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STUDY ON MISSING HOMELY FOOD & ITS IMPACT ON HEALTH AMONG COLLEGE STUDENTS AND VIABLE BUSINESS SOLUTION

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Abstract

Health is important for person to lead a comfortable life. Health encompasses the physical, mental and social health of a person. Food plays an important role in leading a healthy life. Homely (Homemade) food facilitates the individual to maintain his / her life style. Consuming food outside is enviable, but it disturbs the life style of the individuals, families and society at large. So, considering the importance of food and health, this study was conducted. The primary was collected through structured questionnaire. The target groups of respondents are college going students, staying away from their homes and missing homemade food. Sample size considered was 100 students. Convenient sampling method was adopted for data collection. Extensive literature reviews were conducted to identify the gaps. Descriptive statistics like frequency and percentage analysis. The responses received for open ended questions were subjected to word cloud analysis. Monkey Learn software was used for text analytics. The demographic profiles of the respondents are: Boys & Girls, Rural & Urban, UG and PG Students. More than 74 percent of the respondents are in agreement that missing homemade food adversely affects their physical, mental and well-being. It is also found that 42 percent of the respondents have agreed weight loss & 18 percent have reported weight loss. About 48 percent of students have agreed that it affects their concentration and focus in their studies. Majority of students have agreed that they miss the food prepared by their mothers; some of students are going out for having tasty food items besides socialization. It is also found that students are taking food items outside like briyani, chicken, meal, fish etc. Majority of them have agreed that consuming quality of food is the main challenge. Considering this is a social problem, a viable business solution / business opportunity has been proposed to start a small business company with a working capital of few lakhs rupees and in six months the company can breakeven and within two years this can scale up the business to three times.

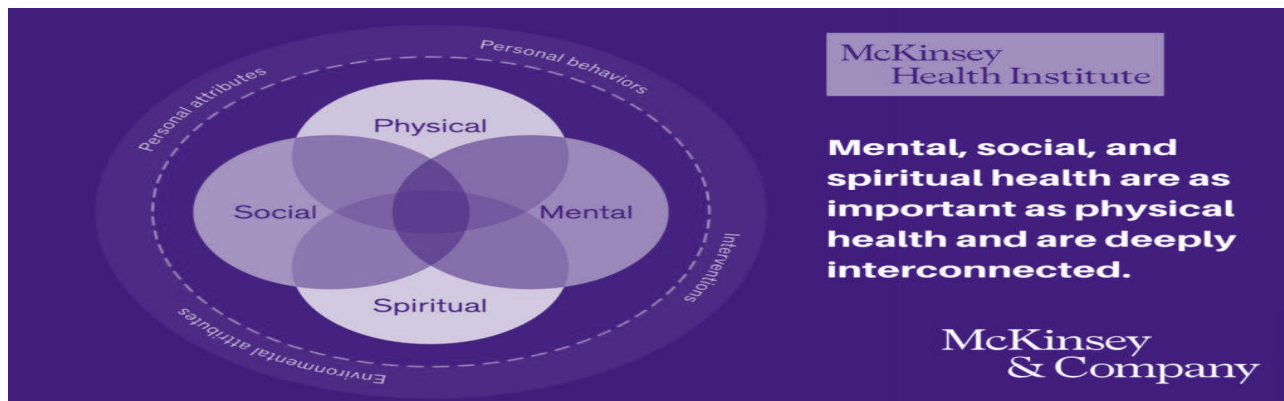
Keywords: College Students, entrepreneurial opportunity, homemade food, impact on Health

INTRODUCTION

Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity (WHO, 1948). Mental, social and spiritual healths are as important as physical health and are deeply interconnected (McKinsey & Company, 2023). McKinsey goes beyond the WHO's definition of health, which include physical, mental and social, but not spiritual health. In a survey conducted by McKinsey 19,000

people across 19 countries, 8 out of 10 people said that their mental health was as important to them as the physical health. Likewise, the majority of the people said that spiritual and social healths were extremely important to them. The body and mind are not separate. The mind affects the body. Mental health comprises social, psychological and emotional well-being. Figure 1 portrays the inter-connection of mental, social physical and spiritual health.

Figure 1: Interconnection of physical, mental, social and spiritual health



According to a report by the WHO, India has the most significant number of people with mental issues. During the pandemic, this has increased by 25 percent (Care Health Insurance, 2023). According to Ayurveda is an Indian System of Alternate Medicine, food plays an important role of deciding the life style and health of a person. Accordingly, there are three types food

habits, i.e Satvik, Rajas and Tamas. Satvik foods are fresh juicy, light delicious and nutritious. These foods give appropriate amount of energy to the body. Satvik foods are necessary to continue the balance of a stable mind and healthy body. The difference between Satva, Rajas and Tamas are shown in table 1 below.

