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Impact of Hedonic Hunger on Weight Status and Quality of Life among Young Adults In Kerala

Dr.Sushmitha T (PT)[1],Amal Joseph[2], Nehala Basheer, Reneez R[4] and Sridhina P. S[5]

[1,2,3,4]*Department of Physiotherapy, Medical Trust Institute of Medical Sciences (MTIMS), Kerala University of Health Sciences (KUHS), Kerala, India*

*Corresponding Author: **Dr. Sushmitha T (PT)**
Email: sushmitha.sushmi66@yahoo.com

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Abstract:

Background: Hedonic hunger is the urge to eat for pleasure rather than to satisfy physiological needs. It is influenced by the brain's reward system and external cues such as the sight, smell, and availability of food. Understanding the psychological and neurobiological mechanisms behind hedonic hunger is essential to promote mindful eating and develop interventions for healthier dietary habits. This study aims to find out the impact of hedonic hunger on weight status and quality of life among young adults.

Methods: A cross-sectional study was conducted among 250 young adults aged 19-33 years utilizing validated questionnaire to assess quality of life and hedonic hunger status. The data analysis focused on the impact of hedonic hunger on weight status and quality of life among young adults. The results revealed that there is a negative correlation between Power of food scale (PFS) scores and BMI, PFS score and quality of life in each domain. Only environmental domain is statistically significant.

Result: This study reveals a significant negative correlation between Body Mass Index (BMI) and Power of food Scale (PFS), indicating that higher BMI is associated with lower hedonic hunger. Additionally, the study found a negative correlation between hedonic hunger and Quality of Life (QOL) across various domains, with a statistically significant association in the environmental domain. These findings suggest that maintaining a healthy weight and managing hedonic hunger may be crucial for improving overall QOL.

Conclusion: Hedonic hunger plays a crucial role in modern eating behaviours and obesity. Understanding its mechanisms can aid in developing targeted behavioural and nutritional interventions to promote mindful eating and reduce obesity risk.

Keywords: Hedonic hunger, weight status, quality of life, young adults.

INTRODUCTION

Hedonic hunger describes a person's obsession with and desire to eat for pleasure and when they are not physically hungry. A person is said to be in a condition of homeostatic or physiological hunger when they are severely malnourished and experiencing an acute calorie need. In a similar vein, those who frequently consider eating when they don't require calories may be considered to be experiencing hedonic hunger (1). Both the hedonic and homeostatic systems regulate the intricate processes of appetite and food intake. When the energy stores are exhausted, homeostatic hunger increases the desire to eat, which regulates energy balance. By enhancing the desire to eat appetizing foods, hedonic hunger can then overpower the homeostatic pathway during times of relative energy excess.

According to neurobiological research on both humans and animals, eating a tasty food that is often high in fat, salt, and sugar leads the reward-related parts of the brain to become more activated, which in turn triggers the release of dopamine. According to Stice, dopamine release can occasionally be triggered by the gustatory, oral, and sensory aspects of appetizing foods, such as taste and smell (2). By releasing dopamine, palatable meals are known to trigger reward processes, and the pleasure they provide increases the likelihood that a person would eat them again, which over time can result in weight gain and obesity (3).

It was believed that implicit or explicit awareness of palatable foods might cause some people to frequently think about or desire such foods at any time, given the current obesogenic food environment, where palatable, energy-dense foods are widely available and acute hunger is relatively rare (1).

Hedonic hunger may be induced directly or indirectly by a variety of environmental and external variables. Research has shown that a number of factors, including obesity, motivation, self-control, an abundance of food, and the part played by bad eating habits, are correlated. Among all the other associations, hedonic hunger may be significantly influenced by dietary or lifestyle choices (2).

