# Dietary Patterns and Their Role in Predicting Psychological Distress Among Young Adults

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**Original Article**

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**Abstract**

*This research paper examines the influence of dietary patterns on psychological distress of young adults. The study aims to explore the food preferences of young adults, analyze the relationship between dietary patterns and psychological distress. This study was conducted on a sample of 400 students (200 males, 200 females) with an age range of 19-25 years collected through a conveniently approached purposive sampling strategy. Descriptive and inferential statistics was used to analyze the data. Impact of dietary pattern on psychological distress was analyzed. Multiple Regression analysis was run to predict the psychological distress of young adults on food their preferences. Results revealed that healthy food preferences predict less psychological distress. Young adults who like a lot in food preferences categories (vegetables, fruits, meat, dairy, snacks, and starches) have less psychological distress.*

**Keywords:** Dietary Patterns, Vegetables, Fruits, Meat, Dairy, Snacks, Starches, Psychological Distress

## Introduction

A balanced nutritional diet plays a crucial role in providing the essential 24 nutrients, including elements like potassium, manganese, and nitrogen. Optimal nutrition assumes paramount importance in the development, maintenance, and regulation of physiological processes and psychological growth throughout an individual's lifespan (Vajdi, & Farhangi,2020). However, the composition of dietary constituents has undergone significant changes over time due to factors such as financial constraints, food scarcity, and societal emphasis on body image (Ogden, 2011). A healthy diet is characterized by natural food items that offer adequate caloric intake and essential nutrients to sustain a healthy body (Roman, 2014). The components of dietary intake can be categorized into carbohydrates, proteins, starch, and fats. A balanced consumption of food sources across five essential categories is vital for promoting healthy eating habits: (a) fruits and vegetables, (b) cereals like bread, potatoes, and pasta, (c) alternative protein sources like fish and meat, (d) dairy products and milk, and (e) foods rich in fats and sugars. Ultimately, adopting a healthy diet can serve as a preventive measure against both physical and mental health disorders, whereas an unhealthy diet can contribute to psychological distress (Muhammadi et al., 2020).

The role of nutrition in fostering physical and psychological well-being remains considerably unrecognized in Pakistan. The 2011 National Survey conducted by the Agha Khan University, UNICEF Pakistan, and the Pakistani Ministry of Health provided valuable insights. Data was collected through 22 survey teams across all provinces of Pakistan, including regions like Gilgit Baltistan, Azad Jammu and Kashmir, and the Federally Administered Tribal Areas (FATA),

encompassing both urban and rural distributions. The survey findings unveiled that more than half (53.9%) of the Pakistani population faced issues related to normal weight. In urban areas, 24.2% of elderly individuals were categorized as overweight, with 13.9% being classified as obese, while 15.8% of elderly individuals in rural regions were identified as underweight. Notably, the consequences of poor nutrition extend beyond physical ailments, encompassing a significant impact on mental health (Di Cesare et al., 2015).

The phenomenon of psychological distress, characterized by manifestations such as unhappiness, irritability, nervousness, and interpersonal difficulties (Chalfant et al., 1990), has garnered attention in research investigating the interplay between dietary intake frequencies and mental health. Notably, Banta (2019) and colleagues undertook the California Health Interview Survey spanning from 2005 to 2015, seeking insights into the nexus between dietary intake frequencies and mental well-being. Their observations revealed that 17% of adults reported mild psychological distress, while 13.2% experienced moderate distress, and 3.5% faced severe psychological distress. The study demonstrated an inverse correlation between the consumption of healthy foods and the severity of psychological distress. Correspondingly, Jacka and associates (2012) have carried out investigations that highlight a growing correlation between dietary habits and mental health over the past decade (Neuhouser, 2019; Ullah, Saeed, Khan, & Naz, 2021). A body of cross-sectional and longitudinal research has consistently demonstrated that adhering to a Western or highly processed diet heightens the vulnerability to mental health issues

**Rationale**

The rationale for conducting this study is rooted in the profound impact of dietary choices on both physical and mental well-being, particularly among young adults. The relationship between nutrition and mental health has garnered significant attention in recent years, with emerging evidence suggesting that diet plays a crucial role in influencing psychological outcomes. Young adulthood is a critical life stage marked by transitions, increased autonomy, and the establishment of lifestyle habits, including dietary patterns. Despite the growing understanding of the connection between nutrition and mental health, there is a paucity of research that specifically investigates the predictive relationship between food preferences and psychological distress.