Table 1: Difference between Satva, Rajas and Tamas

Satva	Rajas	Tamas
Purity	Passion	Ignorance
Never use alcohol	Occasional usage of alcohol	Frequent use of alcohol
Good control of sense	Moderate control	Very little control
Rare anger	Sometimes anger	Frequent anger
Fresh fruits	Spicy food, usage of eggs	Usage of red meat
Vegetables and dairy products	White meat in diet	Canned food, process food and alcohol.

(Source: Chef Devashish Pandey, 2020)

MILLETS AND NUTRITION

The millets commonly grown in India include Jowar (Sorghum), Bajra (Pearl Millet), Ragi (Finger Millet), Jhangora (Barnjav Millet), Barn (Proso or common Millet), Kangni (Fox tail / Statian Millet), Kodra (Kodo Millet). Millets are a rich source of proteins and are widely consumed by vegans. They are regarded as an excellent plant protein with negligible amounts of saturated fats compared to animal proteins. The millet bran fraction is a major and abundant source of dietary fiber, which is characterized as complex polysaccharides that are not readily available. Millets have an energy value similar to staple cereals. Additionally, they provide more significant health benefits due to their high fiber, minerals, vitamins, macro- and micronutrients, and phytochemicals and can help combat chronic disorders (Nanje Gowda et al., 2022). Millets offer nutritional security and there is a need for promoting millets as they are highly nutritious. These have been important food staples in human history, particularly in Asia and Africa. Sorghum and other millets consumption usage as direct food has significantly declined over the past three decades. Millets food items are considered an alternate food items to fill the gap in the food value chain (Dayakar et al., 2017).

REVIEW OF LITERATURE

Elizabeth Fast et al., (2023) have studied the implications of food insecurity on health disorders among college students. Developing a community food pantry for students of higher education can help address food insecurity.

Andre F Teixeira (2023) has reported that food insecurity is a growing epidemic among college students increased food expenses and living away from home making them vulnerable to this. Missing homely food increases stress, depression and a higher risk for obesity and obesity-related diseases in adulthood.

Pal, Moitra and Madan (2023) have studied the socio-economic, interpersonal and food environmental correlates of unhealthy snack consumption in school going adolescents in Mumbai. The study highlighted the pervasiveness of unhealthy snacks in adolescents ' food environments and suggested homely food and limiting the unhealthy snacks and Jung foods.

Archanan Gautam et al., (2022) have conducted a comparative study to compare the nutrition values and fat contents. It is concluded that homemade food items are better than market foods in terms of fiber, calories, saturated fat etc. The combination of the quality and quantity of food is the right way to live a healthy life.

Rita DeBate et al., (2021) have reported that during Covid-19 pandemics time about 47 percent of students were food insecure and impacting academics & well-being.

Saghir Ahmad Jafri et al., (2015) have compared the cholesterol level of students taking homemade food and market fast food. It is found that the market fast food had higher cholesterol levels in the students.

Sara Schwarz et al., (2014) have highlighted the lifestyles change in college going students leading to increased

consumption of fast food & convenience foods than decreased home-cooked meals. Living off-campus and consuming homemade food may contribute to healthier eating patterns.

Bodil Stilling, Blichfeldt and Malene Gram (2013) have found that the transition from living at home to independent living has a significant impact on student food consumption and can lead to problematic eating habits during this period.

Steffi and Josephine (2013) have identified that girls students still prefer to have traditional homemade food and western style of food in restaurants. Some of the students have opined that health is more important than taste of food. They are going to restaurants for tasty food only.

AH, Sequeira et al., (2013) have reported that students tend to replace regular meals with junk food and in this aspect, the female students showed a greater tendency compared to male students. This is due variety of food items available and discount schemes.

Mansi, Parul Sharma and Khyati Jain (2023) have reported that people who eat a diet high in whole food such as fruits, nuts, whole grains, legumes and unsaturated fats are up to 35 percent less likely to develop depression than those who eat less of these. Satvik food function as body and mind healthier.

RESEARCH GAPS

The impact of missing homemade food on student's health, the options that are available to those students and preference of food items by those students are not studied. The impact of missing homemade food on students' health is a topic of concern. This study investigates the relationship between missing homemade food and health related issues among college going students.