Weight gain susceptibility may be influenced by individual variations in "hedonic hunger," particularly in obesogenic dietary situations where there is a surplus of appetizing and high-energy foods (3). There is proof that obese people eat and prefer foods with a high palatability level more than people of normal weight. It has long been believed that diet-induced problems with the homeostatic system cause the appetitive abnormalities linked to restrain eating in people of normal weight. However, we review evidence that suggests hedonic hunger—eating less than needed rather than less than wanted—is more likely to be the cause of these abnormalities (4). A rise in hedonic hunger, or the desire to consume appetizing meals even when there is no need for energy, may encourage overeating, a pathogenic feature of obesity (5). An imbalance between food intake and energy consumption leads to obesity, and understanding the aspects pertaining to food intake is essential to understanding energy balance and obesity (3).

It was discovered that hedonic hunger was more common in women and that its prevalence declined with age. Hedonic hunger raises in tandem with body mass index. Individuals who follow a weight reduction program, eat snacks at night, and don't regularly exercise were found to have higher levels of hedonic hunger. Hedonistic hunger has been found to be associated with low self-esteem, impulsive behaviour, and intense food cravings (6).

Studies showed the relationship between obesity and hedonic hunger—that is, thinking about food frequently when there is no energy deficit—has produced conflicting findings. Binge eating has been linked to both hedonic hunger and obesity, this could be the result of the confounding effect (7). The results of mean age and BMI, sample size, and percentage of females had no effect on the relationship between hedonic hunger and BMI. In summary, there found a small but positive significant correlation between hedonic hunger and BMI (3). Hedonic hunger and the frequency of consuming high-fat foods were positively connected, particularly in those of normal weight (8).

A new concept known as "hedonic hunger" and an unprecedented eating movement have emerged as a result of changes in the physical and psychological availability of food. It is regarded as one of the moderating elements that affect obesity. Hedonic hunger is associated with an increased risk of obesity and is observed to be more common in obese populations compared to those with normal BMI. Increasing levels of hedonic hunger can be one of the major concerns worldwide because of its adverse effects on specific diseases, dietary behaviour, and overall food intake of an individual (2).

By examining the effects of hedonic hunger among young adults, we hope to raise awareness among young people and offer some insight into the reality of this condition.

NEED OF THE STUDY

- Hedonic hunger refers to the appetitive drive to consume food in order to obtain pleasure in the absence of an energy deficit.
- Recent studies showed there is an association between hedonic hunger and obesity among young adults aged 19–33-year-old.
- There are limited studies done in India related to hedonic hunger among young adults.
- The need of this study is to find out the impact of hedonic hunger status among young adults in Kerala and their relation with weight status and their quality of life.

- Understanding the interplay between hedonic hunger, weight status and quality of life enables us to develop effective strategies for preventing or managing weight- related issues and their associated health consequences.

AIMS AND OBJECTIVES

AIMS

- To determine the impact of hedonic hunger on weight status and quality of life among young adults in Kerala.

OBJECTIVES

- To determine hedonic hunger status among young adults in Kerala.
- To find out the relationship between hedonic hunger and weight status of young adults in Kerala.
- To find out the relationship between hedonic hunger and quality of life of young adults in Kerala.

METHODOLOGY

1. Study setting: Community

2. Study Duration: 3 months

3. Study Design: Cross sectional study

4. Sampling size: 250

5. Sample population: Young adults

6. Inclusion criteria:

- Males and females of age group 18 to 33years

7. Exclusion criteria:

- Subjects who are not willing to participate
- Bedridden patients
- Subjects who are under medication
- Subjects who are diagnosed with any eating disorders
- Subjects with recent injuries and surgeries

8. Mode of survey: Printed questionnaire.

9. Materials used:

- Pen
- Paper
- Demographic chart.
- BMI Calculator
- WHOQOL BREF SCALE
- Power of Food Scale

OUTCOME MEASURES:

In the Power of Food Scale:

- Step 1: Understanding the PFS Structure.

