

Eating Attitudes and Psychological Well-Being of Indian Adolescents During the Pandemic

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Abstract

This study aims to investigate the relationship between eating attitudes and psychological well-being during the pandemic in Indian young adults. One hundred and thirteen Indian adolescents completed two questionnaires, Eating Attitude Test (EAT-26) and Ryff's Psychological Well Being Scale (18 items), examining eating behavior and general psychological well-being before and after the pandemic. The questionnaire findings revealed that a change in eating attitudes resulted in a negative decline in psychological well-being for some of the subjects. The strong negative correlation suggests that change in eating attitude has a negative impact on self-acceptance and results in a negative attitude toward the self and obstructs the acknowledgment and acceptance of multiple aspects of self. A moderately strong negative correlation can also be noted between environmental mastery and eating attitude. The findings of this study show that when an individual's eating attitude changes, so does one's sense of mastery and competence in their environment, as well as one's ability to pick or create circumstances that suit one's needs and ideals.

Keywords: Eating attitude, psychological well-being, autonomy, self-acceptance, cross-sectional study, correlation

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I. Introduction

Background

The increase in mental health problems among adolescents is an increasing global health problem (Belfer, 2008). In addition to loss of lives and burden on public health, the Coronavirus pandemic had a major psychological effect on humankind. Short term global lockdowns and quarantine norms have resulted in psychological disorders, including depression, insomnia, anxiety and post-traumatic stress symptoms (Kochhar, 2020). The stress and anxiety caused by sleep deprivation, panic, misinformation, fear of infection, and social distancing present a serious threat to psychological wellbeing in populations around the world, and has also extended to body image outcomes (Swami et al., 2020) and eating disorder symptomatology (Touyz, 2020). Body dissatisfaction has been reported by around 19% (Rashmi et al., 2016) to 33.3% (Priya, 2010) of female Indian college students. Since body dissatisfaction can affect the biopsychosocial aspects of a person's life and impact functionality, it is imperative that factors contributing to it are examined in detail. It may be contended that COVID-19 pandemic and consequent lockdown may further aggravate body dissatisfaction, due to factors such as increased 'digital screen time' (Kumar et al., 2020), weight gain jokes and memes, food-related conversations with peers, weight management, and concerns about appearance.

Due to lockdown, the scope for physical activity outdoors and access to fresh food was greatly restricted. Previous studies have revealed that heightened stress, which is likely during a pandemic, has a significant impact on one's lifestyle habits (Mattioli AV et al., 2020). Stress and anxiety have been shown to result in an increased intake of alcohol and sugary foods, and energy imbalance is also likely as energy expenditure during lockdown is reduced (Mattioli AV et al., 2020). In addition, the interruption of the work routine caused by the quarantine could result in boredom, which in turn is associated with a greater energy intake (Moynihan AB et al., 2015).

Moreover, psychological and emotional responses to the COVID-19 outbreak (Wang C et al., 2020), may increase the risk of developing dysfunctional eating behaviors. It is well known how the experience of negative emotions can lead to overeating, the so-called "emotional eating" (Evers C et al., 2018). People are more likely to seek gratification physiologically through consumption of food as a response to the negative effects of self-isolation (Singh, 2014). On the other hand, negative experiences may lead to eating restriction, due to the physiological stress reactions that mimic the internal sensations associated with feeding-induced satiety (Di Renzo, L. et al., 2020). Due to the restrictions imposed during lockdown, there is an increase in the risk of sedentary behaviours including sleeping and smoking habits, leading to lifestyle changes.

A recent systematic review by Banerjee et al. (2020) reported that there was increased sleep deprivation, ruminations, misinformation, gaming, and anxiety during the COVID-19 lockdown which had a major negative effect on lifestyle habits. Internalizing mental health disorders, such as emotional problems, depression, and anxiety, are more common in female teenagers. This is due to the fact that female adolescents employ more internalising methods to deal with difficulties than male adolescents. Internalizing and externalising emotional and behavioural disorders are two types of mental health problems that affect children and adolescents. Conduct disorder (CD), ADHD, and oppositional defiant disorder are examples of externalising disorders, which include problems with controlling undesirable behaviour, attention, and cognitive processing (ODD).

