

# Innovations

## To Evaluate the Impact of Intermittent Fasting on Psychological Health, Spiritual Well-Being, and Aggression among Healthy College Students: A Cross-Sectional Study

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### Abstract

**Aim:** To evaluate the impact of intermittent fasting on psychological health, spiritual well-being, and aggression among healthy college students. **Objective:** To evaluate how intermittent fasting affects Mental health, one's Spiritual Well-being, and an individual level of hospitality. **Method:** This cross-sectional study's universe comprises well-being volunteers who registered at NIMS University Rajasthan, Jaipur, and said they intended to fast intermittently for two weeks in 2024. A questionnaire form including a sociodemographic, Goldberg's General Health Questionnaire (GHQ), Palutzian-Elison's Spiritual Health Questionnaire, and Buss and Perry Aggression Questionnaire was formed. The online questionnaire was used to obtain the data via email and smartphone. The study was conducted during the summer of April 2024. The survey was conducted on the same healthy volunteer group. **Result:** Our findings using this methodology demonstrate a significant improvement in spiritual dimensions, emotional stability, and mental clarity following the fast. **Conclusion:** Combining qualitative and quantitative data suggests that fasting practices may positively influence students' growth in spiritual well-being, mental fortitude, and reduced levels of animosity.

**Keywords:** Intermittent Fasting, Psychological health, Spiritual well-being, Aggression, Healthy Student

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## Introduction

One of the oldest types of prayer is fasting, which is practiced by many nationalities and ethnic groups around the world. In the field of traditional medicine, fasting is especially crucial<sup>[1]</sup>. Fad dieting's widespread popularity is causing young adults to struggle with weight control, which is known to harm their mental health in this susceptible demographic<sup>[2-6]</sup>. A person who fasts is one who consciously abstains for a predetermined amount of time to achieve any sort of bodily fulfillment or satisfaction, usually through not eating for that length of time<sup>[7]</sup>. Although intermittent fasting is one of the newest diet fads that are trending on fitness blogs and social media to help people lose weight, it has a long history, especially in religious rituals<sup>[2,8,9]</sup>. The impact of fasting on physical health has been documented in numerous research<sup>[10-13]</sup>, Research on the connection between fasting and mental health is scarce<sup>[14-16]</sup>.

## Mental Health and Intermittent Fasting

This study uses standard research techniques to examine how Intermittent fasting affects mental health, aggression control, and spiritual health. An individual in a state of mental health is one in which they are aware of their strengths, capable of managing daily stress, able to work productively and successfully, and able to contribute back to their community, according to the World Health Organisation<sup>[17]</sup>. Phases of eating consist of time-restricted feeding, fasting every other day, and occasional fasting. and fasting at set times that make up an intermittent fasting diet, which is similar to Ramadan fasting<sup>[18]</sup>. Studies have shown intermittent fasting has several positive effects on physical health, such as reducing inflammation and preventing infections, heart disease, and cancer<sup>[19,20,21]</sup>.

## Spiritual and Intermittent Fasting

The Latin words "spiritus," signifies breath<sup>[22]</sup>. The term "spirituality" has several different connotations. Being engaged in religion or religious issues is a feature or state that is characterized as spirituality. It may also be described as a structured collection of actions that embody a certain ideal, conviction, or religion<sup>[23]</sup>. A religious person gains extraordinary spiritual force from their belief in God, which they utilize to get over difficulties and hurdles. This ability protects against unpleasant attempts like suicide as well as worries and panic attacks. There is clear evidence linking religious and mental health. People who have strong spiritual and religious beliefs and who are in good spiritual health report higher levels of life satisfaction<sup>[24]</sup>.

## Aggression and Intermittent Fasting

Anger is seen as a ubiquitous, intense emotion that tries to remove barriers in the surroundings and is also the most hazardous. Roughly 10% of episodes of rage result in

an aggressive outburst<sup>[25]</sup>. The idea of aggression is multifaceted, impacted by both hereditary and environmental elements as well as psychological and situational aspects. Aggression is regarded by social psychologists as a deliberate behavior that causes emotional or bodily suffering<sup>[26]</sup>. Lack of self-control over aggressiveness leads to issues with social, professional, mental, and physical health. It also predicts other aspects including drug and alcohol abuse, smoking, depression, delinquency, and poor school compatibility<sup>[27]</sup>.

