

# A Comparative Study of Perceived Stress and Resilience among University Students Pursuing Yoga and Other Courses

Amit Raikwar

Masters in Psychology (Clinical Psychology), Discipline of Psychology School of Social Sciences,  
Indira Gandhi National Open University  
[raikwaramit@gmail.com](mailto:raikwaramit@gmail.com)

## Abstract

There a number of universities in India which are now offering professional yoga courses, whereby students can pursue their desire to become a yoga specialist or for their own spiritual growth. Students pursuing yoga courses undergo in-depth study of principles of yoga; both theoretical and practical. These students practice yoga on a regular basis as part of their curriculum. Students develop high levels of stress because of academic pressure and future professional plans. The present study aims to focus on identifying and comparing stress, resilience, and self-efficacy among the university students pursuing yoga and other courses. It is hypothesized that there will be a significant difference in the stress levels, resilience and self-efficacy among the students practicing yoga and students pursuing other courses. Data was collected through 120 students pursuing yoga and 124 students pursuing other courses (n=244) from different parts of the country. The tools used are: Perceived Stress Scale (PSS), and Connor-Davidson Resilience Scale (CD-RISC). The results indicate that there are significant differences in the level of stress among students who pursue yoga as a course and students who pursue other courses. No significant difference in resilience was found. Limitations, future implications and suggestions for further study are also discussed.

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**Keywords:** Yoga, Stress, Resilience, Academic Stress, Students

## Introduction:

Stress is defined as a response to aversive stimuli or duress. Lazarus and Folkman (1984) defined stress as a dynamic process that "occurs between the individual and the environment and is perceived by the individual as straining or exceeding their resources and jeopardizing their well-being." Students experience stress due to future expectations, anticipated academic challenges, dread, or even fear of failure. According to Cohen et al. (1983), perceived stress is a measure of the thoughts and emotions that individuals have regarding the stressors in their lives and their capacity to manage stress. Students from a variety of contexts experience tension in this highly competitive environment, as evidenced by numerous studies. Every day, they are inundated with expectations and demands from their parents, teachers, and companions. Academic factors, health, and lifestyle factors were the most significant predictors of stress, according to Waghachavare et al. (2013), who discovered that students experienced stress regardless of their field of study. Dalton and Hammen (2018) have demonstrated that maladaptive health behaviours are directly correlated with stress, regardless of whether it is prolonged or daily. Among these maladaptive health behaviour practices are substance use, lack of sleep, improper diet, and lack of physical activity.

In addition to the presence of maladaptive behaviours, individuals are also discovered to have lower levels of self-efficacy and resilience. Resilience is defined as the ability to recover from adverse circumstances. American Psychological Association (2014) defines it as "the process of adapting well in the face of adversity, trauma, tragedy, threats, or even significant sources of stress." Wilks (2008)

discovered that students' resilience is adversely affected by academic stress. The belief in one's ability to influence the events that occur in their life is referred to as self-efficacy. Self-efficacy is the cornerstone of human motivation, performance accomplishments, and affective well-being, as per Bandura's theory of social cognition (Bandura, 1997, 2006). Moeini et al. (2008) discovered a substantial inverse relationship between tension and self-efficacy in pupils. Lower general self-efficacy and worse mental and physical health are indicative of increased stress.

The discipline of yoga, which is rooted in the Indian subcontinent, is an ancient life science and mindfulness-based practice. It is from the Sanskrit root "yuj" that the term "yoga" originates. "Yuj" means "union." In yoga, the human soul and the transcendental spirit are brought together. When it comes to self-discovery and self-transformation, it is regarded to be both a way of life and an art form. (Satyananda, 1969) Yoga has an effect on all elements of life, including the physical, the emotional, the psychological, and the moral. Practicing yogic postures, also known as asanas, breathing exercises, also known as pranayama, and meditation are all components of this set of practices. With its roots in Indian culture, yoga is more than just a kind of physical exercise. In addition to that, it offers a spiritual and meditation centre. Integrating yoga into one's everyday routine is the goal of the science of yoga, which is a way of life.