Research Objectives

The main objectives of this study are:

- To examine the impact of missing home cooked food on the physical, mental and social health.

- To identify the factors that contributes to the lack of access to home cooked food.

- To analyze the food preferences by the college students in absence of home cooked food.

- To propose a feasible business solution for this social problem

RESEARCH METHODOLOGY

The primary data was collected by administering structured questionnaire. Target respondents are college students in the Northern part of Bangalore. 50 respondents were given the questionnaire for data collection. These students are staying away from their home town / homes. The respondents are from Andhra Pradesh, Gujarat, Kerala, Madhya Pradesh, Nagaland, Odisha, Tamil Nadu and West Bengal. Pilot testing was done before full scale data collection. Convenient sampling method was used in this research. Secondary data were collected from published research papers, websites, books and reports. Statistical analysis includes the descriptive statistics such as percentage & frequency analysis, text analytics by using Monkey Learn platform. Monkey Llearn is a platform that simplifies the process of leaning, labeling and visualizing customer feedback, consolidating these tasks into a single user friendly interface. Monkey Learn empowers businesses to harness the power of AI-driven text analysis to understand customer sentiments, preferences and needs. Monkey Learn facilitates for data driven decision making and enhancing user experience.

DATA ANALYSIS AND DISCUSSION

Data analysis and discussion has two parts i.e Part 1 descriptive statistics including the demographic profile, food preferences, socio-economic factors and its impact on health. Part 2 Word Cloud Analysis. Table 2 shows the demographic factors of respondents.

Part 1: Descriptive Statistics

Table 2: Demographic Profile of the Respondents

		No. of Respondents	Percentage
Age	18-20	5	10
	21-23	30	60
	23-25	14	28
	Above 25	1	2
	Total	50	100

Gender	Boys	30	60
	Girls	20	40
	Others	Nil	Nil
	Total	50	100
Educational Qualification	UG	3	6
	PG	46	92
	Others	1	2
	Total	50	100
Type of Food preferred	South Indian	40	80
	Others	10	20
	Total	50	100
Location	Urban	12	24
	Rural	38	76
	Total	50	100
Current Accommodation	Hostel	6	12
	Paying Guest	14	28
	Rented House staying with Friends	23	46
	Rented House staying alone	7	14
	Total	50	100

About 60 percent of the respondents are in the age bracket of 21 & 23 years. About 60 percent of the respondents are Boys. About 92 percent of the respondents are pursuing their PG Programme. About 80 percent of the respondents prefer South Indian Food. Location wise, 76 percent of the respondents are from rural. More than 74 percent respondents are staying in a rented house either with friends or staying alone. The respondents are from various like Andhra Pradesh, Gujarat, Karnataka, Kerala, Madhya Pradesh, Nagaland, Odisha, West Bengal and Tamil Nadu. About 42 percent of the respondents said that they have not experienced

the missing homemade food. 36 percent of the respondents have opined that the cooking facility is only average in their accommodation. The data shows that about 40 percent of participant's maintained neutral, whereas 34 percent of the respondents have said that they do not have sufficient time to prepare their own food. Table 3 shows the analysis of the respondents on various other factors like preference to homemade food vs convenience market food, health and socio-economic factors.

Table 3: Analysis of the respondents on various other factors

Questions asked	Agreement	Disagreement	Neutral
Importance of having homemade food for well-being	86 percent	Nil,	14 percent

Rely on Fast food / Convenience meals	76 percent	8 percent	16 percent
Changes in Body Composition	46 percent	28 percent,	8 No change
Decrease in mind concentration on studies / academic related activities	48 percent	4 percent,	48 percent
Cultural preferences that influence the choice of homemade food	38 percent	8 percent	54 percent
Socio-economic factors influence the choice of homemade food	46 percent	12 percent	42 percent
Missing homemade food affects physical health	74 percent	2 percent	24 percent
Missing homemade food affects mental health	74 percent	2 percent	24 percent
Missing homemade food affects social well-being	70 percent	6 percent	24 percent

Average above 71 percent of the respondents has agreed that missing homemade food affects physical health, mental health and social well-being. About 24 percent of the respondents have maintained the neutral position. Around 50 percent of the respondents have not realized that it affects their studies and academic activities.

