

EFFECTS OF MINDFUL EATING ON THE MENTAL HEALTH OF STUDENTS AT STATE UNIVERSITIES IN MALANG

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Abstract

This research discusses the practice of mindful eating of female students at State Universities in Malang and whether it affects their mental health. This paper aims to understand the relationship between mindful eating and mental health. The sample is taken from students of five state universities in the city of Malang. The methodology in this study is quantitative in terms of numerical data analysis and statistical processing, which is assisted by data collection techniques such as analytical surveys as a way of collecting data on a large enough population. Seventy-one percent (128 respondents) of the acquired data came from open and closed questionnaires. Many students did not understand the concept of mindful eating and its application. The choice of food type was determined based on the feelings or emotions. In addition, weak mindful eating was also found to be more common in respondents who did multitasking eating. The results of the study prove that few female students actually practice mindful eating process well. This shows that there is a lack of attention to mental health.

Keywords: Mindful Eating, Mental Health, Student

Abstrak

Diskursus penelitian ini mengacu pada mindful eating mahasiswa di Perguruan Tinggi Negeri kota Malang yang berpengaruh pada kesehatan mental mereka. Tujuan dari tulisan ini tidak lain untuk memperoleh hasil research hubungan dari mindful eating dengan kesehatan mental, yang diambil dari sampel mahasiswa Perguruan Tinggi Negeri (PTN) Malang. Kemudian terkait metodologi pada penelitian ini bersifat kuantitatif pada ranah analisis data angka dan diolah secara statistik, yang dibantu dengan teknik pengumpulan data melalui survei analitik untuk mengumpulkan data pada populasi yang cukup besar. Data penelitian ini menemukan sebanyak 71% (128 responden) dari data kuesioner terbuka dan tertutup, bahwa para mahasiswinya banyak yang belum memahami konsep mindful eating beserta penerapannya, dimana pemilihan jenis pangan ditentukan berdasarkan perasaan atau emosi yang sedang dirasakan. Selain itu, lemahnya mindful eating juga ditemukan lebih banyak pada responden yang melakukan aktivitas makan secara multitasking (bersamaan dengan aktivitas lain). Hasil penelitian membuktikan bahwa sedikit mahasiswa yang benar-benar melakukan proses mindful eating dengan baik, dan hal ini membuktikan adanya ketidaksadaran dan kurangnya perhatian terhadap kesehatan mental.

Kata Kunci: Mindful Eating, Kesehatan Mental, Mahasiswa

Introduction

Mindful eating is an eating activity that can affect human mental health. The mindful eating

process can be described as paying attention to the type of food, or more precisely, the food intake that the body will absorb.¹ Full attention to the

¹ Clementi, "The Relationship Between Eating Behavior and Psychological Distress Among Overweight and Obese People: Is There A Role for Mindfulness?" (Iesis

- Bologna University, 2015); Zaynah Khan and Zainab F Zadeh, "ScienceDirect Mindful Eating and It's Relationship with Mental Well-Being," *Procedia - Social and Behavioral*

things human beings do can overcome thoughts and feelings that tend to wander or drift into the past, which would otherwise lead to sadness, disappointment, and anxiety or fear of an unclear future.² When one's diet is not regular, this will lead to a unorganized eating behaviour.³ This in turn leads to unhealthy eating practices, which have an adverse effect on mental health.

So far, studies regarding eating activities on mental health tend to look at the general preconditions of society and only focus on one part of health. Based on the findings recorded by Riset Kesehatan Dasar (Riskesdas) in 2013, the prevalence of low consumption of vegetables and fruits was relatively high, 93.5%. This finding is further exacerbated by data from the Meteorology, Climatology and Geophysics Agency (BMKG), which found a downward trend in fruit consumption of the Indonesian population by 3.5% and a decrease in vegetable consumption by 5.3% compared to 2016.⁴ Students at the Faculty of Medicine and Health Sciences, Syarif Hidayatullah State Islamic University, Jakarta, have found that 59.5% of the faculty are categorized as having a poor diet; 29.8% were detected as having an overeating pattern; and only 10.6% were categorized as sufficient.⁵ From the trend of existing studies, the process of mindful eating on mental health has not focused on the realm of gender, which has a different pattern of behaviour and requires special attention.