The PFS consists of 15 items, divided into three subscales:

Food Available (FA) – It measures Food availability

Items: 1, 4, 7, 10, 13

Food Present (FP) –It measures the desire to eat when food is nearby

Items: 2,5,8,11,14,

Food Tasted (FT) –It measures the difficulty in stopping once food is taste

Items: 3,6,9,12,15

Each item is rated on a 5-point Likert scale:

1 = Strongly Disagree

2 = Disagree

3 = Neutral

4 = Agree

5 = Strongly Agree

- Step 2: Calculating Scores

1. Total PFS Score

Add the scores of all 15 items.

Divide by 15 (total number of items) to get the mean score.

2. Subscale Scores

Compute the mean score for each subscale separately:

Total Sum of items in Food Available divided by five

Total sum of Food Present divided by five

Total sum of Food Tasted divided by five

Each subscale score ranges from 1 to 5, with higher scores indicating stronger hedonic hunger in that domain.

- Step 3: Interpreting Scores

Low Scores (1.0–2.4) → Low susceptibility to hedonic hunger.

Moderate Scores (2.5–3.9) → some responsiveness to food cues.

High Scores (4.0–5.0) → High susceptibility to hedonic eating; strong cravings and difficulty resisting food.

Higher scores indicate a greater psychological drive to eat.

In the WHOQOL-BREF:

Each item was rated on a 5-point Likert scale.

Scores were converted into domain scores, transformed to a 0-100 scale, with higher scores indicating better quality of life in each domain.

Renowned for cross-cultural quality of life comparisons, it is available in over 40 languages. This 26-item instrument comprises four domains:

1. Physical health (7 items)

2. Psychological health (6 items)

3. Social relationships (3 items

4. Environmental health (8 items)

Additionally, it includes items evaluating overall quality of life (QOL) and general health.

Higher scores indicate better quality of life and lower scores indicate poorer quality of life

PROCEDURE:

A study was conducted in August 2025, following approval from the institutional ethics committee. Respondents were carefully selected based on predetermined inclusion and exclusion criteria. The survey was administered offline. After introducing ourselves, we briefly explained the study's purpose to respondents who met the inclusion criteria. We obtained consent for participation from eligible respondents. They were then given the PFS and WHOQOL-BREF questionnaires.

The questionnaire consisted of three parts:

1. The first part gathered demographic information, including name, age, gender, and education level, BMI, and lifestyle factors.
2. The second part comprised the Power of Food Scale, designed to assess an individual's psychological susceptibility to the appeal of readily available, palatable foods through three subscales: Food Available, Food Present, and Food Tasted
3. The third part consisted of the WHOQOL-BREF, assessing health-related quality of life across four domains: Physical, Psychological, Social, and Environmental.

Participants took approximately 15-20 minutes to complete the questionnaire.

STATISTICAL ANALYSIS:

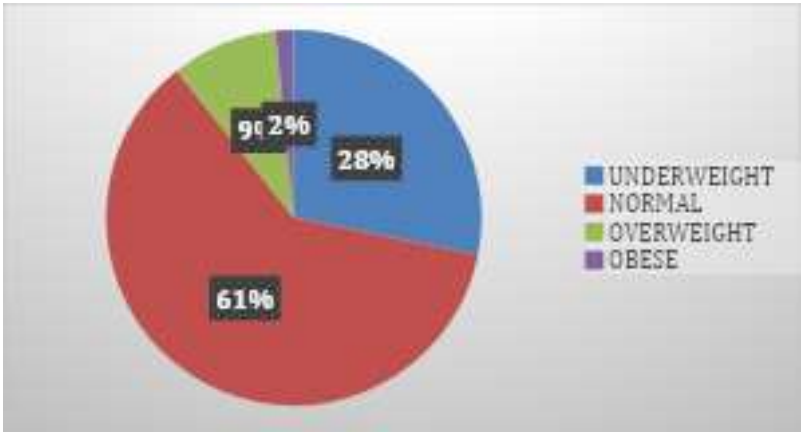
The data were clustered in the Excel sheet for analysis. The Hedonic Hunger status was extracted. The correlation of Hedonic Hunger with BMI and QOL were analysed using Pearson correlation. Tests were performed using a 5% level of significance ($p < 0$).