The existing body of research in the field of yogic sciences provides compelling evidence that yogic practices have a beneficial effect on both both physical and psychological ailments. According to the findings of an investigation carried out on medical students, Potey et al. (2016) performed a research to determine the effects of three months of yoga practice on the levels of cortisol and cardiovascular reactivity. It was requested of the students in the yoga group that they attend a yoga session that lasted for one hour for a period of twelve weeks. Both groups were evaluated at the beginning of the study as well as at the conclusion of the research. (Potey, Rahul, Chanda, Sanjeev, & Mahapatra, 2016) The findings demonstrated that attendees of yoga courses saw a significant decrease in their levels of serum cortisol, as well as in their systolic and diastolic blood pressure, and their pulse rate. It is helpful to engage in routine activities in order to alleviate psychological anguish. In a research that was carried out over the course of one week with a group of students, Eastman-Mueller et al. (2013) discovered that there were substantial disparities in the levels of perceived stress, concerned feelings, and depressive symptoms. Not only does yoga seek to alleviate or relieve suffering, but it also assists in the development of more constructive behaviours. Yoga is a comprehensive approach. According to the findings of a research conducted by Mathad, Pradhan, and Sasidharan (2017), yoga practices have a beneficial effect on their overall psychological functioning. The practice of yoga facilitates the development of good qualities and character characteristics such as self-compassion, mindfulness, and other positive qualities.

Numbers of universities in India offer the professional yoga courses. Students pursuing yoga courses under go in depth study of yoga; both theoretical and practical. These students practice yoga in regular basis as part of their course and apply the principle of yoga in their day to day lives. Yoga is found beneficial on numerous grounds for the practitioners and students. The students are encouraged to develop various ways in order to manage and control daily stressors. Yoga also improves mood, behavior, and mindfulness as it creates a positive environment for the students. Yoga helps individuals to become self-aware and increases their confidence in their abilities. When faced with adversity and pain, yoga encourages practitioners to identify with the suffering and turn adversity into an advantage. Kauts and Sharma (2009a) found in a study that with reduced stress, yoga enhances academic performance among students.

The literature is full of yoga and its benefits. Many studies strongly suggest positive impact of yogic practices on both physical and psychological well-being. The students who pursue Yoga as a course are usually assumed to have lower stress levels and higher resilience. The focus of the present research was on

the perceived stress, and resilience among university students pursuing yoga and other courses. The present study would endeavour to society, educational institutions, and students at large and their parents. In the present study university students pursuing yoga and other courses were taken from different location of India to find out the significant difference in perceived stress, and resilience between university students pursuing yoga and other courses respectively. Therefore, the present study focuses on identifying and comparing perceived stress, and resilience among university students pursuing Yoga and other courses. The main objective of the study is to identify the levels of stress among Indian university students and then compare the students who are pursuing Yoga courses to those who are pursuing courses other than Yoga. The other objectives include assessing resilience among Indian university students and whether or not they differ based on the courses they are enrolled in.

The hypotheses of the present study are as follows:

1. There would be a significant difference between university students pursuing yoga and students pursuing other courses on perceived stress.
2. There would be a significant difference between university students pursuing yoga and students pursuing other courses on resilience.

## **Method**

### **Sample**

A total of 224 students were selected from different universities in India. Out of which, 120 students were pursuing yoga and 124 students were pursuing other courses. The students who used to practice yoga from other courses were excluded from the study. The sample consisted of 45% of participants who identified as males and 55% of the participants who identified as females. The age range of the participants was between 18 and 30 years, with a mean age of the participants was 22.31 years. Yoga-pursuing students were selected from different yoga centers and the university's yoga department and kept in the yoga-pursuing group. While those students were enrolled in various courses, they were selected on an as-available basis and kept in the other course group.

Before collection of data, an ethical approval and permission for data collection was taken from the university. The participants were recruited using purposive sampling technique. The researcher was successfully allowed to personally contact the participant for the purpose of data collection university time (e.g. lunch time ) or through online. Individual appointments were taken from each students and met them personally to explain about the study and instructions were given personally. Only those who were willing to participate voluntarily and gave their verbal consent for full participation were handed over the questionnaire. Researcher explains about the study and instructions were given personally to students. Only those parents who were willing to participate voluntarily and gave their verbal consent for full participation were handed over the questionnaire.

### **Measures**

#### *Perceived Stress*

The students' perceptions of their own stress were evaluated with the use of the Perceived Stress Scale (PSS; Cohen, 1994). An individual's sense of stress in their day-to-day life may be evaluated using the PSS, which is a self-report questionnaire consisting of ten questions. There is a Likert scale that ranges from 0 (never) to 4 (very frequently) that is used to score each item on the PSS. Because they were things that required a positive statement, the scores for items 4, 5, 7, and 8 were inverted. A total score is generated by adding together the scores of all the items. The PSS has a score range that goes from 0 to 40; a score that falls between 0 and 13 would be regarded to be low stress, a score that falls between 14 and 26 would be considered to be moderate stress, and a score that falls between 27 and 40 would be

considered to be severe stress (Cohen & Janicki-Deverts, 2012). (Cohen, Kamarck, and Mermelstein, 1983) found that the PSS had a test-retest correlation of 0.85 and a coefficient alpha reliability of 0.84 among the population of college students.