This study complements the mindful eating research by focusing on the female student population. It finds that the female student

population has higher levels of anxiety, stress, and depression than other university students group.⁶ This is influenced by biological factors where women experience faster growth than men, internal factors characterized by high curiosity, and social factors that make them more easily influenced by new things, and the social environment supported by access to information.⁷ Thus, this paper attempts to answer the question: what is the current condition of female students' mental health? What is the level of mindful eating of female students? Moreover, what is the positive relationship between mindful eating and female students' mental health? We do this by focusing on female students at state universities in Malang. This is done to facilitate problem solving and lessons learned in sampling from a gender perspective, especially for female students.

This research is based on the notion that eating is a significant aspect of the human lifestyle that can affect health, morbidity, and mortality.⁸ Unhealthy eating habits are stated to contribute to the diseases such as cardiovascular diseases and high rates of obesity. They are also one of the premature mortality causes for individuals with serious mental illness (SMI).⁹ Therefore, researchers feel the need to study further the relationship between mindful eating and mental health. Besides being known as a tourist and culinary place, Malang is also an educational city with many female students, so it has the potential for the emergence of various mental health problems and diverse eating disorders. In addition to being intended as a reference in health and

Sciences 159 (2014): 69–73, <https://doi.org/10.1016/j.sbspro.2014.12.330>.

² S.L. Keng, M. J. Smoski, and C. J. Robins, "Effects of Mindfulness on Psychological Health: A Review of Empirical Studies," *Clinical Psychology Review*, 2011.

³ World Food Programme, "An Eating Habit Study: Factors That Could Influence Female Adolescents to Eat More Fruits and Vegetables," 2017.

⁴ BMKG, "Tren Konsumsi Dan Produksi Buah Dan Sayur. Buletin Pemantauan Ketahanan Pangan Indonesia. Vol. 8," 2017.

⁵ E. L. Khairiyah, "Pola Makan Mahasiswa Fakultas Kedokteran Dan Ilmu Kesehatan (FKIK) UIN Syarif Hidayatullah Jakarta Tahun 2016." (Skripsi - UIN Syarif Hidayatullah Jakarta, 2016).

⁶ Rafael T. Mikolajczyk, Walid El Ansari, and Annette E. Maxwell, "Food Consumption Frequency and Perceived

Stress and Depressive Symptoms among Students in Three European Countries," *Nutrition Journal* 8, no. 1 (2009): 31, <https://doi.org/10.1186/1475-2891-8-31>.

⁷ V. A. V. Setyawati and M. Setyowati, "Karakter Gizi Remaja Putri Urban Dan Rural Di Provinsi Jawa Tengah," *Kemas: Jurnal Kesehatan Masyarakat* 11, no. 1 (2015).

⁸ R. F Mikolajczyk, W. E Ansari, and A. E Maxwell, "Food Consumption Frequency and Perceived Stress and Depressive Symptoms among Students in Three European Countries," *Nutrition Journal* 8, no. 1 (2009).

⁹ Vasudha Gidugu and Marjorie L. Jacobs, "Empowering Individuals with Mental Illness to Develop Healthy Eating Habits through Mindful Eating: Results of a Program Evaluation," *Psychology, Health and Medicine* 24, no. 2 (February 2019): 177–86, <https://doi.org/10.1080/13548506.2018.1516295>.

psychology, this research is also expected to be the material for primary prevention efforts in practical and theoretical scientific development.

Method

State universities' students in Malang, specifically female students, were used as the unit of analysis for this research. This is based on the level of mental problems among them that are more dominant than male students. Thus, the research conducted is quantitative, namely in the realm of numerical data analysis and processed statistics.¹⁰ Identifying research variables in this study is the target of research in the form of one independent variable and one dependent variable. This variable is used to determine the relationship between mindful eating and mental health among state university students in Malang. The independent variable is a variable that influences the emergence of changes in the dependent variable. At the same time, the dependent variable becomes a variable that is influenced by the presence of independent variables. The independent variable is mindful eating, and the dependent variable is mental health.