RESULT

Table 1: Demographic information

Variables (n=250)	Mean ± SD	N (%)
Age 19 – 33 years	21.02 ± 2.14	
Gender Male Female		 45 (18%) 205(82%)
BMI Under weight Normal Over weight Obese		 71 (28.4%) 154 (61%) 23 (9.2%) 4 (1.6%)

Table 1 shows baseline characteristics of the study participant



Graph 1: Weight status of the participants (n=250)



Graph 3: Hedonic hunger status of study participants.

Gender differences in PFS score

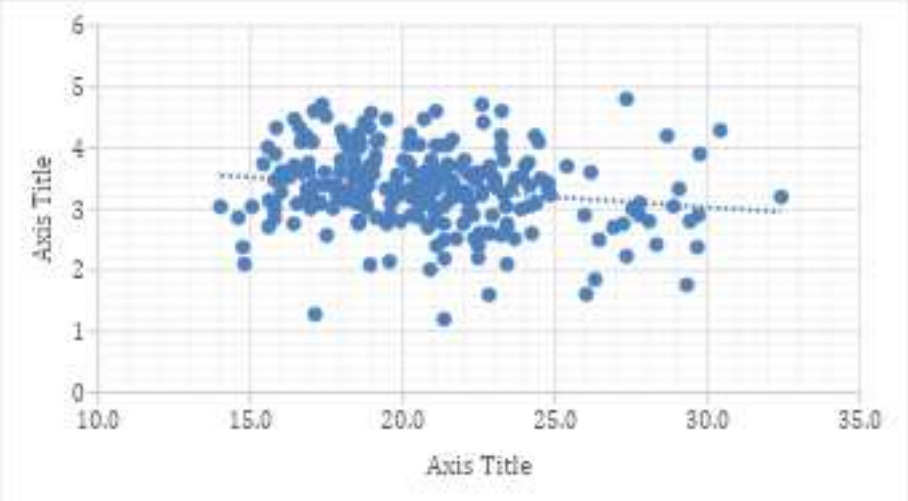
PFS	FEMALES (n %)	MALES (n %)
MILD	13 (6.34%)	5 (11.11%)
MODERATE	151 (73.65%)	37 (82.25%)
SEVERE	41 (20%)	3 (6.66%)

- The majority of both females and males have MODERATE PFS scores.
- A higher percentage of males (82.25%) have MODERATE PFS compared to females (73.65%).
- Females have a higher percentage of SEVERE PFS (20%) compared to males (6.66%).
- Males have a slightly higher percentage of MILD PFS (11.11%) compared to females (6.34%).

Table 2: Relationship between weight status and Hedonic hunger status among the participants.

VARIABLES	N (%)	Mean ± SD	r	p
PFS		3.39 ± 0.58		
Mild	19 (8%)			
Moderate	187 (75%)			
Severe	44 (18%)			
BMI		20.23 ± 3.10	-0.17977	0.0043
Under weight	71 (28.4%)			
Normal	154 (61%)			
Over weight	23 (9.2%)			
Obese	4 (1.6%)			

- Table 2 shows the correlation between PFS and BMI.
- The correlation coefficient (r) shows a weak negative correlation between PFS and BMI. Since the p value is < 0.05, the correlation is statistically significant. As the BMI increases, the PFS score is seen decreasing.



