


FOOD AND MOOD


Survey of recent research regarding the relationship
between nutrition and mental health in children and adolescents

What is mental health?

 **Good mental health empowers children to manage negative emotions in a healthy and productive way.**

The World Health Organization defines “mental health” as a state of well-being and effective functioning in which people realize their own abilities, are resilient to the stresses of life, and are able to make positive contributions to their community (1).

Research shows that nutrition plays a key role in mental health.

 **The connection between an unhealthy diet and depression has been shown in many studies on adults; while less studied, similar connections are being found for children and teens.**

The influences on mental health are complex and interconnected. However, there is growing evidence that “diet is as important to psychiatry as it is to cardiology, endocrinology, and gastroenterology” (2). In adults, there is strong research evidence that an unhealthy diet is associated with depression and that eating a healthy diet of ample fruits, vegetables, fish, and lean protein is associated with a reduced risk of depression (3). In children and teens, research examining the association between diet and mental health is more limited, but research interest in this area is growing and a number of studies have linked unhealthy diets with symptoms of depression in teens (4, 5).

Unhealthy diets may lead to worse mental health and healthy diets may support improved mental health.

 **Healthy diets support better self-esteem and fewer emotional and peer problems in children.**

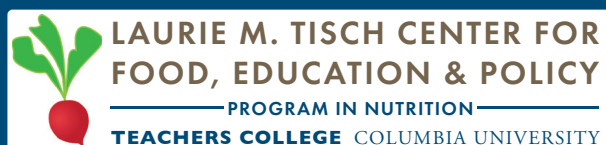
In 2014, a summary of the research to date found a relationship between unhealthy diet patterns and poorer mental health in children and teens; but the researchers found less consistent evidence throughout the studies to connect healthy diet patterns with better mental health (6). Since then, new research has been done that supports the connection between a healthy diet and improved mental health in kids and teens (7, 3). Even after

Youth Mental Health Facts

- 20% of children and adolescents globally have mental health difficulties, including major depressive disorders (8)
- Depression is the 2nd most common cause of death in teens via suicide (8)
- 1 in every 4 to 5 youth in the U.S. meet criteria for a mental disorder with severe impairment before they reach adulthood (9)
- Prevalence of depression among U.S. adolescents has increased by 30% over the last decade (5)
- 1 in 5 students in New York State faces a serious mental illness in a given year (10)

taking into consideration a number of other variables in people’s lives that can influence their diet and mental health, the connection between the two remained strong. Additionally, while some have questioned whether mental health problems simply lead people to eat an unhealthy diet (known in the research as the “reverse causality hypothesis”) as opposed to an unhealthy diet leading to mental health problems, that hypothesis was not supported by the data in a recent study (4).


Other research has looked at the two-way street of diet and mental health in children and found that a healthy diet leads to higher self-esteem and higher self-esteem leads to a healthier diet (11). The researchers also found that the healthier the children’s diet habits were, the fewer emotional and peer problems they experienced (11). This finding was encouraging because it was true for all children regardless of their weight, including children who may be overweight or have obesity and are vulnerable to being stigmatized because of their weight (11). In October 2019, results of the first random-controlled trial (the gold standard for research studies) were published for a study that examined whether a brief diet intervention could improve symptoms of depression in young adults (3). While it was a short-term experiment with a small number of participants, the group who received a healthy diet (similar to a Mediterranean diet) reported significantly lower symptoms of depression than the group who continued to eat their normal diet (3).



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There are many potential reasons nutrition and mental health are connected.

 **Healthy diets, including those with sufficient fruits and vegetables, have the nutrients essential for children and teens' growing minds and bodies.**

An unhealthy diet may negatively impact mental health in a number of ways, including via inflammation and oxidative stress (9). We know that poor nutrition impacts children's physical and mental development (12). Given the substantial growth and brain development that occurs during the teenage years, teens in particular may be sensitive to the effects of their diet on brain functions that control regulation of emotions and depression (5). Inattention, conduct problems, aggression towards peers, depression, and school failure have been found in teens with histories of poor nutrition during important periods of brain development (13). The average onset for anxiety is 6 years old and mood disorders is 13 years old (12), therefore early attention to dietary habits and nutrition is important to help young people achieve their fullest potential.

Schools can use nutrition as part of a comprehensive wellness policy to support students' mental health.

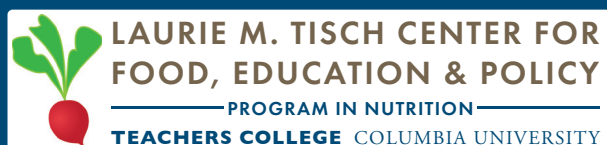
 **Food and nutrition education and school meals are critical.**

Kids spend many of their waking hours in school, making schools one of the most effective settings in our communities to support kids' mental health. While there is no single solution to improve youth mental health, one tool to support students' mental health is through nutrition. Growing research supports the relationship. Schools should ensure students have access to quality food and nutrition education alongside sustainably-produced, culturally-responsive, healthy school food as part of a comprehensive approach to support students' mental health. With food and nutrition education, children cook, grow, taste, and learn about food. They gain the motivation, knowledge, and skills that empower them to choose, prepare, and eat healthy food. Food and nutrition education also helps transform food environments, making healthy choices the easier choices and supporting students' mental and physical health for a lifetime.

“[T]he scientific foundation has been created for the nation to begin to create a society in which young people arrive at adulthood with the skills, interest, assets, and health habits needed to live healthy, happy, and productive lives in caring relationships with others’...The United States has not yet taken advantage of this foundational knowledge.” (14)

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