This study also refers to the population of state universities' students from the Central Statistics Agency of Malang city in 2018 and 2019, which amounted to 74,230 people. Due to the large number of female students in the city of Malang, the researchers chose to take a sample of part of the population found. The sampling of this research was carried out on a probability basis with the proportionate stratified sampling technique, which means that the sample is determined proportionally from the total number of each state university.¹¹

This study refers to the Slovin formula (*margin of error 0.075*) with the following calculation.¹²

$$N = \frac{N}{1 + Ne^2}$$

$$N = \frac{74.230}{1 + 74.230 \times 0,075 \times 0,075} = 177.353$$

Informtion:

n = minimum sample

N = total population

e = *margin of error*

The calculation is then completed by 180 people, which is found through the percentage formula below.

$$N = \frac{S}{P} \times 100\%$$

$$N = \frac{178}{74.230} \times 100\% = 0,24\%$$

Information:

N = sample percentage

S = number of samples

P = total population

According to the formula, the respondent's proportion of each university from the total (180) is found as the follow: 72 from Universitas Brawijaya (UB), 46 from Universitas Negeri Malang (UM), 35 from Universitas Islam Negeri Maulana Malik Ibrahim Malang (UIN Maliki), 21 from Politeknik Negeri Malang (Polinema), and 6 from Politeknik Kesehatan Malang (Polkesma).

This is coupled with data collection techniques that use analytical surveys to collect data on a reasonably large population. The research instrument used the Mindful Eating Questionnaire scale developed by Framson et al. (2009) and the Mental Health Inventory scale by Veit and Ware (1983). The process is assisted by content validity and research reliability and is equipped with data analysis techniques starting with the research phase and then tabulating.¹³

¹⁰ Check more in di S Azwar, *Metode Penelitian* (Yogyakarta: Pustaka Pelajar, 2010).

¹¹ J. N Daniel, *Sampling Essentials: Practical Guidelines for Making Sampling Choices* (New York: Sage Publication, 2012).

¹² J. J. Tejada and J. R. B. Punzalan, "On The Misuse of Slovin's Formula," *The Philippine Statistician* 61, no. 1 (2012): 129–36; T. A. Napitupulu, *Research Methodology Module*

4: Sampling Technique (Jakarta: Bina Nusantara University, 2014); P. S. Altares et al., *Elementary Statistics: A Modern Approach*. (Manila: REX Book Store, Inc, 2003).

¹³ Cek selengkapnya di B. Bungin, *Metodologi Penelitian Kuantitatif: Komunikasi, Ekonomi, Dan Kebijakan Publik Serta Ilmu-Ilmu Sosial Lainnya* (Jakarta: Kencana Prenada Media Group, 2005).

The data in this study were processed using the IBM Statistical Package for the Social Sciences (SPSS) version 23. After obtaining the results through analysis, the data was then transformed into quantitative forms, such as percentage, frequency, maximum and minimum values, and others. The data will also be presented in tables and graphs, analyzed, and described based on research questions which are then discussed and compared with previous studies to obtain results and conclusions.

Result and Discussion

Result

Mental health is a condition that can be viewed from two sides, namely well-being (prosperity) and psychological distress (negative stress). If we refer to the construct of mental health, which means being mentally healthy, then these two sides are opposite conditions. Therefore, being mentally healthy is defined as a condition of being satisfied, happy, safe, calm, having a good view of everything around us and being free from anxiety, worry, disappointment and other negative emotions that can be a source of disturbance.

By using the Mental Health Inventory (MHI) instrument developed by Veit and Ware (1983), this study found the level of mental health conditions to as follows, as presented in Table 1:

Table 1. Mental Health Level's Distribution in Each State University (n = 180)

Category	Institution				
	UB	UM	UIN Maliki	Polinem ^a	Polkesm ^a
Very Low	0	1	0	0	0
Low	4	3	3	0	0
Medium	46	24	26	14	4
High	20	15	5	7	2
	72	46	35	21	6
Total	180				

¹⁴ Clementi, "The Relationship Between Eating Behavior and Psychological Distress Among Overweight and Obese People: Is There A Role for Mindfulness?"

