

Association of Dietary Behaviour and Depression among High School Students: A Literature Review

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DOI: <https://doi.org/10.5281/zenodo.14652047>

Published Date: 15-January-2025

Abstract: The complex link between what teens eat and their mental health, especially depression, in high school students has gained more research focus lately. The teenage years are important for growth and come with many physical, emotional, and social shifts, making it a key time for forming habits related to health. This age group often deals with various pressures that can worsen mental health, resulting in more signs of depression. At the same time, food choices made during this critical time can have a significant impact on health, mood, and brain function. Studies show that healthy diets are linked to fewer cases of depression, while diets heavy in processed foods can lead to more mental health problems. Therefore, it is crucial to understand how student eating habits relate to signs of depression, as this knowledge is important not just for tackling personal mental health issues but also for encouraging healthier habits that can help enhance overall well-being during these key years. This article is a narrative review that aims to summarize the available literature on the complicated link between what high school students eat and their feelings of depression. The association between dietary patterns and depressive symptoms among high school students underscores the significance of promoting healthy eating behaviors as a means to address mental health issues. The findings reveal a significant inverse correlation between the frequency of students participating in muscle-strengthening exercises and the manifestation of depressive symptoms, thereby emphasizing the intricate relationship between nutrition and physical activity in the mental health of adolescents.

Keywords: depression, dietary behaviour, high school.

1. INTRODUCTION

Understanding what students eat is important for linking food and mental health in high schoolers. Dietary behaviour means the choices people make about what they eat, including how often and what kinds of foods they take in. Many factors can impact these choices, like money issues, family situations, and friendships, which are key in how teens decide what to eat. For example, students with unhealthy eating habits, often seen with lots of processed foods and not enough fruits and vegetables, face risks not just of gaining weight but also of mental health problems, like sadness and worry (Ahmadi-Montecalvo et al., 2016). Plus, studies show that diets that cut calories or involve bad eating habits can worsen feelings of depression and lead to a repeated pattern of poor dietary choices. Therefore, knowing more about dietary behaviour is important for understanding its effects on the mental health of teenagers.

International Journal of Novel Research in Healthcare and Nursing

Vol. 12, Issue 1, pp: (53-60), Month: January - April 2025, Available at: www.noveltyjournals.com

It is important to grasp the situation of depression in high school students to tackle its main reasons, like eating habits. Mental health issues in this group often disrupt learning and social activities, resulting in a negative cycle of outcomes. Studies show that high school students without stable housing are at greater risk for depression because of instability and lack of resources, which leads to poor access to healthcare (Combs et al., 2016). Also, the link between sexual identity and mental health shows a troubling pattern; bisexual teens are particularly at risk, facing higher levels of substance use and thoughts of suicide, along with poor eating habits (McLaughlin et al., 2017). This is worrisome since unhealthy eating is associated with signs of depression, highlighting the connection between diet and mental health (Committee C et al., 2017). As these issues spread through the school setting, they also create difficulties for school leaders in handling discipline and fostering a caring environment.

Looking into how eating habits relate to mental health in high school students is very important for understanding the many factors that affect young people's well-being. Eating patterns connect to mental health results, showing that both nutrition and mental states affect each other. For instance, a study showed a key link between eating habits and mental health issues, pointing out that how students see their body and their overall satisfaction with school greatly affect their mental well-being (Barene et al., 2022). Moreover, more studies suggest that unhealthy eating may worsen anxiety and depression symptoms, especially in those with Western dietary habits, which connect to higher stress levels. Also, food insecurity, which has gotten worse during the COVID-19 pandemic, calls for more investigation into its impact on student mental health and school performance, highlighting the pressing need for efforts to improve access to healthy food and education. This thorough approach is crucial for promoting healthier lifestyles that can reduce mental health problems in teens.

This review looks at the complicated link between what high school students eat and their feelings of depression. The focus is on how bad eating habits, like eating too much sugar and not enough fruits and vegetables, can lead to more signs of depression. By gathering current research, the goal is to not just see how these things are connected but also to find out why this might happen. For example, the review will review studies that show how lack of proper nutrition can affect mood, which can help shape teaching programs and public health campaigns. In the end, this review hopes to add to the conversation about preventing mental health issues in teenagers, which is an important concern for public health (Pelletier et al., 2020; Pelletier et al., 2021).