Graph 2: Correlation between PFS and BMI

Table 3: QOL status of the study participants

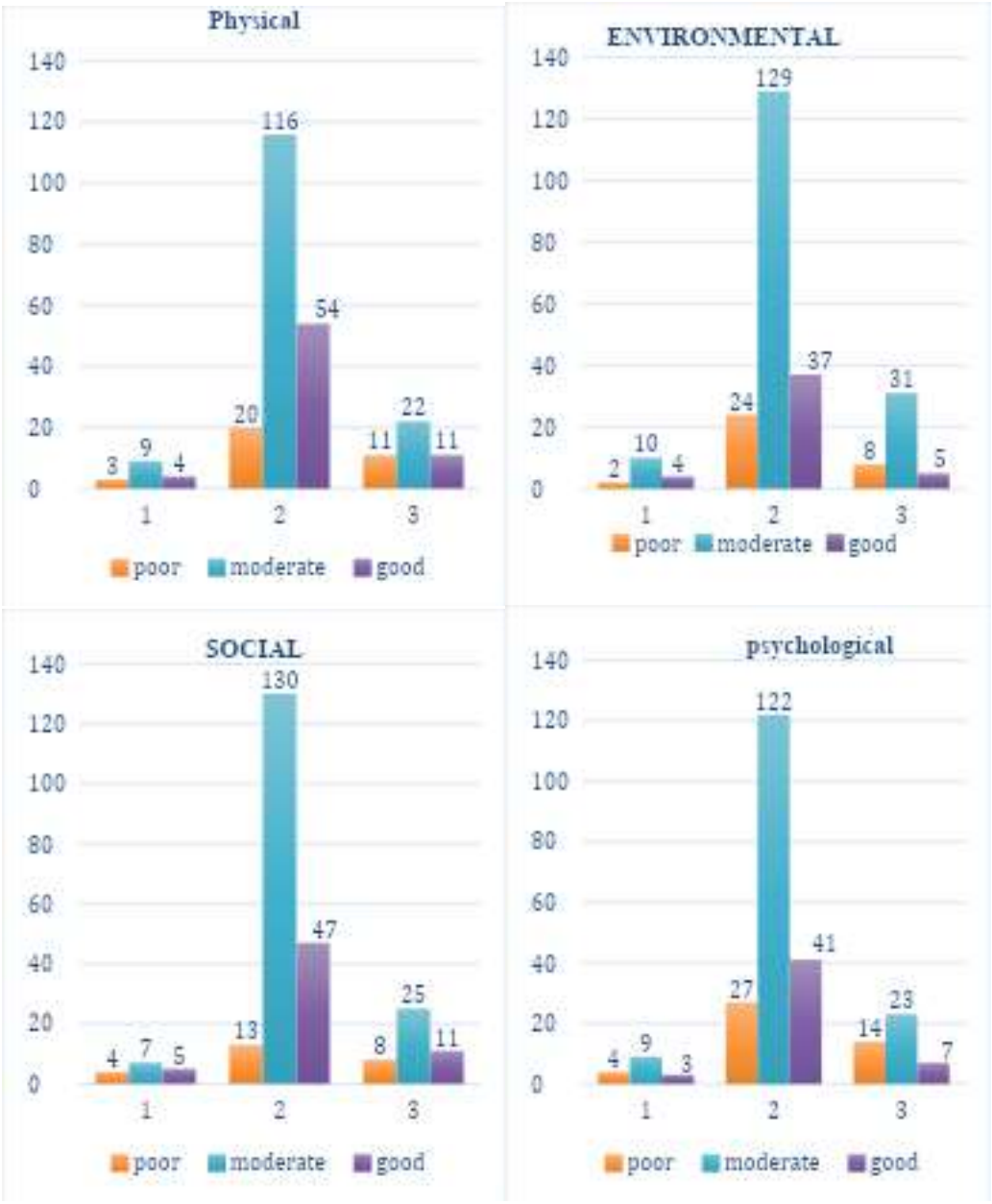
	PHYSICAL	**PYSCHO-LOGICAL**	**SOCIAL**	**ENVIRONMENT**
POOR	34	45	25	34
MODERATE	147	154	162	170
SEVERE	69	51	63	46

Table 4: Relationship between QOL and Hedonic hunger status among the participants.

