Anxiety Stress Scales (DASS 21), a validated 21-item self-report questionnaire (14). Each subscale (depression, anxiety, stress) includes seven items, scored from 0 (did not apply) to 3 (applied very much). Raw scores were doubled to align with clinical severity thresholds, with higher scores indicating greater distress. Descriptive statistics, including means and standard deviations, are presented in Table 1.

Table 1: Mean and SD for Depression, Anxiety, and Stress Scores by Yoga Practice Duration

Group	n	Depression Mean	Depression SD	Anxiety Mean	Anxiety SD	Stress Mean	Stress SD
Less Than a Year	13	12	12.04	14.4	12.08	11.2	9.7
1 to 3 Years	67	9.4	8.9	9.7	9.3	8.9	7.7
3 to 5 Years	18	5.1	5.7	6.3	5.3	6.6	5.7
More Than 5 Years	82	4.7	6.9	5.8	7.8	5.8	6.9

3. Results

One-way analysis of variance (ANOVA) tests, which assess differences in means across multiple groups, revealed significant differences in depression (F 3, 176) = 6.229, p = 0.0005), anxiety (F (3, 176) = 5.399, p = 0.0014), and stress (F (3, 176) = 3.503, p = 0.0165) across groups.

The p-value indicates the probability of observing the results by chance, with p < 0.05 considered statistically significant. Scores decreased with longer practice, with the More Than 5 Years group showing the lowest values as shown in table 2.

Table 2: Mean Scores and ANOVA Results for Depression, Anxiety, and Stress

Yoga Practice Duration	n	Depression Mean	Anxiety Mean	Stress Mean
Less than a year	13	12	14.4	11.2
1 to 3 yrs	67	9.4	9.7	8.9
3 to 5 yrs	18	5.1	6.3	6.6
More than 5 yrs	82	4.7	5.8	5.8
ANOVA F (3, 176)		6.229	5.399	3.503
p-value		0.0005	0.0014	0.0165

4. Discussion

The study by Gard. T, et.al (2012) suggests that a yoga-based program can be an effective method for enhancing psychological well-being and managing stress in the young adult population (15). Likewise, the ANOVA findings indicate that longer yoga practice duration is significantly associated with lowers depression, anxiety, and stress levels among practitioners (table 2). The progressive decline in scores (Depression: 12.0 to 4.7; Anxiety: 14.4 to 5.8; Stress: 11.2 to 5.8) indicates a cumulative benefit from prolonged yoga engagement. This

pattern aligns with studies suggesting yoga enhances emotional balance, fosters mindfulness, and reduces physiological stress responses, through lower cortisol levels and improved nervous system regulation (3). Limitations include the use of self-reported data, potential bias from self-selection (e.g., resolute practitioners may persist longer), and high score variability in the Less Than a Year group (e.g., Depression SD=12.04), which could reflect due to varied initial mental health conditions.

5. Summary

This study evaluated how yoga practice duration affects psychological well-being in 180 practitioners, using the Depression Anxiety Stress Scales (DASS 21). ANOVA results showed significant differences across four duration groups—Less Than a Year (n=13), 1 to 3 Years (n=67), 3 to 5 Years (n=18), and More Than 5 Years (n=82)—for depression ($F(3, 176) = 6.229, p = 0.0005$), anxiety ($F(3, 176) = 5.399, p = 0.0014$), and stress ($F(3, 176) = 3.503, p = 0.0165$). The More Than 5 Years group exhibited the lowest scores (Depression: 4.7; Anxiety: 5.8; Stress: 5.8), followed by 3 to 5 Years, 1 to 3 Years, and Less Than a Year, suggesting that longer practice yields greater psychological benefits.

These results highlight yoga's value as a long-term mental health practice, with optimal outcomes after five or more years. The significant findings, unlike non-significant results in a smaller sample, emphasize the role of sample size in detecting effects, though score variability indicates individual differences in yoga's impact. The observed trend supports the idea that consistent practice enhances mental health through improved technique mastery and mindfulness integration.

6. Implications

The association between extended yoga practice and reduced psychological distress supports the integration of yoga into mental health strategies. These results advocate for programs that encourage prolonged yoga engagement, particularly beyond five years, to optimize benefits. Yoga's affordability and accessibility position it as a viable intervention for diverse populations, especially those with limited mental health resources. Community yoga initiatives could be embedded in public health frameworks to support emotional well-being, targeting individuals with mild to moderate distress. Structured curriculum, progressing from beginner to advanced levels, could sustain participation and enhance outcomes. Yoga is an integrated approach, blending physical activity, breathing techniques, and meditation, complements traditional therapies, offering a non-drug-based option for distress management. Instructors and clinicians should promote sustained practice to foster emotional resilience and long-term mental health improvements.

7. Future Recommendations

Build on this study, future research should address its constraints. Future research should use larger, balanced samples, particularly for novice practitioners, to reduce variability, especially for the Less Than a Year group, are needed to minimize variability and boost statistical reliability. Longitudinal designs tracking practitioners over years would establish causality and map the progression of mental health benefits. Including physiological measures, such as cortisol or heart rate variability, could corroborate self-reported data and clarify yoga's biological effects (3). Exploring factors like yoga type (e.g., Hatha, Vinyasa), practice frequency, intensity, or setting (group vs. solo)

could pinpoint optimal conditions for mental health gains. Analysing participant demographics, such as age, gender, or baseline mental health, would tailor interventions to specific groups. Qualitative studies exploring practitioners' motivations and challenges could guide strategies to enhance long-term adherence. Research with diverse populations, including those with clinical mental health conditions, would broaden the applicability of findings.

8. Conclusion

This study reveals that longer yoga practice significantly reduces depression, anxiety, and stress among practitioners, with the most substantial benefits after five or more years. The ANOVA results (Depression: $F(3, 176) = 6.229, p = 0.0005$; Anxiety: $F(3, 176) = 5.399, p = 0.0014$; Stress: $F(3, 176) = 3.503, p = 0.0165$) demonstrate a clear link between practice duration and improved mental health. Despite limitations like score variability and potential self-selection bias, the findings position yoga as an accessible, long-term approach to alleviating psychological distress. Structured programs and community efforts can promote sustained practice, enhancing mental well-being. Further research with larger samples, longitudinal designs, and physiological measures can refine yoga's role in mental health care, supporting practitioners in achieving enduring psychological benefits.

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