2. THE IMPACT OF NUTRITION ON MENTAL HEALTH

The complex link between what we eat and mental health is very important for teenagers. Their eating habits can greatly affect how they feel mentally. Studies show that better diets can be a cheaper way to treat depression compared to traditional methods, possibly reducing depression-related issues in young people. In high schools, where students often deal with body image and mental health problems, learning about nutrition can be very helpful. Research indicates many teenagers have high Body Mass Index (BMI) and mental health issues (Scope T, 2017). Also, not eating enough fruits and vegetables is connected to higher levels of depression and anxiety in young adults. Therefore, encouraging better eating habits could not only improve physical health but also significantly aid in enhancing mental health for high school students (Keith et al., 2020).

Overview of key nutrients affecting mood

Knowing how key nutrients relate to mood is important for addressing diets and their connections to depression in high school students. Nutrients like omega-3 fatty acids, vitamins B6 and D, and magnesium are important for serotonin production and brain function, impacting emotional health. For example, vitamin B6 is vital for turning tryptophan into serotonin, a chemical that helps regulate mood, while not having enough magnesium is linked to higher anxiety and depression signs in young people. The impact of eating patterns makes this connection more complex; a high intake of added sugars has been linked to depressive symptoms, but research indicates that the relationship between these factors needs further investigation. Additionally, metabolic syndrome, which relates to unhealthy eating habits, is also connected to negative mood states, highlighting how important nutrition is for supporting mental health in young people (Chen, 2017).

Role of omega-3 fatty acids in mental well-being

The possible role of omega-3 fatty acids in improving mental health is more recognized now, especially among teens with diet issues. Research shows omega-3 polyunsaturated fatty acids are crucial for brain development and function, helping

International Journal of Novel Research in Healthcare and NursingVol. 12, Issue 1, pp: (53-60), Month: January - April 2025, Available at: www.noveltyjournals.com

control neurotransmission and neuroinflammation. These processes are often affected in mental health conditions like depression. With high rates of food insecurity and poor eating habits among high schoolers, these fatty acids could be important in easing depressive symptoms. A study focusing on young adults revealed strong links between diet and mental health, suggesting that eating more fruits and vegetables, which often include omega-3 sources, can reduce episodes of depression and anxiety (Hagedorn et al., 2018). By recognizing how dietary habits, such as omega-3 consumption, impact mental health, we can create plans to improve student well-being and lower depression rates in this at-risk group (Cryan et al., 2016).

Influence of sugar and processed foods on mood disorders

The connection between sugar and processed food eating and mood disorders is becoming more recognized in the field of adolescent mental health. High sugar consumption, especially from sweet foods and drinks, has been linked to increased risks for common mental illnesses and recurring depression. For example, a long-term study found that sugar intake was positively related to the development of mood disorders over a long follow-up time. However, other research, such as studies on college freshmen, did not find a strong direct link between added sugar consumption and depressive moods, instead suggesting a more complex relationship influenced by weight. Additionally, studies have shown that there are complicated links between dietary choices and mood, showing that poor food choices can worsen feelings of low mood and lead to overeating, while healthier eating patterns can improve emotional health. Therefore, understanding these eating behaviours is crucial for tackling adolescent depression (Samuelson et al., 2017).

Connection between micronutrient deficiencies and depression

The connection between not getting enough micronutrients and depression is very important for high school students because not eating right can make mental health problems worse during this important time. For example, teenagers are more likely to have nutrient shortages, which can cause more symptoms of depression and stress. This is seen in the fact that more than 50% of pregnant teens said they do not get enough important micronutrients like folate and iron (Davis et al., 2017). Besides that, not having enough key vitamins and minerals, like vitamin D and zinc, has been associated with behaviour issues and mood disorders in young people. The worrying trend of teens choosing unhealthy snacks instead of more nutritious cafeteria foods makes this problem worse, as these snacks usually contain a lot of sugar and unhealthy fats, negatively impacting their mental and physical health. Thus, it is important to deal with micronutrient shortages by improving eating habits to promote better mental health for high school students (Peabody et al., 2020).

