

Effect of Yoga on the Resilience Ability of the Practitioners: A Study

Madhava Chandran K^{1*}, Naveena K², Unniraman P³ and Anjana KJ⁴

¹Social Researcher and President, WEDO (NGO), India

²Statistician and Researcher, India

³Director, Patanjali Yoga Research Centre (PYRC), India

⁴Yoga TTC Student, PYRC, India

***Corresponding author:** Dr. K Madhava Chandran, Social Researcher and President, WEDO (NGO), Kozhikode, Kerala, India, Email: chandmadhava@gmail.com

Received Date: May 29, 2023; **Published Date:** June 27, 2023

Abstract

Resilience in life indicates one's ability to keep functioning physically and psychologically, even when negative emotions are experienced. The influence of yoga in improving the resilience of the practitioners have been reported.

Methods: A study was undertaken by WEDO (NGO), Kozhikode, Kerala, India and Patanjali Yoga Research Centre (PYRC), Kozhikode using a questionnaire among a sample of 100 yoga practitioners from PYRC to analyse the effect of yoga practice on the resilience ability of the practitioners. The brief resilience scale (Smith et al, 2008), the characteristics of the respondents such as age, sex, marital status, no. of days of yoga practice/week, and no. of months of yoga practice were included in the questionnaire. The data was analysed as proportion, score, and through statistical tests.

Results: Majority of the respondents have developed their resilience ability in life very much through yoga practice. 80 % of them have obtained a total resilience score in the range of 76.7 to 83.3 % of the maximum possible score in the study. 54% of the respondents belong to the high resilience score category, 37% to the medium score category, and only 9% belong to the low score category. Those who engage in yoga practice for more no. of days in a week have higher resilience scores, compared to those who practice for lesser no. of days, with statistically significant difference in the scores. The mean resilience score of married yoga practitioners varies significantly with that of un-married practitioners. However, sex and age of the yoga practitioners did not influence their resilience score significantly. Gradient Boosting Model test showed that among the characteristics, only months of yoga practice exhibited a substantial relative influence (98.26%) on the resilience score. Analysis through the Decision Tree technique showed that individuals practicing yoga for 23.5 months or longer are more likely to have a high resilience score, while those practicing yoga for less than 23.5 months are more likely to have a medium resilience score.

Conclusion: The favourable effect of yoga practice in developing resilience among people, which is helpful to overcome difficulties faced in life, is observed from the study. There exists difference in the level of resilience developed through yoga between people practicing it for lesser no. of days/week, when compared to more no. of days/week. Unmarried yoga practitioners have comparatively more resilience through yoga practice than married people. Irrespective of the sex or age of the practitioners, yoga

is capable of developing their resilience ability. Months of yoga practice is the only characteristic having high relative influence on the resilience score. Individuals practicing yoga for 23.5 months or longer are more likely to have a high resilience score, while those practicing yoga for less than 23.5 months are more likely to have a medium resilience score.

Keywords: Yoga Practice; Age; Sex; Resilience Ability; Un-Married Practitioners

Introduction

The science of yoga is psychology of a philosophical nature. The very introduction of the system of yoga by Patanjali is by way of the instruction, namely, Yoga-chitta-vritti-nirodhah, which indicates that the mind has to be controlled through yoga practice. Yoga plays a significant role in the management of physical and mental health [1]. Yogic Intervention has been shown to have a significant effect on General Well Being [2].

When faced with stress or adversity, a person may be able to keep functioning physically and psychologically, even when negative emotions such as anger, grief, pain etc. are experienced. This is what is called resilience in life, indicating the ability to adapt to difficult situations. In a study, yoga was found to be effective in increasing the resilience level among adolescents studying in a school [3]. It has been reported that even a short program of yoga is effective for enhancing emotional well-being and resilience to stress of people in the workplace [4].