### *Resilience*

The Connor-Davidson Resilience Scale (CD-RISC; Connor & Davidson, 2003) consisted of 25-items is used to measure the ability to cope with adversity. Each item on CD-RISC is rated on a 5-point Likert scale ranging from 0 to 4. The total score is obtained by summing scores across all scale items and ranges from 0 to 100. The higher score on CD-RISC reflects greater resilience. CD-RISC is a reliable and valid tool to measure resilience with Cronbach's alpha of 0.89 among Indian student population (Singh & Yu, 2010).

### **Design**

In the present study a two group comparative design was used. Present study was to examine the difference in stress, and resilience between university students pursuing yoga and other courses separately. Therefore, two group research design was used in this research.

### **Procedure**

A one-time assessment of 270 university students pursuing yoga and other courses from different universities in India was done after thorough explanation and discussion of the study. After taking the informed consent, the students were asked to fill the demographic details and complete the survey forms. Data was collected through both paper-and-pencil forms and Google forms. One of the participants refused to participate in the study. Of the remaining, 26 participants were excluded from the study for missing entries. The final sample consists of 244 participants (120 on yoga courses and 124 on other courses). The survey method adopted for this study was securing responses through questionnaires. In order to acquaint the respondents with the general outline of the study, initial contact with the potential respondents was made by the researcher. During the contact-period, it was made clear that this study has nothing to do with the management and has been initiated by the researcher alone. It had become necessary to ensure this because during personal interaction with some of the office-bearers of the university association, the researcher felt that this feeling might exist in the minds of certain respondents. Later, letters were sent to the respondents explaining the general purpose of the study and asking for their cooperation. Participants were free to contact the researcher if there any doubts regarding the questionnaire and it was cleared timely and accurately. Subsequently, respondents were contacted once again for administering the questionnaire. Questionnaires were distributed offline depending on the convenience of the participant. After success participant in the study researcher collected their response sheet and arrange data in record table for further treatments.

### **Data Analysis**

Statistical analysis was done by Independent t-test was used to compare PSS and CD-RISC scores. To obtain number of students having low, intermediate and high resilience, quartile (Q) was computed and to obtain the number of students having low and high self-efficacy median split was done.

**Results**

**Table 1**

Descriptive statistics for students pursuing yoga (n=120) and other courses (124)

Variables	Mean		Std. Deviation	
	Yoga	Other courses	Yoga	Other Courses
Perceived Stress	16.28	19.46	5.40	6.95
Resilience	67.68	67.25	14.19	15.21

**Table 2**

t-values, degrees of freedom and p-value on PSS and CD-RISC 25

Scale	T	Df	P- value
Perceived Stress	3.82	222	.000
Resilience	.22	222	.825

Descriptive statistics are provided in Table 1. The means and standard deviations show that students pursuing yoga scored lower in perceived stress and higher in resilience and general self-efficacy.

It has been found that out of 120 students pursuing yoga courses. Similarly out of 124 students pursuing other courses respectively. The results suggest that the university students pursuing yoga and other courses experience moderate stress in average.

From table1& 2 represents the t-values and degrees of freedom on Perceived stress and resilience. The mean scores of both groups were 16.26 and 19.46 respectively but the finding of study suggest students pursuing yoga courses have significantly lesser stress (df = 222, t= -3.82, p<0.05) in comparison to the students pursuing other courses. The results in Table 2 also shows that there are no significant differences in resilience (df = 222, t=0.22, p>0.05) between both the groups.

**Discussion**

The present study aimed to identify and compare the stress levels, resilience among Indian university students who opt for yoga courses and students who opt for courses other than yoga. For the purpose of the present study, students from different universities in India were chosen. They were divided into two groups: those who opt for yoga courses and those who opt for courses other than yoga.