Ethically, the study's objectives were explained to the participants, and they were asked if they would like to volunteer to take part. Additionally, they were informed that participants may exit the research at any moment and that all information would be kept fully secret. In the summer of 2024, the study was carried out. At the end of the day of intermittent fasting, which lasted for 15 to 20 days, the same group of healthy volunteers participated in the survey.

## **Method**

In 2024, the population consisted of students attending NIMS College of PT and OT, NIET, and NIMS Institute of Business, NIMS University. The study's total sample of 100 respondents (53 boys and 47 girls) was chosen by convenience sampling. The sample consisted of people between the ages of 17 and 30. Students who intermittently fasted twice a week regularly were chosen for the sample, as well as being free of any medical or mental illnesses.

## **Research Tools**

### **A) Research made Questionnaire**

The demographic information in this questionnaire includes the subjects' name, age, gender, and degree of education and institute.

### **B) GHQ (1979)**

A twenty-eight-item GHQ was used to assess the students' mental health. A self-report screening tool called the GHQ-28 is used to identify potential mental problems. This survey has four scales with seven questions each: physical complaints, anxiety symptoms, social dysfunction, and depression symptoms. A four-point Likert scale is used to rate each question; never = 1, sometimes = 2, frequently = 3, always = 4. An increased score denotes poorer health. 0.83 was the scale's Cronbach's alpha<sup>[28]</sup>.

### **C) Spiritual Health Questionnaire (SHQ)**

SHQ consists of 20 items. Responses are given on a five-point Likert scale, with strongly disagree, agree, disagree, neither agree nor disagree and highly disagree as the possible answers. In phrases with a positive verb, the (strongly disagree) replies earn a score of 1, and the (strongly agree) responses receive a score of 5. In sentences that contain a negative verb, the (strongly disagree) replies earn a score

of 5, while the (strongly agree) responses receive a score of 1. Cronbach's alpha was used to calculate the reliability coefficient of this questionnaire, and the result was 0.82. Higher scores indicate a more spiritually fulfilled life<sup>[29]</sup>.

**D) Buss and Perry Aggression Questionnaire**

There are 29 items in the aggression questionnaire. From 1 (very rare of me) to 5 (very distinctive of me), each thing is graded on a 5-point scale. The sum of the answers to all 29 questions determines the final score. The physical, verbal, hostile, and fury subscales of the Buss and Perry aggressiveness Score each contain a distinct collection of items on different aspects of aggressiveness. Extreme aggressiveness may be indicated by scores above 95, whereas scores between 65 and 95 often suggest moderate to high levels of aggressive behavior<sup>[30]</sup>.

**Statistical Analysis**

The distribution of the results was evaluated using descriptive statistics. The results were presented as mean values (x) and standard deviations (SDs) using the student-t test to assess statistical significance. Statistic significance was accepted at the level  $p < 0.005$ .

**Result**

100 participants were evaluated in this study. The participants' ages ranged from 17 to 30. Among the participants, 53% (n = 53) were male and 47% (n = 47) were female. All participants the university graduates and postgraduate students. The participant's further sociodemographic information was compiled in Table No. 1.

*Table 1. The socio-demographic features of the participants.*

<b>Demographic</b>	<b>Categories</b>	<b>Frequency</b>	<b>Percentage</b>
Sex	Men	53	53%
	Women	47	47%
Age	17-20	24	24%
	20-25	41	41%
	25-30	35	35%
Education	UG	89	89%
	PG	11	11%
Institute	NIMS College of PT and OT	88	88%
	NIET	8	8%
	NIMS Institute of Business	4	4%

Table 2. Psychometric characteristics of Mental Health, Spiritual Health, and Aggression.

Variable	Normal	Mean	SD	SE	Range	Skew
Mental Health	100	33.24	7.33	0.74	27	-0.26
Spiritual Health	100	59.87	13.77	1.39	67	-0.67
Aggression	100	67.87	24.18	2.44	116	0.53