3. DIETARY PATTERNS AMONG HIGH SCHOOL STUDENTS

The eating habits formed during teenage years are very important, as they often lead to habits that last a lifetime. High school students often make unhealthy food choices, like eating a lot of fast food and sugary drinks, which can be connected to different mental health issues, such as anxiety and depression. A study that used the Global School Health Survey found that teenagers with several unhealthy habits had much higher chances of feeling anxious and having thoughts of suicide, making food choices key factors in mental health (Inam et al., 2015). Additionally, eating more dietary fibre has been linked to lower levels of depression, supporting the need for focused nutrition programs for teenagers (Fatahi et al., 2021). Understanding the connection between eating habits and mental health is crucial because poor nutrition can worsen negative feelings, showing that there is a need for thorough nutrition education in schools.

Common dietary habits observed in adolescents

Teenagers often show clear eating habits that can really affect their health and mental state. A concerning part of their diets is a strong liking for foods that are high in calories but low in nutrients, which has been connected to increasing obesity rates and related mental health problems, like depression (Niemeier et al., 2022). Even with knowledge about healthy eating, many teenagers eat diets that are high in fats, sugars, and sodium while ignoring fruits, vegetables, and whole grains (Baker et al., 2023). This imbalance can get in the way of their nutrition education, which is often poorly taught in schools, resulting in students having little exposure to proper dietary information. Furthermore, programs aimed at improving teenagers' knowledge about healthy eating have had mixed results, with some research showing better awareness but not always better eating habits (Hughes et al., 2018). These dietary patterns underscore the critical need for effective nutrition education methods in schools to help support both physical and mental health in teenagers.

International Journal of Novel Research in Healthcare and NursingVol. 12, Issue 1, pp: (53-60), Month: January - April 2025, Available at: www.noveltyjournals.com*Socioeconomic factors influencing dietary choices*

The effect of socioeconomic factors on food choices of high school students is an important area to study, especially concerning outcomes for mental health like depression. Money issues often affect what food is available and its quality, causing students from families with less money to choose cheaper and less healthy foods, which can lead to health problems like obesity and related mental health issues. Studies show a strong link between how much parents worry about their child's weight and the food choices made, highlighting how family dynamics impact eating habits. Also, programs aimed at younger students have been shown to help encourage better eating habits, which is key in fighting the obesity problem (Gomez et al., 2024). By understanding how socioeconomic status, family influence, and dietary choices are connected, those in charge can create plans to improve the food situation for teenagers, which could reduce the risks of depression tied to unhealthy eating habits.

The role of peer influence on eating behaviours

When looking at the link between what students eat and depression in high school, the impact of friends is a key factor that affects eating habits. Teens are especially influenced by their friends' actions and views, sometimes leading them to make either good or bad food choices. Studies show that what friends accept and how they behave can greatly affect what someone chooses to eat, which is important for schools to recognize. For example, students often change their food selections to match what their friends like or do, which can lead to not getting enough nutrients or eating too much, possibly worsening depression symptoms (Ibe et al., 2020). Additionally, the influence of family and cultural background is also important because friends can reinforce or question these traditional eating habits, making dietary choices even more complicated for teens (Seedat et al., 2017). Therefore, understanding how friends influence eating is essential for creating effective programs that promote better eating habits and enhance mental health.

Impact of school meal programs on student nutrition

School meal programs are very important for shaping students' eating habits, which can greatly affect their mental health. Getting healthy meals at school is connected to better eating practices, helping students concentrate and think better, which in turn impacts their overall school performance. Programs like the USDA COVID-19 Universal Free Meal (UFM) waivers have led to more students joining school meal programs, especially from lower-income families who now can ensure their children get regular nutrition (Daniel et al., 2015). This rise in participation directly helps to tackle problems like obesity, particularly in teens from ethnic minority groups who often face food-related challenges. Therefore, having strong school meal programs is crucial not just for better nutrition but also for reducing the chances of depression linked to bad eating habits, thus promoting a healthier learning space (Martin et al., 2018).

