The International Journal of Indian Psychology
ISSN 2348-5396 (Online) | ISSN: 2349-3429 (Print)
Volume 14, Issue 1, January- March, 2026
DIP: 18.01.086.20261401, DOI: 10.25215/1401.086
https://www.ijip.in

Research Paper

Psycho-Nutritional Analysis: Impact of Micro and Macro Nutrients Intake on Psychic Immunity of Young Adults

Khushi Chauhan[1], Varsha[1], Khushboo Kapoor[1], Yashpal Singh[2]*

ABSTRACT

Psychic immunity is considered as a composite system of cognitive, motivational, and behavioural aspects of an individual which assist them during coping from stress also help them to cope up with the problematic situation. It has been observed that researcher is keen to know the association of nutritional intake on psychic immunity among young adults. The focus of the present study is to analyse the interrelationship of nutritional intake (macro and micro nutrients) on psychic immunity of young adults. A sample of 116 young adults has been considered using purposive sampling method out of which 100 responses has been considered for final evaluation. The obtained results have expressed that intake of protein, carbohydrates, calcium, and iron is significantly correlated with psychic immunity of young adults. Step-wise regression analysis has also expressed that consumption of protein, calcium and iron are significant predictors of psychic immunity among young adults. It also expresses that intake of protein brings 19.6% variance in psychic immunity of young adults. Hence it can be concluded that intake of micro and macro nutrients play indispensable role in nurturance of psychic immunity among young individuals.

Keywords: *psychic immunity, micro nutrients, macro nutrients, nutrition, young adults*

Psychic Immunity refers to an individual's mental and emotional competence to endure strain, negative outcomes, and psychological pressures excluding being nervous or compromised. It is not focused on overlooking challenges but being able to develop internal strength, resilience and self-consciousness that protect the individual's mental state. It is the potential to withstand or escape from negative psychological and emotional stress or the ability to avoid been affected by negative energy from others or the surroundings. The term Psychic immunity was first given by Psychologist Jerry Kroth. He defines psychic immunity as "the system that scans for danger, protects, heals, and ensures human safety and survival". Psychic immunity is the integrated framework of behaviour and cognitive patterns that promotes an individual's healthy development, problem solving and stress recovery. It can be directed as the minds unconscious safe guard. Psychic immunity is the tendency of your intrinsic potency, perceptions and emotions to remain stable, uncluttered and unaffected by external emotional and psychological distress.

[1]MA Applied Psychology Graphic Era (Deemed to Be University) Dehradun, Uttarakhand
[2]Assistant Professor, Department of Humanities and Social Sciences (Psychology) Graphic Era (Deemed To Be University) Dehradun, Uttarakhand
*Corresponding Author

Received: January 20, 2026; Revision Received: February 22, 2026; Accepted: February 26, 2026

It includes strategies like bouncing back which function as "antibodies" to act as a shield against psychological traumas while promoting internal cure and sustainable human growth. According to American Psychological Association psychic immunity is "a psychological or cognitive defence system functionally similar to the body's immune system, protecting against disruption, misinformation, or negative thought patterns". There are several factors influencing psychic immunity like, coping mechanisms, personality traits, social support and our lifestyle including our diet and nutrition intake. Psychic immunity is deeply connected to both, micro nutrients and macro nutrients. A stable nutrition rich diet which includes balanced carbohydrates, proteins, fats, and essential vitamins and minerals supports brain function, emotional stability, and resilience to stress. Insufficient nutrition can impair these defences, making humans more susceptible to mental health adversities. Accordingly, nutrition is a important mechanism for boosting psychic immunity, providing energy, strengthening the balance of neurotransmitters, regulating hormones and safeguarding neural pathways.

Micro Nutrition include vitamins and minerals required by body in minimal quantities to perform essential bodily functions. They are crucial for vital physiological functions such as bone health, immunological response and psychic immunity of the individual. As the body is unable to produce most micro nutrients, organisms must acquire them from variety of foods that includes fruits, vegetables, dairy products and meat. Deficiency of these micro nutrients can result in serious physical and mental health issues including vision problems, mood disorders and cognitive decline. The world health organization defines micro nutrition as "vitamins and minerals that the body needs in small amount but which are crucial for health and proper growth and development". Micronutrients are vital dietary ingredients that are crucial for various disease prevention (Shergill-Bonner, 2013). Micro nutrition includes calcium, phosphorous, iron and zinc.