Based on the Table 1, it can be seen that mental health ($M = 114$; $SD = 25.33$) with moderate ($89 < X < 138$) and low ($63 < X < 88$) categories are dominated by respondents from UB, namely as many as 46 (25.56%) and four respondents (2.22%). Meanwhile, respondents from UM dominated in the very high category ($X > 165$), with three respondents (1.67%) and one respondent (0.56%) in the deficient category ($X < 63$). Both were in the medium and high categories for respondents from Polinema and Polkesma ($139 < X < 165$).

This gain is inseparable from the number of samples ($n = 180$) collected with a proportion of 0.23% of the total female student population in each state university. This means that the more samples were taken in a group or strata, the greater the chance of a certain level of domination from that group.

Mindful eating is a new concept developed based on clinical and research settings. The concept is oriented towards making a practical ntervention approach.¹⁴ Based on a mindfulness approach, mindful eating stands as the individual's ability to present feelings and thoughts in eating activities, remember them, pay attention to what they eat (texture, colour, taste), and know when these feelings or thoughts are diverted to other things.¹⁵

Mindful eating is self-awareness in eating activities, in the sense that these are carried out attentively without any judgment (non-judgmental), both in thoughts, feelings, and actions by using all of the sensory systems. This study obtained data on these variables among the female student population at five state universities (PTN) in the city of Malang through the Mindful Eating Questionnaire (MEQ) by Framson et al. (2009). The following is a categorization table that includes the frequency (n) of mindful eating ($M = 51$; $SD = 11.3$) at each of these State Universities,

¹⁵ Khan and Zadeh, "ScienceDirect Mindful Eating and It's Relationship with Mental Well-Being."

ranging from very low, low, medium, high, to very high levels (see in Table 2).

Table 2. Mindful Eating Level's Distribution in Each State University (n = 180)

Category	Institution				
	UB	UM	UIN Maliki	Polinema	Polkesma
Very Low	0	0	0	0	0
Low	3	3	0	0	0
Medium	50	31	29	14	4
High	19	11	6	6	2
Very High	0	1	0	1	0
Total	72	46	35	21	6
	180				

Based on Table 2, it can be seen that mindful eating ($M = 51$; $SD = 11.3$) of the entire sample ($n = 180$) in the moderate category ($40 < X < 61$) is significantly represented from the UB sample of 50 respondents (27.78%), UM with 31 respondents (17.22%), and UIN Maliki with 29 respondents (16.11%). While each respondent (0.56%) from Polinema and UM was in the very high category ($X > 74$), six respondents (3.33%) were in the low category ($28 < X < 39$), which are respondents from UB and UM. The respondents of Polkesma and UIN Maliki were in the medium and high categories ($62 < X < 74$).

Data analysis regarding mindful eating and mental health at each State University was conducted to find out and provide information about the phenomena being studied and those occurring in the field. Furthermore, the analysis describes the relationship between two variables, namely mindful eating and mental health.

Based on Pearson's Product Moment test results, it is known that the correlation value obtained is ($r = 0.189$, $p < 0.05$). This figure indicates a positive relationship between variables

that is weak and significant at the 0.05 level of significance.

Discussion

These findings are almost the same as the results of a study conducted by Pintado-Cucarella and Rodríguez-Salgado on 216 samples aged 18 to 30 years. Although this study has a weakness in the use of instruments that tend to explore physical symptoms of the anxiety variable compared to the state of mind or feeling that may occur due to anxiety itself, the results of a significant negative correlation between mindful eating and anxiety ($r = 0.252$, $p 0.01$) and negative affect ($r = 0.272$, $p 0.01$) can be considered important as new findings.¹⁶

The study stated that low levels of mindful eating tend to make individuals less able to control their eating activities. In addition, when the anxiety condition that is felt is higher, it will increase the lack of attention to the activities that are being carried out (including eating). Likewise, the negative emotions (negative affect) mentioned can affect or reduce the ability to observe one's condition, perform healthy habits (healthy habits), or do other personal needs.¹⁷

These findings reinforce the idea that a less than optimal mental condition can reduce the quality of mindful eating, such as eating impulsively (disinhibition) and causing a lack of attention and observation on eating activities (awareness). Similar findings were also obtained through open-ended questions included in this study. Although most respondents (31.1% or 56 respondents) were in the moderate category of mindful eating, most of the total number ($n = 180$) also stated that eating with intensity is often one of the ways to cope with emotional instability or depressed.