4. PSYCHOLOGICAL EFFECTS OF DIETARY BEHAVIOUR

The complex link between what people eat and how they feel mentally has become more interesting, especially for high school students. Many studies show that eating habits can greatly affect mental health, with certain actions strongly related to signs of depression. For example, (Green et al., 2023) shows that students frequently take on unhealthy lifestyle choices, like bad eating habits, which can weaken their emotional strength and lead to depression. Besides, how one eats is not only about personal decisions; family and friends also have an important part in shaping these habits. According to (Bierlich-Wesch et al., 2016), teenagers' views about their weight and body image, swayed by what parents say and how peers accept them, can worsen emotional issues. Furthermore, it shows the risky link between being overweight and depressive symptoms, indicating that teenagers at high risk tend to have much worse eating habits. As a result, encouraging healthy eating habits is a crucial way to enhance mental health among high school students, as explained by.

Relationship between unhealthy eating and self-esteem

The connection between bad eating habits and self-esteem is a big issue, especially for high school students going through the tough time of adolescence. Research indicates that lower self-esteem is closely related to poor eating choices, with studies showing that a negative view of one's body plays a significant role in this link. For example, studies reveal that self-esteem negatively impacts body image and, in turn, affects thoughts about eating, creating a cycle where a bad body image leads to emotional eating as a way to cope (Ardhiani et al., 2020). Additionally, stress from school makes unhealthy food

International Journal of Novel Research in Healthcare and NursingVol. 12, Issue 1, pp: (53-60), Month: January - April 2025, Available at: www.noveltyjournals.com

choices worse, as students often turn to junk food for comfort, deepening feelings of inadequacy and low self-worth (Caso et al., 2020). The many findings stress the urgent need for psychological support aimed at increasing self-esteem and encouraging healthier eating habits, which could improve both mental health and academic success for students (Ardhiani et al., 2020).

Influence of diet on cognitive function and academic performance

The relationship between diet, brain function, and school performance shows important effects for teens, particularly those in high school dealing with depression. What students eat can really change how well they think, which then can affect their grades. For example, students who eat better—like having family meals regularly—often do better academically, as shown by connections between good eating habits and higher scores on tests (Dominek et al., 2021). Also, being physically active, which usually goes hand-in-hand with eating well, has been found to enhance brain function and boost students' confidence in schoolwork. On the other hand, poor nutrition, like not eating breakfast, is linked to trouble focusing and bad behaviour in class, making school harder. Therefore, looking at eating habits is very important for helping high school students with both brain function and academic achievement (Ibrahim, 2020).

Emotional eating as a coping mechanism for stress

Emotional eating is often seen as a poor way to handle stress in high schoolers, linking what they eat with mental health issues like depression. High stress levels can make emotional eating worse, as students may turn to food to ease feelings of anxiety and insecurity. A study showed that increased academic stress led to different dietary choices among students, highlighting the close tie between stress and unhealthy eating habits (Caso et al., 2020). Additionally, parental rejection has been found to influence emotional eating, showing how important family relationships are in shaping eating behaviour and emotional health (Ahmadi-Montecalvo et al., 2016). These habits, along with things like skipping breakfast or eating junk food, can harm academic performance and mental well-being, underlining the ongoing cycle between eating behaviour, stress, and depression in teens.

Long-term mental health implications of poor dietary habits

The link between what people eat and mental health over time, especially in young people, is very important. This is especially true with more reports of depression. Bad food choices, like eating a lot of sugar and fat, can have negative effects on mental health and might make issues like anxiety and depression worse. Research shows that teens who eat poorly are more likely to suffer from depression because these eating habits lead to bad physical health and can also affect how they manage mood and stress. Additionally, the damaging effects of bullying on eating habits make it clear that we need to include nutritional education in mental health programs for young people at risk. The new area of nutritional psychiatry shows that eating well is crucial in helping prevent mental health issues. This highlights the need to promote good eating habits in high schools to improve mental health outcomes (Xue C et al., 2024).

5. CONCLUSION

In summary, the link between eating habits and depression in high school students shows how important it is to encourage good eating practices to help with mental health problems. The results show a notable negative relationship between how often students engage in muscle-strengthening activities and depression symptoms, highlighting the complex interplay between diet and exercise in the mental well-being of young people (Albaladejo-Blázquez et al., 2018). Also, the connections found between eating fruits and vegetables and improved mental health point out the need for greater awareness about nutrition among young adults. Furthermore, when unhealthy behaviours like bad eating, lack of exercise, and substance use happen together, they increase the risk of anxiety and depression in teenagers, indicating that initiatives must tackle these unhealthy habits in a complete way. In the end, focused activities in schools and communities aimed at improving eating habits are vital for better mental health in youth, laying the groundwork for healthier future generations.