Part- 2: Word Cloud Analysis



Monkey Learn platform was used for word cloud analysis. Monkey Learn facilitates the labeling of data, categorizing feedback into predefined categories or custom tags based on specific criteria or topics of interest.

i. Relying on Restaurants instead of Homemade Food

Figure 2 shows the word cloud analysis. The respondents have

opined that health issues and taste these two prominent factors for relying on Restaurants instead of Homemade Food.

ii. Ways to access homemade food for students studying away from Home

Figure 3 shows the word cloud analysis of access to homemade food for students studying away from Home. The prominences of

terms are ‘home’, ‘mess’ and ‘homely food’. It is evident that still the respondents would like to have homemade food only or mess or homely food only.

iii. The main item they miss the most in homemade food

The main items predominantly missed are: ‘Dosa’, ‘Fish curry’, ‘food mom’, ‘sambar’ etc.

iv. Specific cuisines or type of food that they prefer to eat at restaurants rather than cooking at Home

Most of the respondents prefer to eat Biryani, chicken lollypop, fried chicken etc. in the restaurants.

v. Customized Meal Preferences

It is found that most of the respondents have expressed interest in having customized meals, with



preferences including customized meals, with preferences including chicken dishes and vegetarian meals.



vi. Challenges in finding restaurants or eateries that offer customizable options to accommodate dietary needs of preference

The word cloud visually represents this, with terms like ‘quality’ and ‘limited options’. By offering

higher –quality options and expanding the range of customizable

choices, restaurants can better meet the demands of their clientele and enhance overall customer satisfaction.

BUSINESS SOLUTION

In this study the social problem has been identified. The viable business solution is to start a startup company. Before that a business plan has been prepared. A business plan is document

where the entrepreneurs plan his / her business to have an organized and effective response to a situation which may arise in

future. Start a business plan with describing the business and product or services. So, business plan is a document, which provides life to your business idea. It focuses on the following:



Table 4: Summary of Business Plan

Product, Features, Capacity, Uses	Market Prospects, Selling Price and Cost of Selling
1. What are you going to make?	1. Who are the customers?.
2. What sizes/ specifications – legal or commercial –will your product have?	2. What is the present position?
3. On what scale will you make it? No of days, number of shifts per day your enterprise operate?	3. What are the market prospects?
4. What are the various uses of the product?	4. What kind of competition are you likely to face?
	5. How much do you expect to sell during the first couple of years?
	6. What price do you expect to realize in the initial years?
	7. How much will cost?

Production Process and Technology arrangements	Plant and Machinery, Supplies and Cost
Location	Infrastructure facilities
Raw material and other requirements	Manpower
Working capital	Project cost
Financing sources	Capacity utilization and income estimates
Expenditure	Profit and Tax
Risk Analysis	Contingency plans

(Source: Poornima M Charantimath, 2012).

The detailed business plan has not been included. However, the cash flow statement only included. Table 5 shows the summary of Income and Expenditures.

Investment requirements for the first three years are estimated as follows:

Year 1 - Planning & Development: 5, 00,000

Year 2 - Testing & Market Entry: 15, 00,000

Year 3 - Expansion & Scaling: 30, 00,000

Funds will cover development costs, marketing, operational expenses, and partnerships. Revenues are expected to offset costs by the end of Year 2.

Table 5: Summary of Cash Flow

Month	Revenue (in Rupees)	Expenses (in Rupees)	Net Profit (in Rupees)	Cumulative Net Profit (in Rupees)
Month 1	50,000	2,50,000	-2,00,000	-2,00,000
Month 2	80,000	2,50,000	-1,70,000	-3,70,000
Month 3	1,20,000	2,50,000	-1,30,000	-5,00,000
Month 4	1,80,000	2,50,000	-70,000	-5,70,000

Month 5	2,50,000	2,50,000	0	-5,70,000
Month 6	3,20,000	2,50,000	70,000	-5,00,000
Month 7	4,00,000	2,50,000	1,50,000	-3,50,000
Month 8	4,80,000	2,50,000	2,30,000	-1,20,000
Month 9	5,60,000	2,50,000	3,10,000	1,90,000
Month 10	6,50,000	2,50,000	4,00,000	5,90,000
Month 11	7,40,000	2,50,000	4,90,000	10,80,000
Month 12	8,50,000	2,50,000	6,00,000	16,80,000

The breakeven will happen after 5 months from the commencement of the business.

SCOPE FOR FURTHER RESEARCH

This study focuses on missing homemade food & looking for convenience market food and health related issues among college going students. Further study may be conducted considering large sample size for identifying other factors. This study was conducted in Bangalore, India, it is suggested to conduct further studies on PAN India basis.