Likewise, the findings of one study showed that the higher emotional dysregulation and negative affect in the overweight and obese female population were accompanied by a decrease in restrictive eating. This means that women with body weights that are more than the proper

¹⁶ Sheila Pintado-Cucarella and Paulina Rodríguez-Salgado, "Mindful Eating and Its Relationship with Body

Mass Index, Binge Eating, Anxiety and Negative Affect," *Journal of Behavior, Health & Social Issues* 8, no. 2 (2016).

¹⁷ Pintado-Cucarella and Rodríguez-Salgado.

proportion tend to have abnormal emotional functioning characteristics from an early age, marked by more eating activities as coping, which impacts body weight.¹⁸ Thus, the psychological well-being could not be underestimated, especially of being overweight.¹⁹

Similar findings also occur in a study conducted by Khan and Zadeh. It is known that for the people of Karachi, Pakistan, aged 18 to 54 years, eating is a way of escape from the depressed conditions they feel, and it is one of the most effective forms of "recreation", especially with the current political situation in the election period and environmental instability. These conditions were the prevailing context when the research was conducted.²⁰ Using *the Mindful Eating Questionnaire*²¹ and *Warwick-Edinburgh Mental Well-being Scale*,²² a weak correlation was found between mindful eating and mental well-being in this population ($r = 0.291, p < 0.01$). The weak correlation in Khan & Zadeh's research is influenced by several things, including the cultural factors (elements) of the local community who lacked knowledge or instruction about mindful eating (eating attentively), such as the ability to analyze the condition of hunger or satiety as well as the urge to consume with accompanied consideration. The factors that influence eating activities as coping with unstable emotional conditions found in this study are primarily academic, relationship, and economic pressures. Although the effects of eating under pressure can be damaging and tend to be excessive, it is also possible that it can improve the mental health of individuals, because it is a means of coping that can provide calm, comfort, and

improve the mood—a s stated by the respondent. This means that someone who eats because of emotional impulses can have the opportunity to form good mental well-being because it is the right kind of coping for him.²³ This finding is one of the reasons behind the weak correlation between the variables studied.

Another factor that weakens the findings of a correlation between variables is the use of the Mindful Eating Questionnaire instrument. As a relatively new concept, this measurement instrument has not been widely developed in the Indonesian population, so the potential for cultural bias is also possible. A qualitative study found that teenagers in Malang, East Java skipped breakfast because they were in a hurry to school.²⁴ This indicates eating behaviour is often done quickly and, in a hurry, because the culture of eating quick is possible among college and high school teenagers. This situation is revealed in the statement items in the Mindful Eating Questionnaire state²⁵ that has the potential to be inconsistent with the phenomena in the field: "I eat so fast that I do not feel what I eat"; "I notice subtle textures in my food"; "I pay attention to how the food looks in my dinner container"; and "I feel every food I chew".

This can occur due to various factors, including social values and beliefs, individual psychological characteristics, and the tools (instruments) used.²⁶ Likewise, a review of the food or eating habits mentioned is different in each culture, starting from how to choose, prepare, serve, and enjoy it. Among college students, eating activities are known to have a relationship with

¹⁸ Kamila Czepczor-Bernat et al., "The Moderating Effects of Mindful Eating on the Relationship between Emotional Functioning and Eating Styles in Overweight and Obese Women," *Eating and Weight Disorders*, July 2019, <https://doi.org/10.1007/s40519-019-00740-6>.

¹⁹ B Ersöz Alan et al., "Mindful Eating, Body Weight, and Psychological Well-Being in Adolescence.," *Childhood Obesity (Print)* 18, no. 4 (2022): 246–253.

²⁰ Khan and Zadeh, "ScienceDirect Mindful Eating and It's Relationship with Mental Well-Being."