Summary of key findings

Research on eating habits among high school students shows strong links to mental health, especially with depression. Evidence indicates that poor eating habits, such as high intake of processed foods and sugary drinks, worsen depressive symptoms in teens. This corresponds with findings from (Marciano L et al., 2022), which show that teens' mental health

International Journal of Novel Research in Healthcare and NursingVol. 12, Issue 1, pp: (53-60), Month: January - April 2025, Available at: www.noveltyjournals.com

worsened with increased use of digital media, possibly due to food choice anxieties. Gender differences are also important; studies reveal that girls tend to be more aware of healthy eating and are more affected by societal pressures about body image, as discussed in (Małgorzata Grzymisławska et al., 2020). Additionally, the lasting effects of school-based dietary programs show they significantly influence students' health, underscoring the need for ongoing support to maintain these programs after initial funding, as noted in (Herlitz L et al., 2020). Overall, well-planned dietary policies can help reduce obesity while enhancing mental health, supporting findings from.

Implications for parents, educators, and policymakers

The link between what students eat and their depression shows important points for parents, teachers, and policy makers, especially in creating a helpful environment that supports better lifestyle choices. Parents are key in forming eating habits and need to learn about how nutrition affects their child's mental health. Better eating habits might help lessen feelings of depression. Teachers can take advantage of wellness programs that promote not just healthy food but also help manage students' stress and emotional problems. This aligns with evidence that changes are necessary for the well-being of teachers too. Furthermore, policy makers need to focus on creating rules that support healthy eating in schools. They should recognize that environments that favour nutritious foods can greatly influence student health and their school success. Working together on these issues is essential for reducing the rates of depression related to bad eating habits in young people.

Recommendations for improving dietary habits among students

To make dietary habits better for high school students, a plan that includes education and community participation is very important. Programs that help students manage their eating and exercise can give them the knowledge and skills they need to make healthier choices. Studies show that structured support programs can lead to big improvements in dietary behaviour (Hughes et al., 2018). Also, getting students involved through personalized motivational sessions can improve how they view healthy eating, even if there are difficulties in putting knowledge into action (Obielodan et al., 2022). To tackle the worrying rise in obesity among teenagers, it is vital to provide thorough nutrition education, especially in family environments, to build lifelong healthy habits (Baker et al., 2023). Furthermore, creating a supportive environment that encourages peer support and peer-led activities can help reduce the stress of dietary changes and strengthen commitment to wellness programs (Brinkley et al., 2024). These suggestions highlight the need for a complete strategy to change dietary behaviours and improve overall student health.

Call for further research on diet and mental health in adolescents

The rising occurrence of mental health issues in teenagers makes it necessary to study more about the complex link between diet and mental well-being. Adolescence is an important time with many biological, psychological, and social changes, which makes young people especially open to how their eating habits might affect them. Existing research shows that unhealthy eating habits may lead to or worsen feelings of depression, but there are still many unknowns about the reasons and causal connections. Future studies should look at long-term research and different groups of people to better understand how eating patterns affect mental health over time. Moreover, examining how economic factors, access to healthy food, and cultural aspects influence food choices can offer useful knowledge. Such in-depth research is important not just for academic discussions but also for helping to shape public health programs aimed at encouraging better eating habits among high school students.

Disclaimer: The statements, opinions and data are solely those of the individual authors and contributors and not of the editor.

Conflict of Interest: The authors declare no conflicts of interest.

Source of Funding: The authors received no specific funding for this work.

Informed Consent Statement: Not applicable.