Internalizing disorders, on the other hand, are marked by an inability to control unpleasant emotions such as depression, rumination, loneliness, anxiety, and sadness. Boys are more likely to have externalising disorders, whereas girls are more likely to have internalising disorders.

Rationale of the Study

There has been increasing and significant interest on the impact of the pandemic on various health outcomes, no research paper has addressed the association between psychological well-being and eating attitudes of Indian adolescents. In light of the above, the “Eating Attitudes and Psychological Well-Being of Indian Adolescents During the Pandemic” aims to explore and analyse the changing dietary patterns and its effect on adolescents in India. Research is needed to confirm the multi-level linkages and correlations between many personal characteristics and unhealthy eating attitudes in a population of young adults, both men and women. Apart from eating disorders, constrained and compulsive eating have a substantial disorganizing influence on an individual's psychosocial functioning, according to the source material collected over the last years regarding eating disorders (especially among young women).

Objectives of the Current Research

The objectives of this particular research are:

1. To measure the relationship between eating attitudes and psychological well-being of Indian adolescents.
2. To measure the impact of eating attitudes on psychological well-being of Indian adolescents during the pandemic.

Hypotheses

H₀. There is no significant relationship between eating attitudes and psychological well-being.

H₁. Eating attitude has an effect on psychological well-being and its different sub-dimensions.

II. Method

Sample

A total number of around 80-120 participants were approached from all the major regions of the country, however, participants from the Northern and Southern regions of India were more prevalent. Participants recruited were of Indian origin and between the ages of 18 and 30. The prevalence of mental health issues based on eating attitudes was assessed in every participant.

Convenience sampling was taken in use which made the research process easier and helped the researchers save time. The data was immediately available and provided a wealth of information.

Tools

Three different data sets were collected in the study: demographic details; eating attitude habits and psychological well-being levels of the participants. A form was prepared by the researchers to collect the demographic details of the participants.

1. Eating Attitude Test (EAT-26)

The Eating Attitude Test is a widely used standard test for assessing the signs and symptoms of eating disorders (Garner, Olmsted, Bohr & Garfinkle, 1982). Garner et al were the ones who came up with it in 1982. The version with 26 items is quite dependable and valid (Garner, Olmsted, Bohr & Garfinkle, 1982). The EAT-26 scale has a reliability of ($=.90$). The exam is graded on a six-point scale based on how much an individual engages in a specific behaviour. Always, usually, seldom, occasionally, often, and never are possible responses to the question. The population was found to have three EAT-26 subscales: bulimia, dieting, food fixation, and oral control.

2. Psychological Well Being Scale

Developed by psychologist Carol D. Ryff, the 42-item Psychological Well-being (PWB) Scale measures six

aspects of well-being and happiness: autonomy, environmental mastery, personal growth, positive relations with others, purpose in life, and self-acceptance (Ryff et al., 1995).

Procedure

The participants for this study were selected through convenience sampling. The survey was administered using Google Forms which were circulated to people from all regions of the country, i.e, the North, South, West, East, Central and Northeast parts of India. It was informed to the participants that it is completely voluntary for them to fill in the questionnaires. They were also given all the necessary information about the three sets of the survey. Once the responses were collected, the incomplete surveys were removed from the study. Participants were persuaded to participate in the study based on the confidentiality of their responses, and their prior consent was obtained.

After the collection and organization of all the responses, the data was analysed and presented using a suitable statistical method. The hypotheses were tested according to the data analysis results.