Calcium is an essential nutrient found in human body. It is necessary for the development and maintenance of healthy teeth and bones, muscular contraction and hormone release regulation. It serves as an alkaline earth metal found in variety of food and is absorbed with the support of vitamin D. The bones and teeth together constitute about 99% of calcium in the body and rest of 1% resides in blood and tissues. Phosphorus is one of the important nutrients which is vital for the development and growth of healthy teeth and bones, the synthesis of ATP which is the body's energy currency and the formation of DNA and RNA and continual functioning of cell membrane. It is a second most prevalent mineral found in the body with more than 80% of it being found in bones and teeth and remaining portion in the cells, soft tissues and fluids. Iron is vital metallic element which is core mineral for life. It acts as a crucial component of haemoglobin which is responsible for transportation of oxygen throughout the blood cells in the body. It is important for maintaining healthy muscles, skin, hair and nails along with general growth and development of cellular functions.

Zinc is an essential mineral that supports your immune system, aids in wound healing, promotes cell growth and DNA, protein synthesis, and is necessary for healthy taste, smell, metabolism, and development throughout childhood and pregnancy. It functions as important antioxidant, lowers inflammation, and is important for skin health, brain function, and fertility. A study conducted by Alesci et al., (2022) stated that the utilising specific vitamins and minerals can help fight depressive anxiety state and stress and also help strengthening the immunity system. Another study conducted on micronutrients and stress

suggested that they both have notable and observable impact on bodily functions and mental well-being (Glatthaar, I.I., 1999).

Macro nutrition contains proteins, fats and carbohydrates which is required by the body in significant amount for energy, development and basic functioning. These macro nutrients offer calories to your body which are required for maintaining structure and system of the body, which are included in nutritious and balanced diet. The world health organization highlighted "carbohydrates, proteins and fats as the three essential macro nutrients". WHO has also additionally issued various guidelines such as minimum daily consumption of 25g of dietary fibres for adults as well as carbohydrate and fat intake requirements in relation to total calories for healthy diet. Macro nutrition includes energy known as calories, proteins, carbohydrates and fats.

Energy is a unit of calorie extracted from the food that is consumed by the organism which is further utilised for all their daily tasks like breathing, moving, and thinking. It is denoted as kilocalories (kcal). Energy is released by metabolism after meal consumption and utilised right away store as fat for later use or stored as glycogen in the liver and muscles. Energy intake and consumption must be balanced for the body to retain its weight and functions. The oxidation of protein, carbohydrates and fats produces energy (Campbell, 2017). Protein is a basic biomolecule made up of sequences of amino acids. It is significant for the operation and control of body's tissue and cells. These molecules support development and repair as well as serves a wide range of functions including structural elements, secretion of hormones and producing antibodies.

A protein has 3D structure and its functions are determined by its amino acid sequence resulting in a process that is encoded by an organism's genes. Fat is the most concentrated source of energy and crucial nutrient for the consumption of cell membranes, the assimilation of fat-soluble vitamins and organ protection. Fats are also known as Triglycerides which are comprised of three fatty acids joined to a glycerol backbone. Different types of fats like saturated fats and unsaturated fats which has different chemical structures and different health consequences.

Carbohydrates also known as carbs are the macro nutrition that gives you that gives your body cells, tissues, and organs their principal source of energy. There are various viewpoints about the kinds and amount of fats that are necessary for the body. Regardless, a balanced diet should include healthy fats from various range of natural sources (Gush et al., 2021b). Carbs are broken down by body's glucose or blood sugar which enables our daily activities. Carbs occurs organically in meals such as fruits, vegetables, grains and dairy in the form of sugar, starch and dietary fibres. A study conducted on effects of energy and macro nutrients on cognitive functioning suggested that the calorie and macro nutrients in take can significantly affect cognitive performance across individual's lifespan (Gibson, 2013). Another study was conducted to examine whether appropriate macro nutrients or minerals are advantageous to enhance depression and to decrease its risk. The findings of this research indicated that macro nutrients play a vital role to treat depression and prevent its risk (Quan et al., 2023). The essential components of nutritious diet are micro nutrients and macro nutrients, all the nutritious need of the body are satisfied when protein, carbs, fats along with vitamins and minerals like calcium, phosphorous and iron are included in the diet (Gush et al., 2021).