International Journal of Novel Research in Healthcare and Nursing

Vol. 12, Issue 1, pp: (53-60), Month: January - April 2025, Available at: www.noveltyjournals.com

REFERENCES

- [1] Ahmadi-Montecalvo, Halima (2016) Adolescent Health Risk Behaviors: An Examination of the Co-occurrence of Risk Behaviors in a National Sample of U.S. High School Adolescents. doi: <https://core.ac.uk/download/230486054.pdf>
- [2] Akiki, Zeina, Assaad, Shafika, Costanian, Christy, Daou, et al. (2018) Factors Associated with Premenstrual Syndrome and its Different Symptom Domains among University Students in Lebanon. doi: <https://core.ac.uk/download/287659543.pdf>
- [3] Albaladejo-Blázquez, Natalia, Clement, Violeta, Ferrer-Cascales, Rosario, Ruiz-Robledillo, et al. (2018) Poor Dietary Habits in Bullied Adolescents: The Moderating Effects of Diet on Depression. doi: <https://core.ac.uk/download/160013070.pdf>
- [4] Ardhiani, Lusi Nur, Kaloeti, Dian Veronika Sakti (2020) The effect of self-esteem, attitude towards the body, and eating habit on cognitive reactivity. doi: <https://core.ac.uk/download/483684287.pdf>
- [5] Baker, Miranda J (2023) High School Nutrition Education Modules for Homeschooling. doi: <https://core.ac.uk/download/579994578.docx>
- [6] Barene, Svein, Johansen, Patrick Foss, Ruud-Tronsmoen, Andreas (2022) Associations between Demographic Characteristics, Lifestyle Factors and School-Related Conditions and Symptoms of Mental Health Problems in Norwegian Upper Secondary School Students. doi: <https://core.ac.uk/download/554650934.pdf>
- [7] Bierlich-Wesch, Jessie R (2016) Pink and dude chefs: impact of a nutrition and culinary education program with middle school students in an afterschool setting. doi: <https://core.ac.uk/download/77511281.pdf>
- [8] Brinkley, Jessica (2024) The impact of wellness programs on teacher stress and coping. doi: <https://core.ac.uk/download/630240846.pdf>
- [9] Cailing Xue, Guoqi Fu, Qi Song, Sheng Luo, Yanxu Liu, Yulin Chai (2024) The relationship between stress, anxiety and eating behavior among Chinese students: a cross-sectional study. doi: <https://core.ac.uk/download/630434883.pdf>
- [10] Caso, Daniela, Mark, Conner, Miriam, Capasso, Rosa, et al. (2020) Unhealthy eating and academic stress: The moderating effect of eating style and BMI. doi: <https://core.ac.uk/download/553025238.pdf>
- [11] Chen, Yufei (2017) Associations among Depressive Mood, BMI, and Added Sugar Consumption among Arizona State University Freshmen. doi: <https://core.ac.uk/download/97833509.pdf>
- [12] Combs, Kathryn Therese (2016) High School Students' Physical Health: Associations with Intrapersonal, Family, Peer, Academic, And Risk Behavior Factors. doi: <https://core.ac.uk/download/56688326.pdf>
- [13] Cryan, John F., Dinan, Timothy, Kelly, Philip, Puscieddu, et al. (2016) N-3 Polyunsaturated Fatty Acids through the Lifespan: Implication for Psychopathology. doi: <https://core.ac.uk/download/478144827.pdf>
- [14] Daniel, Kaitlin (2015) Nutrition and the Effects on Student Behavior and Academic Performance in the Classroom. doi: <https://core.ac.uk/download/482686576.pdf>
- [15] Davis, Alida, Genkinger, Jeanine M., Monk, Catherine E., Singh, et al. (2017) Micronutrient Dietary Intake in Latina Pregnant Adolescents and Its Association with Level of Depression, Stress, and Social Support. doi: <https://core.ac.uk/download/161458468.pdf>
- [16] Dominek, Sydney, Gasser, Rachel (2021) The Relationship between Stress and Emotional Eating in Baccalaureate Nursing Students. doi: <https://core.ac.uk/download/428361698.pdf>
- [17] Fatahi, S., Matin, S. S., Sohoulí, M. H., Găman, M. A., Raee, P., Olang, B., Kathirgamathamby, V., Santos, H. O., Guimarães, N. S., & Shidfar, F. (2021) Association of dietary fiber and depression symptom: A systematic review and meta-analysis of observational studies. doi: <https://core.ac.uk/download/426964460.pdf>
- [18] Gomez, Selena (2024) University students' perspectives of public high school nutrition education and current dietary habits. doi: <https://core.ac.uk/download/603654307.pdf>

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 Vol. 12, Issue 1, pp: (53-60), Month: January - April 2025, Available at: www.noveltyjournals.com