Data Analysis

After the data was collected from the survey responses, the sample was tested to see if it is normally distributed or not. For this, the Shapiro-Wilk Test was administered using the Jamovi Software since the sample size was less than 2000. An assessment of the normality of the data is a prerequisite because normal data is an underlying assumption in parametric testing. The p-value was obtained from the test and based on it; the sample was classified as normally distributed.

Once the nature of the sample was known, the correlation of the two variables was tested.

Since the data was normally distributed, we used a parametric test called the Pearson Correlation test using Jamovi which is a measure of the strength and direction of association that exists between two variables measured on at least one interval scale. Once the correlation coefficient was known, the same was used to test the hypotheses.

Further, to legitimise the cross-sectional part of the study, One-way ANOVA was used to test if there is any significant difference between the results of North and South India. These two regions were picked out because of the majority of the responses collected from these regions.

Ethical Considerations

The following ethical considerations were kept in mind during the process of this research:

- **Confidentiality and Privacy:** All the information provided by the participants was kept completely confidential and not shared with anyone apart from the researchers.
- **Informed Consent:** The participants were notified in advance of the research procedure and also given complete details of the nature of the questionnaire and survey. They were notified that they can choose to discontinue their participation at any time.
- **Client Welfare:** The clients were continuously reminded that this survey is just for the purpose of research and does NOT diagnose any kind of disorder. They were also advised and encouraged to consult an expert in case they have any queries regarding their eating attitudes and/or psychological well-being.

III. Results and Discussions

Table 1
Normality Test (Shapiro Wilk):

Psychological Well-Being		Eating Attitude
N	113	113
Shapiro-Wilk W	0.984	0.877
Shapiro-Wilk p	0.198	< 0.001

From Table 1, it is noted that the data collected from 113 samples is normally distributed.

The p-value of the Shapiro-Wilk test ($=0.198$) is greater than 0.05, which supports the normal distribution. Based on the normal nature of the data, the Pearson Correlation Matrix was conducted to measure the strength and direction of the association that exists between Eating Attitudes and Psychological Well-being.

Table 2
Correlation between Eating Attitude and Psychological Well-being using Jamovi:

Variables	Psychological Well-being	
Eating Attitudes	Pearson's r	-0.269
	Pearson's p-value	0.004

As seen in Table 2, the Pearson correlation coefficient, also known as Pearson's rho (r) is -0.269, which suggests a moderate negative correlation. This suggests that a change in eating attitudes resulted in a negative decline in psychological well-being for some of the subjects. The p-value of the test (=0.004) suggests a not very strong but still noticeable correlation. The results of this research reject the null hypothesis, which stated that there is no significant relationship between eating attitudes and psychological well-being (*H0*) and support the hypothesis that a change in eating attitudes has an effect on psychological well-being (*H1*). The hypothesis which was non-directional in nature now has been proved with a change in eating attitudes resulting in a negative effect on the psychological well-being.

Table 2.1
Correlation between Eating Attitude and the Six Dimensions of the Ryff's Psychological Well-being scale using Jamovi:

Variables	Autonomy	Environmental Mastery	Personal Growth Positive Relations	Purpose in Life	Self-acceptance
Eating Attitudes	0.044	-0.230	-0.004	-0.107	-0.705

Table 2.1 shows the correlation between Eating Attitude and the six core dimensions of the Ryff's Scales of Psychological Well-being, namely the Autonomy, Environmental Mastery, Personal Growth, Positive Relations with Others, Purpose in Life, and Self-acceptance scales. All the dimensions except autonomy have a negative correlation with eating attitude. But the most significant is the correlation with self-acceptance for which the Pearson's rho is -0.705. The strong negative correlation suggests that change in eating attitude has a negative impact on self-acceptance and results in a negative attitude toward the self and obstructs the acknowledgment and acceptance of multiple aspects of self. A moderately strong negative correlation can also be noted between environmental mastery and eating attitude ($r = -0.230$). The findings of this study show that when an individual's eating attitude changes, so does one's sense of mastery and competence in their environment, as well as one's ability to pick or create circumstances that suit one's needs and ideals.