**Objectives**

To explore the relationship of dietary patterns on psychological distress among young adults

**Hypotheses**

1. Healthy food preferences of young adults are a strong predictor of less psychological distress.

**Method**

**Research design**

Survey research method was used to conduct this study

**Selection of Sample**

In this study nonprobability, purposive sampling was used to select the sample, as the data was drawn across four public universities in Lahore, Pakistan. The selected universities are:

Distribution of Sample

| Serial no | Institutes | Male | Female |
|---|---|---|---|
| 1 | Punjab University | 60 | 50 |
| 2 | Government College University | 60 | 50 |
| 3 | University of Veterinary and Animal Sciences | 80 | 40 |
| 4 | Lahore College for Women University | | 60 |
| Total | | 200 | 200 |

**Sample**

The sample consisted of 400 undergraduate students (200 Male and 200 Female) with an age range in 19-24 years from public universities in Lahore.

**Inclusion Criteria**

Only undergraduate students were selected from the public universities of Lahore.

**Exclusion Criteria**

1. Students going gym, and following any type of dieting schedule were not included in this study
2. Students suffering from any physical or mental ailment were also not selected.

**Measures**

**Food Preference Questionnaire for Adolescents and Adults (FFQ)**

The food preferences of young adults were assessed using a translated and adapted version of the self-report food preference questionnaire. The original questionnaire was developed by Smith et al. in 2016. This self-report measure consists of 62 food items, which are categorized into six groups: 1. Vegetables (18 items), 2. Fruit (7 items), 3. Meat/fish (12 items), 4. Dairy (10 items), 5. Snacks (9 items), and 6. Starches (6 items). Participants rated their food preferences using a Likert-type response format, ranging from "does not like" to "like a lot." The food preferences were ranked on a scale from 1 to 5, with higher scores indicating greater liking. The test-retest reliabilities of the food preferences scale were found to range from 0.61 to 0.95, suggesting a relatively stable measure over time. Additionally, the internal reliability (Cronbach's alpha) of the full scale, as well as the six food categories, were as follows: 1. Vegetables (18 items, $\alpha = 0.94$), 2. Fruit (7 items, $\alpha = 0.85$), 3. Meat/fish (12 items, $\alpha = 0.89$), 4. Dairy (10 items, $\alpha = 0.89$), 5. Snacks (9 items, $\alpha = 0.86$), and 6. Starches (6 items, $\alpha = 0.88$). These internal reliability coefficients indicate strong internal consistency within each food category and the overall questionnaire.

**3.4.4.4 K-6 Distress scale Self –administer**

The Kessler-6 scale is a 6-item inventory developed by Kessler (2002). It was 5-point Likert-type scale. The purpose of this test is to identify psychological distress related to symptoms of generalized anxiety and depression in the general population. It evaluates psychological distress experienced within the 30 days preceding the administration of the test. Respondents rate

their experiences on a scale from 0 to 4, ranging from "none of the time" to "all of the time." The total score of the 6 items ranges from 0 to 24, The K-6 scale incorporates a cut point at 13, which helps to differentiate between individuals who may be experiencing significant psychological distress. The test has demonstrated good internal consistency and reliability, as reported in studies by Kessler, Andrews, et al. (2002) and Kessler, Demler, et al. (2005).

**Procedure**

The research was conducted with a sample of 400 young adults recruited from public universities situated in Lahore city, adhering to specific inclusion and exclusion criteria. Data collection followed a purposive sampling technique, chosen to ensure the relevance of the participants. The data gathering process involved direct engagement with participants, during which mutually convenient timings and locations were established. A clear explanation of the study's objectives was provided to participants, and their informed consent was secured, accompanied by a commitment to maintaining the confidentiality of their responses. The questionnaires were then administered to participants within their respective university premises. The completion of the questionnaires generally took around 15-20 minutes on average. Upon completing the data collection phase, participants were expressed gratitude for their contribution of time and cooperation.

**Ethical Considerations**

Ethical considerations were carefully integrated into the research process to ensure the well-being and rights of the participants. Prior to their involvement, a comprehensive consent form was included within the survey questionnaire, outlining the study's objectives and nature. Participants provided informed consent, granting them the autonomy to decline participation if they felt uncomfortable or uninterested at any point during the study. To ensure their privacy, participants were assured that the information they shared would solely be utilized for research purposes and that their identities would remain confidential. The study's objectives and purpose were transparently communicated to participants, ensuring their understanding of the research's intentions. Importantly, a debriefing session was conducted at the conclusion of the study, providing participants with additional information and addressing any questions or concerns that may have arisen. These ethical considerations collectively underscore the commitment to upholding the rights, dignity, and well-being of the participants throughout the research process.

## Results

**Analysis**

The aim of the present study was to investigate the relationship among the variables of study. This study explored the impact of dietary patterns on psychological distress of young adults. Pearson Product Moment correlation was applied to find out the relationship among the variables of the study. Multiple regression analysis was used to determine whether the dietary patterns predict psychological distress.