²¹ Celia Framson et al., "Development and Validation of the Mindful Eating Questionnaire," *Journal of the American Dietetic Association* 109, no. 8 (August 2009): 1439–44, <https://doi.org/10.1016/j.jada.2009.05.006>.

²² Ruth Tennant et al., "The Warwick-Dinburgh Mental Well-Being Scale (WEMWBS): Development and

UK Validation," *Health and Quality of Life Outcomes* 5, no. 1 (November 2007): 63, <https://doi.org/10.1186/1477-7525-5-63>.

²³ Khan and Zadeh, "ScienceDirect Mindful Eating and It's Relationship with Mental Well-Being."

²⁴ Mulia Sondari, Inge Brouwer, and Judhiastuty Februhartanty, "Eating Behaviour of Adolescent Schoolgirls in Malang, East Java: A Qualitative Study," *Malaysian Journal of Nutrition* 25, no. September (2019): S87–96.

²⁵ Framson et al., "Development and Validation of the Mindful Eating Questionnaire."

²⁶ Cecil R. Reynolds and Michael C. Ramsay, "Bias in Psychological Assessment: An Empirical Review and Recommendations," *Handbook of Psychology*, 2003, <https://doi.org/10.1002/0471264385.wei1004>.

healthy living habits which can be influenced by barriers at the individual, lecturing/academic, and social²⁷ and personal levels.²⁸

Kristeller and Wolever²⁹ in their study state that eating behaviors can also be influenced by external factors such as promotions or advertisements, minimal emotional regulation, distraction, and a separate internal system in regulating the food consumed, especially in individuals with eating disorders. The physical, chemical, and biological environment of human beings manifest in various conditions that support or reduce the ability for mindful eating. It is undeniable that human eating behavior is sometimes also caused by exposure to advertisements in an era of increasingly rapid technological development, stress coping strategies, and internal drives that desire specific food intake.³⁰

Mindful eating is one of the many applicative forms of mindfulness or mindful living carried out consciously and attentively in daily activities. Therefore, the weak correlation found in this study can also be influenced by activities other than eating that may or may not be done mindfully, such as mindful breathing, mindful movement, mindful smiling, mindful walking, mindful showering, mindful mirroring, mindful driving, mindfulness of love, mindfulness of pain, mindfulness of nature, etc.³¹ This is easy to apply

in everyday life and requires consistent effort. As mentioned by Teasdale³², mindfulness can be done anytime and anywhere by getting used to always remembering to be mindful in any condition or activity.

Long-term considerations on eating behavior or living a healthy life need to be applied in daily life to form optimal physical and mental health³³. Food appreciation, which is part of mindful eating, is found to contribute and play an important role in Japanese children's health.³⁴ Moreover, previous studies also have yielded sufficient positive findings on mindfulness and mindful eating, which can train individuals to pay attention to their thoughts, emotions, and sensations of distress. This is because the increased awareness can tolerate distress which often provokes automatic reactions and overeating³⁵. Therefore, mindful eating needs to be applied and manifested in every activity (before, during, and after) eating so that the "wisdom of the body" can help shape optimal physical and mental health.

Although the positive correlation results in this study are weak, the benefits that can be obtained through habituation and practice of mindfulness or mindful eating have been found to be considerable, such as a decrease in severe mental illness (SMI) in experimental studies;³⁶ interventions for students of Health Sciences with

²⁷ Giovanni Sogari et al., "College Students and Eating Habits: A Study Using an Ecological Model for Healthy Behavior," *Nutrients* 10, no. 12 (December 2018), <https://doi.org/10.3390/nu10121823>.

²⁸ Tzu-Hsing Wen, Wei-Ling T'chong, and Gregory S. Ching, "A Study on the Relationship between College Students' Personality and Their Eating Habits," *International Journal of Information and Education Technology* 5, no. 2 (2015): 146–49, <https://doi.org/10.7763/ijiet.2015.v5.492>.

²⁹ R Smart et al., "Women's Experience with a Mindful Eating Course on a University Campus: A Pilot Study," *Californian Journal of Health Promotion*, vol. 13, 2015.

³⁰ Slobodan Loga and Bojan Šošić, "Environment and Mental Health," in *Psychiatria Danubina*, vol. 24, 2012, 272–76.