Mental health issues could have a role in promoting or inhibiting healthy eating, which could explain these findings. People suffering from mental health issues such as depression, discontent, or anxiety, for example, may eat harmful amounts or types of food. Eating habits too, on the other hand, have an impact on mental health (Polivy & Herman, 2005). A high level of psychological well-being can contribute to the development of healthy emotion-thought and behaviour, which may reduce the occurrence of psychopathological symptoms. According to this theory, as one's psychological well-being improves, the occurrence of eating attitude problems decreases. Healthy eating habits are important determinants of mental health problems such as hyperactivity disorder, depression, and conductive problems in adolescents; adequate nutrition and healthy food choices are known to be important factors in brain development and the prevention of cognitive disorders; unhealthy eating behaviours are important determinants of mental health problems (Fuglestad & Bruening, 2013). During the quarantine, it was projected that fresh food consumption would decrease, resulting in vitamin and mineral insufficiency, particularly vitamin C and vitamin E, as well as beta-carotene, which has antioxidant and anti-inflammatory qualities.

Obesity and decreased immunological responses are linked to a lack of certain micronutrients, which might have a psychological impact on people (Bennett & Young, 2021). Recent meta-analyses (Hong & Peltzer, 2017) found an inverse relationship between healthy food patterns and poor mental health outcomes in adults, such as depression. The results in teens, on the other hand, were mixed.

Table 3
Statistical Differences using Independent Samples T- Test between Eating Attitude and Psychological Well-being of the Population in the Northern and Southern Regions of India using Jamovi:

Variables	Statistic	df	p	Mean difference	SE difference	
Eating	Student's t	-1.416	90.0	0.160	-2.706	1.91
Attitude	Student's t	-0.156	90.0	0.877	-0.471	3.03
Psychological						
Well-being						

Table 3 shows the difference between the responses recorded from the participants belonging to the Northern and Southern regions of the country. This was done to fulfil the cross-sectional research design of this study. The regions of India considered for the Independent T-Test were North India and South India because the majority of the participants belonged to these areas. The p-value of eating attitude (=0.160) is more than the significance level, i.e., 0.05 which means that there is no significance difference between the eating attitude of the populations of the North and the South. The population of both the regions follow more or less the same eating patterns and have a similar eating attitude too. There was no significance difference found in their psychological well-being either due to the p-value (=0.877) being more than 0.05, which states that the psychological well-being levels of the population samples from North and South India are similar.

IV. Summary and Conclusion

It is important to understand and study the relationship between eating attitude and psychological well-being. During lockdown, some studies observed a decline in healthier eating patterns, while others reported an increase in unhealthy food choices and nutritional behaviours. As a result, COVID-19 lockdown caused both positive and negative changes in eating attitudes, which could have short- and long-term health implications. Poor dietary choices were linked to mental health disorders such as sadness and anxiety, as well as inactive time and weight increase, all of which resulted in unfavorable attitudes toward self-acceptance and environmental mastery.

This study focused on the relationship between the variables and also how it might have affected the respondents. The negative correlation that was found in this research after correlating eating attitudes through EAT-26 and psychological well-being by the Ryff's Psychological Well-being Scale (18 items) proved that a change in eating attitudes has a negative impact on the psychological dimensions of an individual. The study was cross-sectional in nature to find out about any existing differences between the different regions of India regarding the purpose of the study, however, there was not much notable difference that was significant.

There are at least two potential drawbacks to this study's findings. The way in which the survey was administered is the first constraint. The data collection was online, which might have affected the authenticity of the responses given by the participants, since some of them might have misinterpreted the questions. The second potential limitation is that the participants may have differently interpreted some responses, for example, "A little agree" might not mean the same for every respondent. Despite these shortcomings, the current study has added to our knowledge of the association between eating attitude and psychological well-being. We hope that the current study will lead to more research in this crucial field.

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