CONCLUSION

This study highlights the significance of homemade food for physical, mental and social well being among the college students. It is found that the respondents prioritize authenticity and quality in their food choices indicating a strong preference for homemade food. While challenges exist in accessing homemade meals and finding suitable restaurant options in the working area / college location for the students, there are opportunities to improve offerings and cater to diverse preferences. Further, other factors like homemade food vs convenience market food preferences, health related issues like focus on studies, concentration on academic related work and socio-economic factors. Monkey Learn software was used for text analytics. The demographic profiles of the respondents are: Boys & Girls, Rural & Urban, UG and PG Students. It is found that the majority of the students have admitted that missing homemade food affects their studies and health conditions.

Considering this is a social problem, a viable business solution / business opportunity has been identified after conducting a market survey and preparing a business plan. It is proposed to start a company with a working capital of few lakhs rupees and in six months the company can breakeven and within two years this can scale up the business to three times. Millets food consumption is an alternate food items to fill the gaps. Due lack of awareness and its nutritional values people are not consuming the millets food items. It is also suggested to make different food recipes like ready to eat items, biscuits, cookies, health drinks etc can be explored to offer to people. The United Nations has declared as 'Millets Year 2023' to promote and create awareness among people to consume millets food items. Millets food processing units can also to explore to avail the various schemes & benefits offered by the Govt. of India to promote millets food items.

REFERENCES

1. A.H. Sequeira et al., (2013). *A Study on Junk Food Consumption Behavior Among College Students. Developmental Psychology e-Journal, SSRN Electronic Journal* December 2013.
2. Archana Gautam et al., (2022). *Nutritional Aspects of Ready-to-Eat and Homemade Food products with emphasis on Fatty Acid Profiling of Ready-to-Eat Food using GC-FID*

- Technique – A Comparative Study. Journal of Pharmaceutical Negative Results, Vol.13, Special Issue 8, pp 2825-2846.*
3. Bodil Stilling Blichfeldt & Malene Gram (2013). *Lost in Transition? Student food Consumption, Higher Education, Vol.65, Issue 3, pp 277-289.*
 4. *From Mind to Body: How does Mental Health Affect Physical wellness? Health Insurance Policy* retrieved from www.careinsurance.com on August 9, 2023.
 5. Poornima M Charantimath (2012). *Entrepreneurship Development Cell and Small Business Enterprises*, Pearson Publishers Ltd., Delhi.
 6. Rita DeBate et al., (2021). *Food Insecurity, Well-being and Academic success among College Students: Implications for post Covid-19 Pandemic Programming. Ecology of Food and Nutrition, Vol.60, Issue 5, Sept-Oct 2021, pp 564-579.*
 7. S. Steffi & R. Mary Josephline (2013). *A Case Study on Trend of Food Style among College Students, International Journal of Advances in Pharmacy, Biology and Chemistry, Vol.2, Issue 1, Jan-March 2013, pp 103-107.*
 8. Saghir Ahmad Jafri (2015). *Serum lipid profile of College / University Students taking homemade food or market fast food. Pure and Applied Biology, Vol.4, Issue 1, pp 118-124.*
 9. Sakshi N Pal, Panchali Moitra & Jagmeet Madan (2023). *Association of eating habits, sleep quality, and perceived stress with emotional eating behavior among Indian Adults : A cross-sectional study. International Journal of Food Service and Nutrition, Vol.8, Issue 1, pp 47-55.*
 10. Sara Schwarz et al., (2014). *Fear of Hypoglycemia in Adults with Type 1 Diabetes: Impact of Therapeutic Advances and Strategies for prevention – A Review. Journal of Diabetes and Its Complication, Vol.30, Issue 1, pp 167-177.*
 11. Chef Devashish Pandey (2020). *Satvik Food – Its Influence and Importance. Shodh Sanchar, Vol.10, Issue, 40, pp 32-35.*
 12. Mansi, Parul Sharma & Khyati Jain (2023). *A Link between Anxiety and Sattvik Food as a Potential Pathway. Indian Journal of Public Health Research, Vol.14, Issue 4, pp 195 199.*
 13. N.A.Nanje Gowda et al., (2022). *Modern Processing of Indian Millets : A Perspective on changes in Nutritional Properties, Foods, Vol. 11, Issue 4, MDPI.*
 14. B.Dayakar et al., (2017). *Nutritional and Health Benefits of Millets, ICAR- Indian Institute of Millets Research (IIMR), Hyderabad.*