³¹ Seng Beng Tan et al., "Mindfulness: A New Paradigm of Psychosocial Care in the Palliative Care Setting in Southeast Asia Mindfulness in Palliative Care-Seng Beng Tan et al Commentary," vol. 46, 2017; Justin Thomas, Steven W. Furber, and Ian Grey, "The Rise of Mindfulness and Its Resonance with the Islamic Tradition," *Mental Health,*

Religion and Culture 20, no. 10 (November 2017): 973–85, <https://doi.org/10.1080/13674676.2017.1412410>.

³² Rock, "The Neuroscience of Mindfulness," *Psychology Today*, 2019.

³³ Hanaa Ghaleb Al-Amari and Nedaa Al-Khamees, "The Perception of College Students about a Healthy Lifestyle and Its Effect on Their Health," 2015, <https://doi.org/10.4172/2155-9600.1000437>.

³⁴ Y Kawasaki and R Akamatsu, "Appreciation for Food, An Important Concept in Mindful Eating: Association with Home and School Education, Attitude, Behavior, and Health Status in Japanese Elementary School Children," *Global Health Promotion* 27, no. 3 (2020): 140–149.

³⁵ Janet M Warren, Nicola Smith, and Margaret Ashwell, "A Structured Literature Review on the Role of Mindfulness, Mindful Eating and Intuitive Eating in Changing Eating Behaviours: Effectiveness and Associated Potential Mechanisms," 2017, <https://doi.org/10.1017/S0954422417000154>.

³⁶ Gidugu and Jacobs, "Empowering Individuals with Mental Illness to Develop Healthy Eating Habits through Mindful Eating: Results of a Program Evaluation."

binge eating disorders and mood disturbances;³⁷ mindful-eating program intervention to reduce emotional eating in patients with overweight issues or obesity;³⁸ and a literature review conducted on the management of patients with Severe and Persistent Mental Illness (SPMI) with mindfulness-based interventions.³⁹

The relevance between the two motions, from paying attention to the "present moment" at mealtime to having self-awareness, allows divided thoughts and feelings to be resolved. In addition, focusing attention when eating can also help cope with cognitive elaboration due to full awareness and freedom from automation, especially in today's digital era. The rapid advancement of information technology in urban areas is very likely to trigger the emergence of vulnerable mental conditions among women. Besides being influenced by different biochemical factors in the body compared to men, women are also prone to stress, anxiety, and depression due to personal and social demands.⁴⁰ This is seen in the female student population who are in a period of transition (emerging adulthood) and have academic and non-academic responsibilities in pursuing higher education.⁴¹

Likewise, a lifestyle trend is related to the existence of technology, namely the development of a delivery service platform that shows an increase in people's consumption patterns with easy access to various corners of the region for 24 hours. As an essential activity for life, eating is about fulfilling needs in quantity and frequency and includes the quality side that helps form optimal health. Mindful eating is one of the

conditions in eating activities that helps the quality of human health, both physically and psychologically (mentally). This action brings one's thoughts and feelings towards center, such that a person will be able to enjoy every food that is consumed (whatever the taste, color, aroma, or texture), to be aware of himself in the present moment, not disturbed. Having control over eating behavior acts as a diversion from the perceived stressful condition.⁴²

Positive psychology, which is the focus of this study, is oriented towards developing the quality of human health, both physically and psychologically. Therefore, the study of health psychology is integrated to understand human beings as a whole. According to Taylor,⁴³ health psychology focuses on steps or efforts to promote and maintain health for each individual, including developing healthy living habits, promoting the importance of physical activity, and designing media campaigns to invite people to improve their lifestyles. This means that health psychology is not limited to the study of human psychology only but also examines social factors that lead to health improvement, prevention, and treatment. This aligns with the mission of positive psychology, which seeks to create mental health through habituation of life behavior as a preventive and curative measure.