Research Gap

The current investigation is an attempt to understand the impact of dietary micro nutrients and macro nutrients intake with overall psychic immunity among young adults. Psychic immunity is considered as the ability of a person that how effectively he/she can manage the daily life adversities. There are several factors such as physiological, social etc. which play significant role in the nurturance of psychic immunity. This study will help medical officers, counsellors, and educators to understand how various dietary micro and macro nutrients play their role in the process of nurturance of psychic immunity and how deprivation of these crucial nutrients will responsible for decline of psychic immunity. Since there is a paucity of research on the impact of dietary micro and macro nutrients intake on psychic immunity among young adults in India. Hence, the present study was carried out with following objective and hypothesis.

Objectives of the Study

1. To analyse the role of gender with regards to the dietary micro nutrients and macro nutrients and overall psychic immunity among young adults.
2. To explore the interplay between dietary micro nutrients on overall psychic immunity among young adults.
3. To explore the interplay between dietary macro nutrients on overall psychic immunity among young adults.
4. To predict the role of micro nutrient and macro nutrient intake on overall psychic immunity among young.

Hypothesis

- **H1:** There exist significant gender differences on micro nutrients (calcium, phosphorous, iron) and macro nutrients (energy, protein, fats and carbohydrates) among young adults
- **H2:** There exist significant positive association between dietary micro nutrients and overall psychic immunity among young adults.
- **H3:** There exist significant positive association between dietary macro nutrients and overall psychic immunity among young adults.
- **H4:** Micro nutrient and macro nutrient will be significant predictor of overall psychic immunity among young.

RESEARCH METHODOLOGY

The current investigation employed correlational research design. The sample constituted of 116 participants from Dehradun, Uttarakhand region of India were selected through purposive sampling procedure. Out of these 116 participants, 100 participants were selected for further analysis. Informed Consent was taken from all the participants while collecting data for the Research Study. The data obtained was tabulated and analysed using SPSS 20 (IBM).

Variables

Independent Variable

1. **Micro Nutrition-** It include vitamins and minerals required by body in minimal quantities to perform essential bodily functions. They are crucial for vital physiological functions such as bone health, immunological response and psychic immunity of the individual. It include vitamins and minerals like calcium, zinc and Phosphorus.

2. **Macro Nutrition-** It contains proteins, fats and carbohydrates which is required by the body in significant amount for energy, development and basic functioning. These macro nutrients offer calories to your body which are required for maintaining structure and system of the body, which are included in nutritious and balanced diet.

Dependent Variable

1. **Psychic Immunity-** Psychic Immunity refers to an individual's mental and emotional competence to endure strain, negative outcomes, and psychological pressures excluding being nervous or compromised. It is not focused on overlooking challenges but being able to develop internal strength, resilience and self-consciousness that protect the individual's mental state.

Instruments

- **Psychological Immunity Competence Inventory (PICI)** developed by Olah, Naggy, Tothn in 2010 was applied to evaluate the psychological immunity of the individual. It includes 16 items with a 4-point likert scale, responses ranging from completely does not describe me to completely describe me. The instrument has demonstrated good reliability, with obtained cronbach's alpha value ranging from 0.62 to 0.80 and high test-retest stability from 0.77 to 0.89.
- **Food Frequency Questionnaire (FFQ)** developed by Telles, Bhardwaj, Gupta, Kumar, Balkrishna in 2016 was applied to evaluate individual's overall dietary intake in a month. This tool includes assessment of intake of macronutrients and micronutrients by investigating the average consumption over the past month or typically a day. It consist of nearly 98 items. It has comprehensive scoring key to estimate nutritive values with regard to energy, protein, fat, carbohydrates, calcium, phosphorous, and iron. The questionnaire has demonstrated good reliability, with obtained cronbach's alpha value ranging from 0.708 to 0.824 and evidence also support that it was good validity.

Table-1 List of Abbreviations

Name of Variable	Abbreviation
Psychic Immunity	PI
Carbohydrates	CARBS

RESULT

Out of 116 participants 100 samples were selected in which 68 were females, 32 males. The descriptive statistics indicates that correspond to each factor.