VARIABLES	**MEAN±SD**	**PFS**	**r**	**p**
QOL				
PHYSICAL	64.51±14.06		-0.05716	0.368
PSYCHOLOGICAL	60.12±14.90	3.39±0.58	-0.07378	0.245
SOCIAL	62.32±16.16		-0.00675	0.915
ENVIRONMENTAL	60.63±13.79		-0.13485	0.033

Table 4. Shows negative correlations in all domains this means higher hedonic hunger is associated with lower QOL in each area. Only the environmental domain has statistically significant p value <0.05. Correlation is weak across all domains.

QOL DOMAIN SCORE IN RELATION WITH PFS SCORE



DISCUSSION

In an effort to identify the impact of hedonic hunger on weight status and Quality of life (QOL) in young adults in Kerala, we reviewed a number of research studies about hedonic hunger and related factors, but the association between these three domains were limited very few to none. Among 250 participants in the age group of 19-33 years, there were 205 females and 45 males.

In our study majority of participants are normal weight (61%), underweight where (28.2%) and 23% are overweight and 1.6% are under obese. This study shows that obese participants are affected with higher hedonic hunger and a study in Switzerland shows that marked severely affected with hedonic hunger in obese persons [(5)]. It could be a reason there is more samples of obese participants in that study as we compere to our study. Mostly affected were normal population. According to this study, the majority (75%) Population were moderately affected with hedonic hunger and only 18% were severely affected. A study done in Turkey in 2022 regarding hedonic hunger status and related factors found to be higher especially in females [(6)], while in our study females tend to have more severe PFS scores while male tend to have more moderate PFS score. It could be a reason majority of our study participants were females and also difference in sample size there are lesser samples when we compare with our study. Also difference in age categories in sample collection, in our study only included young adults but, in that study, age categories from 19-65 years old may have a reason for these differences.

In our study we found out that there is a significant negative correlation between hedonic hunger & BMI, while in a study done at Switzerland with 19-28 years [16] and also a study done at Portugal included with clinical and non-clinical samples [9] also showed that there is a weak positive correlation between hedonic hunger and BMI. The larger number of sample sizes as we compare with these studies and the age categories in that study was limited up to 28 years old could be a reason for it.

We also assessed quality of life in each four domains, there is negative correlation between hedonic hunger status and QOL, similarly a recent study done in turkey also reported negative correlation (6). Our result suggests that individuals with higher hedonic hunger tends to experience lower QOL particularly in relation to their environment. This could be attributed to the impact of environmental factors such as food availability, marketing and social norms on eating behaviours. But the physical, psychological and social relationship domains of QOL does not contribute significant relation about hedonic hunger.

Compared to similar studies associated with hedonic hunger and related factors, our study correlated three essential factors: Hedonic hunger weight status and quality of life which was very rare to find shows the association between these factors. Our study may have contributed to understanding that the majority of our young adults' populations are moderately affected with hedonic hunger. More attention must be paid to the occurrence of severe hedonic hunger and its associated complications.

CONCLUSION

The study concludes that of hedonic hunger status among young adults in Kerala were moderate. While in relation between weight status and hedonic hunger shows the negative correlation and which is statistically significant. Quality of life status of majority our population was moderately affected in each domain. Encourage strategies like stress management, healthy eating habits, and identifying emotional triggers to reduce hedonic hunger and improve QOL.

LIMITATION OF STUDY

1. The sample size was only 250 and the majority were college students.
2. There is a lack of medical literature that gives the relation between hedonic hunger and weight status and quality of life.
3. Didn't include type of food or diet pattern of the participants.
4. Majority samples were females.

SCOPE OF STUDY

1. More samples can be added for more accuracy for the survey.
2. Which type of food can lead to hedonic hunger?
3. Mental status among hedonic hunger population.
4. Survey can be conducted in wider population.
5. Prescription of more exercises plan to prevent occurrence of hedonic hunger.
6. Longitudinal studies could investigate the temporal relationship between hedonic hunger and QOL.

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