Materials and Methods

This study on the effect of yoga on resilience ability was undertaken by WEDO (NGO), Kozhikode, Kerala, India and Patanjali Yoga Research Centre (PYRC), Kozhikode using a questionnaire among a sample of 100 yoga practitioners from PYRC. The brief resilience scale [5] was used. The questionnaire also contained the characteristics of the respondents such as age, sex, marital status, no. of days of yoga practice/week, and no. of months of yoga practice. The data was analysed as proportion, score, and through statistical tests.

Results

Table 1 shows the responses of the yoga practitioners to the items in the resilience scale.

Sl. No.	Resilience item	Range of respondents (%) agreeing with the items
Positive items		
1	Due to the practice of yoga, I tend to bounce back quickly after hard times	70-80
2	Due to the practice of yoga, it does not take me long to recover from a stressful event	
3	Due to the practice of yoga, I usually come through difficult times with little trouble	
Negative items		Range of respondents (%) disagreeing with the items
1	Even with the practice of yoga, I have a hard time making it through stressful events	60-70
2	Even with the practice of yoga, it is hard for me to snap back when something bad happens	
3	Even with the practice of yoga, I tend to take a long time to get over set-backs in my life	

Table 1: Responses of the yoga practitioners to the resilience items.

Table 2 gives details of the total resilience score of the yoga practitioners.

Range of total resilience score*	Respondents (%)
76.7 to 83.3	80

Table 2: Total resilience score of the yoga practitioners.
*as % of the maximum possible score in the study

Table 3 shows the proportion of yoga practitioners categorized based on their resilience scores as low, medium, and high using the quartile method.

Resilience score category	Respondents (%)
High score	54
Medium score	37
Low score	9
Total	100

Table 3: Categorization of the resilience score of yoga practitioners.

Table 4 shows the statistical significance of the resilience score based on no of days/week of yoga practice.

Details	Days/week of yoga practice	
	3	6
Mean resilience score of yoga practitioners	19	23.8
t stat = 2.11; Significant p < 0.05		

Table 4: Statistical significance of the resilience score based on no of days/week of yoga practice.

The result of statistical significance of the resilience score based on the marital status of yoga practitioners is shown in Table 5.

Details	Marital status of the practitioners	
	Married	Un-married
Mean resilience score of yoga practitioners	23.1	25.3
t stat = 2.02; Significant p < 0.05		

Table 5: Statistical significance of the resilience score based on the marital status of yoga practitioners.

Statistically significant difference was not observed between sex wise resilience score as well as age wise score of the yoga practitioners.

Spearman rank correlation coefficient between yoga

resilience score and education of the yoga practitioners was found to be - 0.422, while the correlation between resilience score and no. of months of yoga practice showed a high positive value of 0.801.

The results of the statistical test, namely, Gradient Boosting Model showed that among the characteristics, only months of yoga practice exhibited a substantial relative influence of 98.26% on the resilience score. The other characteristics such as age, sex, marital status, and number of days per week of yoga practice showed a very low relative influence of less than 1% only on the resilience score.

Discussion

The results presented in Table 1 reveal that 70 to 80 % of the respondents agree with the three positive resilience items, namely, Due to the practice of yoga, I tend to bounce back quickly after hard times; Due to the practice of yoga, it does not take me long to recover from a stressful event; Due to the practice of yoga, I usually come through difficult times with little trouble. 60 to 70 % of yoga practitioners have disagreed with the three negative resilience items, namely, Even with the practice of yoga, I have a hard time making it through stressful events; Even with the practice of yoga, it is hard for me to snap back when something bad happens; Even with the practice of yoga, I tend to take a long time to get over set-backs in my life (Table 1). This implies that through yoga practice, majority of the respondents have been able to develop their resilience ability very much with respect to both positive and negative behaviour related to adaptation to difficult conditions in life.

80 % of the yoga practitioners obtained a total resilience score (worked out as the sum of scores of the resilience items in the scale) in the range of 76.7 to 83.3 % of the maximum possible score in the study (Table 2). It can be seen from Table 3 that 54% of the yoga practitioners belong to the high score category, 37% to the medium score category, and only 9% belong to the low score category. These results further confirm the influence of yoga practice in developing good resilience ability among the practitioners.