**Table**

*Correlations for Study Variables*

| Variables | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| 1.Vegetables | | .39** | .21** | .43** | .32** | .54** | .20** | .23** | .21** | .20** |
| 2.Fruit | | | .28** | .28** | .29** | .35** | .17** | -.10* | -.11* | -.07 |
| 3.Meat | | | | .46** | .26** | .34** | .11* | -.09 | -.08 | -.08 |
| 4.Dairy | | | | | .53** | .48** | .06 | -.02 | -.02 | -.01 |
| 5.Snacks | | | | | | .44** | -.04 | .15** | .13** | .14** |
| 6.Starches | | | | | | | .13** | -.09 | -.07 | -.09 |
| 7.K6 | | | | | | | | .40** | .40** | .29** |

**P<,.05,**p<.01,*

The correlation analysis indicated that Vegetables have a significant positive relationship with fruits (r =.39**, p<.01) meat (r =.21** p<.01) dairy (r=.43** p<.01) snacks (r =.32** p<.01) and starches (r =.54** p<.01) psychological distress (r =.20** p<.01)

**Table: 3.7**

*Dietary Patterns as Predictors of Psychological Distress*

| Predictors | *B* | *SE B* | B |
|---|---|---|---|
| Vegetables | .067 | .023 | -.180*** |
| Fruits | .165 | .074 | .122* |
| Meat | .044 | .034 | .073 |
| Dairy | -.012 | .047 | -.016 |
| Snack | -.146 | .051 | .170** |
| Starches | .053 | .072 | .047 |
| $R^2$ | | | .080 |
| $\Delta R^2$ | | | .066 |
| F | | | 5.68*** |

*Note. N =400. ***P<.001.*

Table` shows the impact of dietary patterns on psychological distress. The R2 value explains 8% variance in psychological distress can be accounted for by the vegetables and the snacks. Vegetables and snacks are the predictors psychological distress. The more the vegetable intake the lesser the psychological distress. Since the score of the scale indicated that the lesser the score the less psychological distress would be. Vegetables as negative predictor of psychological distress means the more the vegetable intake the lesser psychological distress. While the more snacks intake the greater psychological distress.

## Discussion

The study aimed to determine the predictive relationship between food preference categories of young adults and their psychological distress. Multiple regression analysis was run to investigate whether healthy food preferences would be a predictor of less psychological distress. The research findings indicated that intake of vegetables are the predictors of less psychological distress whereas intake of snacks predict more psychological distress. These findings are consistent with previous literature. Sarris and his colleagues shared their findings as mental illness was not proven to be caused by a poor diet, but a healthy diet may protect against mental illness (Sarris et al., 2015). For example, a diet rich in vegetables, fruits, meats, and grains was associated with a lower risk of major depression or dysthymia and anxiety disorders (Sanchez-Villegas et al., 2013., Jacka et al., 2010).

A meta-analysis of 29 studies (2004–2017) concluded that a nutrient-rich diet was associated with a lower risk of depression (Molendijk et al., 2018). Alike Ross (2010) reported that healthy nutrient intake enhances energy level, physical capacity, memory, mood, emotion and mental well-being (Ross, 2010). Popa and Ladea (2012) revealed that processed foods, particularly fried foods, sugar, refined grains, high-fat dairy products, and trans-fat consumption found in fast foods and pastries, are associated with an increased risk of depression. Furthermore, there is a link between sugar consumption and bipolar disorder and depression (Paskulin et al., 2017). Dietary differences may explain a portion of the chronic disease burden associated with mental illness (Alakaam, 2015). Poor diet, for example, has been proposed as one of the causes of increased mortality and morbidity among those with schizophrenia (Oddy et al., 2018).

## Conclusion

In conclusion, the study provides substantial evidence that the food preferences of young adults can have a predictive relationship with their levels of psychological distress. A preference for healthy foods, particularly vegetables, is associated with lower psychological distress, while consumption of unhealthy snacks is linked to higher distress levels. These findings underscore the importance of maintaining a nutrient-rich diet for better mental well-being, aligning with previous research in the field.

## Implications of the Study

The study's implications underscore the vital connection between diet and mental health among young adults. These findings provide a basis for health education campaigns aimed at informing young adults about the impact of their dietary choices on their mental well-being. Educational institutions can integrate nutritional education into their curricula, raising awareness among young adults about the importance of dietary choices for their mental health.

## References

Alakaam, A. A., Castellanos, D. C., Bodzio, J., & Harrison, L. (2015). The factors that influence dietary habits among international students in the United States. Journal of International Students, 5(2), 104-120.