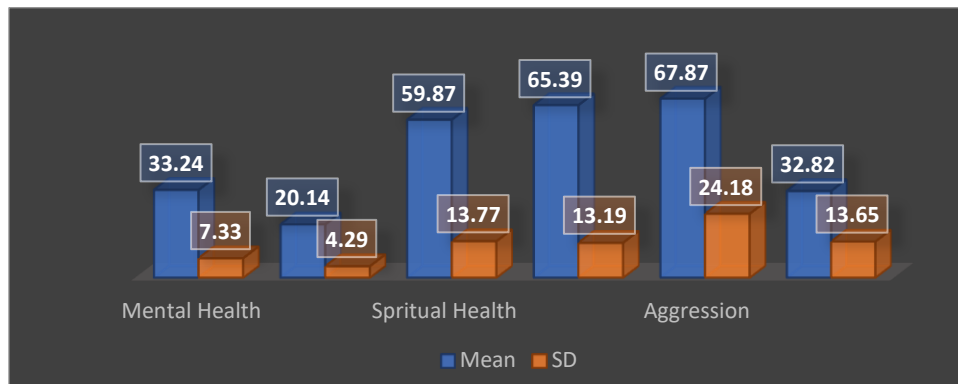


Figure 1. Comparison of mean, and standard deviation of major variable.

A total of 100 people participated in the before and after intermittent fasting survey. The mental health mean before the intermittent fasting was 33.24 with a different standard deviation of 7.33, and after the 15 to 20 days of intermittent fasting, the mean value decreased by 20.14 with a standard deviation of 4.29. The spiritual health mean value before intermittent fasting was 59.87, and after intermittent fasting, the mean value increased to 65.39 with a standard deviation of 13.19, which indicates improvement in spiritual health after intermittent fasting. The aggression mean value before intermittent fasting was 67.87 with a standard deviation of 24.18, and after intermittent fasting decreased, the mean value was 32.82 with a standard deviation of 13.65.

Table 3. Students Mental health before and after intermittent Fasting: Mean and Standard Deviation and t value.

Variable	Mean		Standard deviation		t	r	p	LL		UL		Cohens d
	Before test	After test	Before test	After test				Before test	After test	Before test	After test	
Mental health	33.24	20.14	7.33	4.29	16.18	0.116	9.95 × 10 <sup>-30</sup>	20	15	47	30	0.085

An improvement in mental health that is statistically significant. Before the intermittent fasting mean and standard deviation were 33.24 and 7.33, the twice-week intermittent fasting mean and the standard deviation were decreased. 9.9510-30 is the p-value. That is a considerable difference (Table 3).

*Table 4. Students Spiritual Health before and after intermittent Fasting: Mean and Standard Deviation and t value*

Variable	Mean		Standard deviation		t	r	p	LL		UL		Cohens d
	Before test	After test	Before test	After test				Before test	After test			
										Before test	After test	
<b>Spiritual health</b>	59.87	65.39	13.77	13.19	-3.52	0.306	0.0003	20	40	87	90	-143.512

The above table show a statistically significant difference in spiritual health between the before and after intermittent fasting. The negative t-value (-3.52) indicates a deterioration in spiritual health ratings. The spiritual health before intermittent fasting was 59.87 with a standard deviation of 13.77 after intermittent fasting improved the mean value. The p-value is 0.003 (Table 4).

*Table 5. Students Aggression before and after intermittent Fasting: Mean and Standard Deviation and t value*

Variable	Mean		Standard deviation		t	r	p	LL		UL		Cohens d
	Before test	After test	Before test	After test				Before test	After test			
										Before test	After test	
<b>Aggression</b>	67.87	32.82	24.18	13.65	12.92	0.065	3.52344E-23	29	15	145	60	-206.124

Table 5 shows a statistically significant difference in the degrees of hostility between the before and after tests. There was a noticeable drop in aggression levels after intermittent fasting, as indicated by a lower after-test mean than the before-test mean. The P value is 3.52344E-23 (Table 5).

**Discussion:**

This study aimed to assess the effects on mental, spiritual, and aggressive fasting health before and after the month of intermittent fasting. Fasting will have a good effect on students' mental health following intermittent fasting as compared to before and after 15 to 20 days of intermittent fasting, according to the study's initial criticism. Furthermore, "The secondary objective of the study is to assess whether engaging in spiritual practices associated with fasting leads to an enhancement in spiritual well-being after fasting compared to before. Third objective is that "people who fast will have lower levels of aggression after fasting than they did before."

**Conclusion:** Consequently, the present study illuminates the noteworthy benefits of fasting for the psychological and spiritual health of young adults. Following a comprehensive pre- and post-intermittent fasting study involving one hundred volunteers from diverse academic backgrounds, our findings demonstrate a noteworthy enhancement in the mental and spiritual well-being of the participants. Further proof of the comprehensive benefits of fasting can be seen in the observed decrease in aggression.

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