Since literature review suggests that practicing yoga has numerous physical and psychological benefits, this study aimed to find out whether these benefits are reaped by the students who practice yoga as a part of their curriculum. The finding of the study suggests students pursuing yoga courses as well as other courses perceived moderate level of stress in average. The possible reason for moderate stress among students pursuing yoga courses and other courses could be the academic pressure (Alzahem, van der Molen, Alaujan, Schmidt, & Zamakhshary, 2011). Academic pressure causes inescapable stress upon students irrespective of the field or course they opt. It is due to parental and teachers' demands and expectations to do well and comparisons among the peers. Another possible reason could be the stress of

examination because the data was collected after the announcement of examination dates. Interesting aspect of this study is even the students pursuing yoga courses were moderately stressed. The reason could be because of academic responsibility; even they are not free from it. But in comparison to students from other courses only few reported high stress. The statistical analysis shows students from yoga courses have significantly lower stress than students from other courses with the moderate effect size therefore the findings of the present study did confirm the first hypothesis of the study is accepted.

As per our knowledge, this is the first study conducted any to compare the stress and resilience of students pursuing yoga and other courses. But several scientific studies suggested that yoga practice reduces the stress among the students and helped to enhance their academic performance (Kauts & Sharma, 2009). The possible reason of students from yoga group having significantly lower stress could be yoga brings self-compassion, causes inhibition of the posterior hypothalamus, and salivary cortisol (K. E. Riley & Park, 2015). Yoga increases the overall brain wave activity, gray matter and amygdala and frontal cortex activation (Desai, Tailor, & Bhatt, 2015). Yoga balances autonomic nervous system reactivity; increases parasympathetic nervous system activity and heart rate variability (Nagendra, Kumar, & Mukherjee, 2015). The regular practice of yogic exercises enhances the secretion of neurotransmitter called gamma-amino butyric acid (GABA) (Streeter et al., 2007) which is inhibitory neurotransmitter and helps to minimize anxiety and depression (Kuffler & Edwards, 1958). Yoga practice leads to better regulation of the sympathetic nervous system and hypothalamic-pituitary-adrenal system, and decreases symptoms of depression and anxiety in a variety of populations (Pascoe & Bauer, 2015).

The statistical analysis showed there is no significant difference in resilience among student pursuing yoga and other courses. Therefore, the findings of the present study did not confirm the second hypothesis. Though previous studies showed mindfulness based practice like yoga has positive relationship with resilience of university students (Keye & Pidgeon, 2013), the present study failed to support the previous finding. Self-acceptance, sense of self-growth and autonomy and positive relationship are factors to improve resilience. Mindfulness practices improve individual's self-acceptance (Carson & Langer, 2006). It also enhances sense of self-growth and autonomy (Birnie, Speca, & Carlson, 2010). Mindfulness practice increases empathy and help to build up positive and warm relationship with other (Ryan, Huta, & Deci, 2008). Therefore students pursuing yoga courses should have higher resilience than students doing other courses, but the present study shows no significant differences in resilience between yoga and other groups. The finding should be validated by similar types of studies in future.

### **Limitations and Future Directions**

Like any other study, the present study is not free from limitations. Therefore, it is recommended to interpret the results of this study in the light of its limitations. First, the design of the study is itself one of the limitations. The design of the present study is cross-sectional which means it is one time measurement of exposure and outcome. So, it is difficult to establish cause-and-effect relationship. Second, the sampling method used in the study is purposive sampling. The subjectivity and non-probability based nature of unit selection in this sampling may not defend the representativeness of the sample. Third, the total sample size was 244 (120 students pursuing yoga courses and 124 students pursuing courses other than yoga). The sample size is comparatively small and it may be difficult to generalize the findings. Fourth, the samples of the study were taken from different parts of the country. The variation in place may also affect the stress, resilience and self-efficacy of the students. Lastly, in order to measure the variables in the present study, only questionnaire were used. There can be chances of superficial and socially-desirable responses.

Future research could be done on a larger sample size to gain better research insights. The sample can be divided according to the places. Objective variables like serum cortisol and salivary cortisol can

also be added to conform to the findings of the questionnaires. A longitudinal study or a randomized control study can be pursued to establish cause-and-effect relationship as well as to control the effects of extraneous and confounding variables. The sample can be randomly selected such that it can represent the whole population under study. This will help in generalizing the findings.

## **Conclusion**

The present study aimed to identify and compare perceived stress, and resilience among students who opt for yoga courses and those who opt for courses other than yoga. It was found that both the groups had moderate levels of perceived stress. The students from yoga courses reported significantly lesser stress than students from other courses. The study aims in making the students aware of the various stressors and the different coping strategies like yoga that can help them deal with the stressors in a better way, and thus maintaining their resilience and self-efficacy. The finding of study is needed to be supported by further study with robust research methodology and larger sample size.

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