It can be made out from Table 4 that statistically significant difference in resilience score exists between people practicing yoga for 3 days/week (mean score 19) and those who are practicing yoga for a higher period of 6 days/week (higher score 23.8).

The results also show that marital status influences the resilience level of the yoga practitioners. The mean resilience score of married yoga practitioners (23.1) varies significantly with the score (25.3) of un-married practitioners (Table 5). However, statistically significant

difference between the resilience score of males and females was not observed in the study, indicating that irrespective of the sex of the practitioners, yoga is capable of developing their ability to face difficult situations in life. Similarly, age of the respondents also did not significantly influence the difference in their resilience score.

The results of Spearman rank correlation indicates that higher the education level of the respondents, less is the resilience obtained through yoga practice, while more months of yoga practice contributes to a higher resilience ability for the yoga practitioners. Madhava Chandran et al. [6] found that more than 2 years of yoga practice contributes to statistically significant less level of mental stress for the practitioners, when compared to up to 2 years of yoga. Madhava Chandran et al. also reported that no. of months of yoga practice contributes significantly to the health of yoga practitioners [7].

The results of Gradient Boosting Model test have shown that except for months of yoga practice, the other characteristics of the yoga practitioners such as age, sex, marital status, and number of days per week of yoga practice have limited importance in explaining the variability in their resilience scores. Further, Decision Tree analysis of the data has shown that individuals who have been practicing yoga for 23.5 months or longer are more likely to have a high resilience score (high resilience ability developed through yoga practice), while those practicing yoga for less than 23.5 months are more likely to have a medium resilience score (medium resilience ability). This result also implies that even lesser period of yoga practice is able to provide medium level of resilience ability to the practitioners for facing difficulties in life.

Conclusion

The results of the study indicate the favourable effect of yoga practice in developing resilience among people, which will be helpful for them to overcome difficulties faced in life. The difference in the level of resilience developed through yoga practice by people who practice it for lesser no. of days/week, when compared to those who are practicing it for more no. of days is evident. Unmarried yoga practitioners have been able to develop comparatively more resilience in life through yoga practice than married people. The results showed that irrespective of the sex or age of the practitioners, yoga is

capable of developing their resilience ability to face difficult situations in life. No. of months of yoga practice is found to be the characteristic having high relative influence on the resilience score. Individuals, who have been practicing yoga for 23.5 months or longer are found to be more likely to have a high resilience score, while those practicing yoga for less than 23.5 months are more likely to have a medium resilience score.

References

1. Chen KMF, Wang JT, Wu HH, Li SJ, Lin HS (2010) Silver Yoga Exercises Improved Physical Fitness of Transitional Frail Elders. *Nursing Research -New York Then Hagerstown* 59(5): 364-370.
2. Kumar K (2012) A Study on the Effect of Yogic intervention on serum glucose level on Diabetics; *International Journal of Yoga and Allied Sciences* 1(1): 68-73.
3. Amuthasanthi A (2015) Effectiveness of yoga on resilience among adolescents at selected school in Madurai. Dissertation submitted to the Tamil Nadu Dr. M.G.R. Medical University, Chennai in partial fulfilment for the Degree of Master of Science in Nursing, pp: 165.
4. Hartfiel N, Havenhand J, Khalsa SB, Clarke G, Krayner A (2010) The effectiveness of yoga for the improvement of well-being and resilience to stress in the workplace. *Scandinavian Journal of Work, Environment & Health* 37(1): 70-76.
5. Smith BW, Dalen J, Wiggins K, Tooley E, Christopher P, et al. (2008) The brief resilience scale: assessing the ability to bounce back. *International Journal of Behavioural Medicine* 15(3): 194-200.
6. Madhava Chandran K, Sangeeth B (2021) Effect of yoga practice on stress relief. *Sathra-The Ind J Sci & Technol* 2(3): 49-52.
7. Madhava Chandran K, Naveena K, Vijayaraghavan N, Valsan T, Sreevallabhan S (2021) Effect of yoga on psychological and physical health parameters. *International Journal of Yoga and Allied Sciences* 10(2): 105-113.