- [19] Green, Charlotte (2023) The impact of universal free meals during covid-19 on family life and perspective of school meals in central washington state. doi: <https://core.ac.uk/download/571267021.pdf>
- [20] Hagedorn, Rebecca L, Olfert, Melissa D., Wattick, Rachel A (2018) Relationship between Diet and Mental Health in a Young Adult Appalachian College Population. doi: <https://core.ac.uk/download/322556907.pdf>
- [21] Hughes, Eric (2018) Impact of a School-Based Obesity Intervention for Minority Female High School Students. doi: <https://core.ac.uk/download/304334183.pdf>
- [22] Ibe, Brendan C (2020) Racial Differences in Factors Influencing Childhood Overweight and Obesity in the US. doi: <https://core.ac.uk/download/328038987.pdf>
- [23] Ibrahim, Mohamed (2020) Surviving architecture an exploration of the design studio's hidden curriculum. doi: <https://core.ac.uk/download/336856226.pdf>
- [24] Inam, Sumera, Jawed, Nida, Rao, Saadiyah, Shafique, et al. (2015) Nutritional and lifestyle risk behaviors and their association with mental health and violence among Pakistani adolescents: results from the National Survey of 4583 individuals. doi: <https://core.ac.uk/download/42362143.pdf>
- [25] Keith, R., Keith, R., Leeds, J., Leeds, et al. (2020) Food and Mood: Exploring the determinants of food choices and the effects of food consumption on mood among women in Inner London. doi: <https://core.ac.uk/download/323057401.pdf>
- [26] Laura Marciano, Michelle Ostroumova, Peter J. Schulz, Anne-Linda Camerini (2022) Digital Media Use and Adolescents' Mental Health During the Covid-19 Pandemic: A Systematic Review and Meta-Analysis. Volume (9). Frontiers in Public Health. doi: <https://doi.org/10.3389/fpubh.2021.793868>
- [27] Lauren Herlitz, Helen L. Macintyre, Tom G. Osborn, Chris Bonell (2020) The sustainability of public health interventions in schools: a systematic review. Volume (15). Implementation Science. doi: <https://doi.org/10.1186/s13012-019-0961-8>
- [28] Małgorzata Grzymisławska, Elżbieta Alicja Puch, Agnieszka Zawada, Marian Grzymisławski (2020) Do nutritional behaviors depend on biological sex and cultural gender? Volume (29), 165-172. Advances in Clinical and Experimental Medicine. doi: <https://doi.org/10.17219/acem/111817>
- [29] Martin, Shadai (2018) The Role of Programs and Policies in Shaping the Observed School Nutrition Environment and Rural Childhood Obesity. doi: <https://core.ac.uk/download/215606426.pdf>
- [30] McLaughlin, Elizabeth Anne (2017) Seeking an Operational Definition of Dieting: A Daily Diary Study. doi: <https://core.ac.uk/download/151611893.pdf>
- [31] Niemeier, Matthew (2022) Implementing Nutrition Education During Advisory Periods to Decrease Obesity and Increase Students' Social Emotional Well-Being. doi: <https://core.ac.uk/download/519803832.pdf>
- [32] Obielodan, Omoadoni Roseline (2022) Policy Approaches to Address Childhood Obesity. doi: <https://core.ac.uk/download/552816957.pdf>
- [33] Peabody, Taylor (2020) Association of Micronutrient Inadequacy and Body Mass Index in Young Adults. doi: <https://core.ac.uk/download/304636267.pdf>
- [34] Pelletier, Melinda (Mindy), Vice President for Research and Dean of the Graduate School (2020) 2020 Student Symposium Research and Creative Activity Book of Abstracts. doi: <https://core.ac.uk/download/423768174.pdf>
- [35] Samuelson, Rachel (2017) The Impact of Diet and Nutrition on Adolescent Depression: A Systematic Review. doi: <https://core.ac.uk/download/200292702.pdf>
- [36] Seedat, Raeesa. (2017) Breakfast consumption and the relationship to socio-demographic and lifestyle factors of undergraduate students in the School of Health Sciences at the University of KwaZulu-Natal. doi: <https://core.ac.uk/download/286605306.pdf>
- [37] The Scope (2017) The Scope. doi: <https://core.ac.uk/download/84402945.pdf>