Chalfant, H. P., Heller, P. L., Roberts, A., Briones, D., Aguirre-Hochbaum, S., & Farr, W. (1990). The clergy as a resource for those encountering psychological distress. Review of religious research, 305-313.

Di Cesare, M., Bhatti, Z., Soofi, S. B., Fortunato, L., Ezzati, M., & Bhutta, Z. A. (2015). Geographical and socioeconomic inequalities in women and children's nutritional status in Pakistan in 2011: an analysis of data from a nationally representative survey. The Lancet Global Health, 3(4), e229-e239.

Jacka, F. N., Mykletun, A., & Berk, M. (2012). Moving towards a population health approach to the primary prevention of common mental disorders. BMC medicine, 10(1), 1-6.

Jacka, F. N., Pasco, J. A., Mykletun, A., Williams, L. J., Hodge, A. M., O'Reilly, S. L., ... & Berk, M. (2010). Association of Western and traditional diets with depression and anxiety in women. American journal of psychiatry, 167(3), 305-311.

Kessler, R. C., Andrews, G., Colpe, L. J., Hiripi, E., Mroczek, D. K., Normand, S. L., ... & Zaslavsky, A. M. (2002). Short screening scales to monitor population prevalences and trends in non- specific psychological distress. Psychological medicine, 32(6), 959-976.

Mohammadi, M., Khodarahmi, M., Kahroba, H., & Farhangi, M. A. (2020). Dietary patterns interact with the variations of 18q21. 23 rs17782313 locus on regulation of hypothalamic-pituitary axis hormones and cardio-metabolic risk factors in obesity. Eating and Weight Disorders-Studies on Anorexia, Bulimia and Obesity, 25, 1447-1459.

Neuhouser, M. L. (2019). The importance of healthy dietary patterns in chronic disease prevention. *Nutrition Research*, *70*, 3-6.

Nicolaou, M., Colpo, M., Vermeulen, E., Elstgeest, L. E., Cabout, M., Gibson-Smith, D., ... & Visser, M. (2020). Association of a priori dietary patterns with depressive symptoms: a harmonised meta-analysis of observational studies. Psychological medicine, 50(11), 1872-1883.

Oddy, W. H., Allen, K. L., Trapp, G. S., Ambrosini, G. L., Black, L. J., Huang, R. C., ... & Mori, T. A. (2018). Dietary patterns, body mass index and inflammation: pathways to depression and mental health problems in adolescents. Brain, behavior, and immunity, 69, 428-439.

Ogden, J. (2011). The psychology of eating: From healthy to disordered behavior. John Wiley & Sons.

Paskulin, J. T., Drehmer, M., Olinto, M. T., Hoffmann, J. F., Pinheiro, A. P., Schmidt, M. I., & Nunes, M. A. (2017). Association between dietary patterns and mental disorders in pregnant women in Southern Brazil. Brazilian Journal of Psychiatry, 39, 208-215.

Popa, T. A., & Ladea, M. (2012). Nutrition and depression at the forefront of progress. Journal of medicine and life, 5(4), 414.

Ross, A., & Anderson, D. L. (2010). Nutrition and its effects on academic performance: How can our schools improve. Michigan: At Northern Michigan Undersity.

Sánchez-Villegas, A., Martínez-González, M. A., Estruch, R., Salas-Salvadó, J., Corella, D., Covas M. I., ... & Serra-Majem, L. (2013). Mediterranean dietary pattern and depression: the PREDIMED randomized trial. BMC medicine, 11, 1-12.

Sarris, J., Logan, A. C., Akbaraly, T. N., Amminger, G. P., Balanzá-Martínez, V., Freeman, M. P., ... & Jacka, F. N. (2015). Nutritional medicine as mainstream in psychiatry. The Lancet Psychiatry, 2(3), 271-274.

Steeves, E. A., Jones-Smith, J., Hopkins, L., & Gittelsohn, J. (2016). Perceived social support from friends and parents for eating behavior and diet quality among low-income, urban, minority youth. Journal of nutrition education and behavior, 48(5), 304-310.

Ullah, S. Struggling for Survival (2019). The Intricate Relationship between Poverty & Hiv/Aids In District Dir Lower, Khyber Pakhtunkhwa. *CLINICAL SOCIAL WORK*, 101.

Ullah, S., Saeed, S., Khan, F., & Naz, A. (2021). Covid-19, Economic Lockdown, Treatment Interruptions And The Fear Of Survival Among HIV/AIDS Patients In Malakand Division, Khyber Pakhtunkhwa. *Webology (ISSN: 1735-188X)*, *18*(6).

Vajdi, M., & Farhangi, M. A. (2020). A systematic review of the association between dietary patterns and health-related quality of life. *Health and quality of life outcomes*, *18*, 1-15.