Table-2 Descriptive Statistics

Variable	Mean	Standard Deviation	Skewness	Kurtosis
PI	40.66	10.430	-0.074	-0.186
ENERGY	2200.44	296.062	-1.330	1.130
PROTEIN	72.85	16.785	-0.159	-0.910
FAT	63.11	17.698	0.055	-0.713
CARBS	376.55	133.625	0.743	0.608
CALCIUM	970.82	312.256	-.221	-0.249
PHOSPHORUS	1202.64	324.834	-0.558	0.881
IRON	25.26	15.231	1.351	1.115

The values obtained from the descriptive statistics are represented in table-2. Outcomes obtained from the above table highlights that obtained value of skewness lies in the acceptable range of (0.055 to 1.351) and the value of kurtosis lies within the acceptable range of (-0.180 to 1.130). The obtained value of skewness and kurtosis lies between -2 to + 2, which represents the obtained data falls into normal distribution.

Table-3 Correlation Table

VARIABLE	PSYCHIC IMMUNITY (PI)
ENERGY	0.040
PROTEIN	**0.443****
FAT	0.21
CARBS	**0.254***
CALCIUM	**0.292****
PHOSPHATE	0.114
IRON	**0.235***

***. Correlation is significant at the 0.01 level*
**. Correlation is significant at the 0.05 level*

The research outcome in table-3 have clearly specified that there exist a significant positive association among macro nutrient which is protein and psychic immunity with derived value of correlation r = 0.443 which was significant at 0.01 level and carbohydrate in relation to psychic immunity with derived value of r = 0.254 which is significant at 0.05 level. Thus, the H2 has been partially accepted. The outcome also indicate there is significant positive association between micro nutrients which is calcium and psychic immunity with derived value of correlation r = 0.292 which was significant at 0.01 level and iron in relation to psychic immunity with value of r= 0.035 which is significant 0.05 level. Hence, H3 has been partially accepted.

Table-4 Step-Wise Regression Analysis

Predictor Variable	R Square	Adjuasted R Square	R Square Change	F-Value	B	BETA	t-Value	Sig.
PROTEIN	0.196	0.188	-	23.964	0.241	0.388	4.341	.000
IRON	0.238	0.222	0.041	15.142	0.130	0.190	2.171	.032
CALCIUM	0.272	0.250	0.035	11.983	0.006	0.191	2.134	.035

PI = 13.625 + 0.241 × Protein + 0.130 × Iron + 0.006 × Calcium

As per the findings of Step-wise regression analysis mentioned in table-4, it clearly indicated that the constructs protein ($\beta = 0.388$, $p<0.000$), iron ($\beta = 0.190$, $p<0.032$) and calcium ($\beta = 0.191$, $p<0.035$) are strong predictor of psychic immunity. All these indicators together bring 27.2% variance in psychic immunity. By referring to table-4 it is clearly understood that protein is the most important indicator of psychic immunity among young adults as it displays 19.6% variance. Thus H4 has partially accepted.

Table-5 Independent Sample T-Test

VARIABLE	t-Value	Sig. (2-tailed)
PI	2.209	**0.032***
ENERGY	0.237	0.813
PROTEIN	0.794	0.431
FAT	-0.230	0.819
CARBS	1.872	0.067

CALCIUM	-1.171	0.247
PHOSPHATE	-0.997	0.324
IRON	0.326	0.745

**. T test is significant at 0.05*

The outcomes obtained on the basis of table-5 clearly explains that there exists a significant gender difference between psychic immunity among young adults in relation to dietary micro and macro nutrition intake wherein males demonstrate higher psychic immunity than females and rest of the variables included in the study shows no significant gender difference. Thus, H1 has partially accepted.

DISCUSSION

The major goal of the presented investigation is to ascertain the relationship between intake of dietary micro and macro nutrients on psychic immunity young adults. The findings provide significant insights into the nutritional factors that may influence the psychological construct. The obtained values of correlation demonstrated that psychic immunity is significantly positively correlated with the construct- protein, carbohydrates, calcium and iron. The strong correlation of these constructs suggests their potential importance in predicting psychic immunity among adults. Study conducted on micronutrients and stress suggested that they both have notable and observable impact on bodily functions and mental well-being (Glatthaar, I.I., 1999). The findings are in line with the study of Quan et al. (2023) that macro nutrients play a vital role to treat depression and prevent its risk. The results further suggested that psychic immunity does not share a significant relationship with energy, fats, and phosphorous this could be possibly due to disrupted dietary consumption patterns of young adults which lack in optimal level of energy, good fat and adequate amount of phosphorous. The findings from the regression analysis further confirmed that protein, calcium and iron are the pivotal predictors of psychic immunity among young adults out of which protein seems to be the key predictors for bringing variance in the level of psychic immunity. The results indicate a meaningful association between balanced micro- and macronutrient intake and enhanced psychological resilience in young adults, suggesting nutrition is a modifiable factor in promoting psychic immunity. Integrating dietary guidance into mental-health initiatives may strengthen prevention and coping strategies among this age group. These findings support a biopsychosocial framework in which biological nourishment interacts with psychosocial resources to shape stress responses. Practitioners and campus health programs should therefore consider nutritional assessment as part of holistic mental-health care.