Clapp⁴⁴ found that the type of microbiota that enters the digestive system through eating behavior can affect brain performance. Stress and depression symptoms could also be formed by eating patterns and vice versa; prolonged stress conditions can cause problems in eating behavior

³⁷ Ifigeneia Giannopoulou et al., "Mindfulness in Eating Is Inversely Related to Binge Eating and Mood Disturbances in University Students in Health-Related Disciplines," *Nutrients* 12, no. 2 (February 2020), <https://doi.org/10.3390/nu12020396>.

³⁸ Hector Morillo Sarto et al., "Efficacy of a Mindful-Eating Programme to Reduce Emotional Eating in Patients Suffering from Overweight or Obesity in Primary Care Settings: A Cluster-Randomised Trial Protocol," *BMJ Open* 9, no. 11 (2019): 1–17, <https://doi.org/10.1136/bmjopen-2019-031327>.

³⁹ Souza G, Nikolitch K, Penheiro R, Moussa Y, Jarvis E, Looper K, Rej S Potes A, "Mindfulness in Severe and Persistent Mental Illness: A Systematic Review," *INTERNATIONAL JOURNAL OF PSYCHIATRY IN CLINICAL PRACTICE* 22, no. 4 (2018): 253–61.

⁴⁰ P. Holford, "Depression: The Nutrition Connection," *Primary Care Mental Health*, no. 1 (2003): 9–16.

⁴¹ Jeffrey Jensen Arnett, "Emerging Adulthood: A Theory of Development from the Late Teens through the Twenties," *American Psychologist* 55, no. 5 (2000): 469–80, <https://doi.org/10.1037/0003-066X.55.5.469>.

⁴² P. Herzog, D. B., Franko, D. L., & Cable, *Unlocking The Mystery of Eating Disorders: A Life-Saving Guide to Your Child's Treatment and Recovery* (New York: McGraw-Hill Companies, 2007).

⁴³ S. E. Taylor, *Health Psychology*, 4th ed. (Boston: McGraw-Hill, 1999).

⁴⁴ Megan Clapp et al., "Gut Microbiota's Effect on Mental Health: The Gut-Brain Axis," *Clinics and Practice* 7, no. 4 (September 2017): 987, <https://doi.org/10.4081/cp.2017.987>.

to physiological malfunction.⁴⁵ In another research,⁴⁶ depressive symptoms decrease is associated with mindful eating, specifically in the awareness and lack of distraction domains of the Mindful Eating Behavior Scale (MEBS),⁴⁷ in line with lower total energy intake after three years. This means that diet quantity could be a possible underlying mechanism for the associations between both.⁴⁸

The socio-culture sphere also participates in shaping eating behavior.⁴⁹ The family environment, community (including peers), to education are places where individuals learn about dynamic lifestyles and food consumption behavior.⁵⁰ Therefore, synergies between these fields need to be carried out to achieve a healthy mental condition.

Conclusion

It turns out that mindful eating has a vital role in students' mental health at state universities (PTN) in Malang. Mindful eating has a role as absorption intake for the human body. The lack of attention makes eating conditions or activities negatively affect human mental health. However, they could pay attention to the diet so that their mental health is always relaxed. Thus, mental disorders such as anxiety, stress, and excessive depression can be adequately resolved, and activities can be run smoothly.

This study provides a perspective on how mindful eating is related to mental health. Various problems in mental health have occurred in female students at state universities in Malang, which can be seen from research statistics. Moreover, the series of times that collide with eating activities

make them pay less attention to their eating patterns. This paper emphasizes that the relationship between mindful eating and mental health can be established if they are aware and pay attention to their health.

In addition, the implementation of mindful eating behaviors also supports individuals in facing the COVID-19 pandemic, which has had a great impact on human beings' life including their health and sudden lifestyle changes, besides the social and economic consequences.⁵¹

This paper has limitations in the analysis of the object of research, because it is only based on students at the State universities in Malang. Thus, it cannot be used as a strong basis when used as a primary reference related to mindful eating. Primary references to mindful eating require extensive surveys and in-depth research to obtain comprehensive and compatible findings. Surveys and research on students in universities, junior and senior high school levels, students in the elementary school level, can serve as a firm basis for further research. Follow-up studies that accommodate a more comprehensive sample and diverse sources of information can be a source of knowledge for deeper understanding and better living arrangements.

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