CONCLUSION

The study successfully established a relationship between micro and macro dietary factors and psychic immunity in young adults. These findings suggested that an optimal intake of protein, iron and calcium can be interlinked to higher level of psychic immunity in young adults. Furthermore, the study emphasizes the indispensable role of micro and macro nutrition in examining the degree of individual's psychic immunity. Hence, individuals should consume a balanced and nutrition rich diet in order to obtain and enhance their level of psychic immunity. This will help them to effectively deal with their psychological issues and daily life adversities which might be hampering their ability to function optimally.

For future subsequent work should employ longitudinal or intervention designs to test causality and track how sustained dietary changes influence psychic immunity over time.

Recommendations

Psychic immunity is a crucial constituent in regulating overall well-being of one's life. It is necessary to make constant efforts to achieve maximum level of psychic immunity by improving their dietary intake which includes all the micro and macro nutrients in adequate amount as per individual's age requirement.

Limitations

The investigation uses small sample size and survey method was used for data collection.

REFERENCES

Alesci, A., Pergolizzi, S., Fumia, A., Miller, A., Cernigliaro, C., Zaccone, M., Salamone, V., Mastrantonio, E., Gangemi, S., Pioggia, G., & Cicero, N. (2022). Immune System and Psychological State of Pregnant Women during COVID-19 Pandemic: Are Micronutrients Able to Support Pregnancy? *Nutrients*, *14*(12), 2534. https://doi.org/10.3390/nu14122534

Glatthaar, I. I. (1999). Micronutrients and stress. *South African Medical Journal*, *89*(2), 16-22.

Gibson, E. L. (2013). Effects of energy and macronutrient intake on cognitive function through the lifespan. *Proceedings of the Latvian Academy of Sciences Section B Natural Exact and Applied Sciences*, *67*(4–5), 303–447. https://doi.org/10.2478/prolas-2013-0057

Quan, Z., Li, H., Quan, Z., & Qing, H. (2023). Appropriate macronutrients or mineral elements are beneficial to improve depression and reduce the risk of depression. *International Journal of Molecular Sciences*, *24*(8), 7098. https://doi.org/10.3390/ijms24087098

Gush, L., Shah, S., & Gilani, F. (2021). Macronutrients and micronutrients. In *Elsevier eBooks* (pp. 255–273). https://doi.org/10.1016/b978-0-12-821573-9.00023-0

Gush, L., Shah, S., & Gilani, F. (2021b). Macronutrients and micronutrients. In *Elsevier eBooks* (pp. 255–273). https://doi.org/10.1016/b978-0-12-821573-9.00023-0

Shergill-Bonner, R. (2013). Micronutrients. *Paediatrics and Child Health*, *23*(8), 331–336. https://doi.org/10.1016/j.paed.2013.05.005

Campbell, I. (2017). Macronutrients, minerals, vitamins and energy. *Anaesthesia & Intensive Care Medicine*, *18*(3), 141–146. https://doi.org/10.1016/j.mpaic.2016.11.014

Life expectancy and psychological immune competence in different cultures. *Empirical Text and Culture Research*, *4*, 102- Oláh, A., Nagy, H., & Tóth, K. G. (2010)

Telles, S., Bhardwaj, A. K., Gupta, R. K., Kumar, A., & Balkrishna, A. (2016). Development of a food frequency questionnaire to assess dietary intake for the residents of the Northern Region of India. *Indian Journal of Ancient Medicine and Yoga*, *9*(4), 139-147. https://dx.doi.org/10.21088/ijamy.0974.6986.9416.2

Acknowledgment

The author(s) appreciates all those who participated in the study and helped to facilitate the research process.

Conflict of Interest

The author(s) declared no conflict of interest.

How to cite this article: Chauhan, K., Varsha, Kapoor, K. & Singh, Y. (2026). Psycho-Nutritional Analysis: Impact of Micro and Macro Nutrients Intake on Psychic Immunity of Young Adults. *International Journal of Indian Psychology*, *14*(1), 887-894. DIP:18.01.086. 20261401, DOI:10.25215/1401.086