



ASSOCIATION BETWEEN SPICY FOOD CONSUMPTION AND THE PSYCHOLOGICAL HEALTH OF COLLEGE STUDENTS

Should college students limit their consumption of spicy foods for their overall wellbeing?

By Chase Reece, Leslie Velasquez, Rocco Ross,
Janett Rodriguez, Prachi Patel

Introduction and Background

Mental health is a major driving force of the way people act, think, and behave. College students in particular deal with a variety of stressors such as academic pressure, separation from family, and increased responsibility which have the potential to impact their mental health (Pedrelli). These stressors are very common amongst college students and are very impactful. Since 2013, there has almost been a 50% increase in the prevalence of mental health problems among college students (Lipson). This is a considerable increase in the prevalence of mental health issues and places attention on this issue. When some mental health problems go untreated, there is the potential that these problems can impact a college students' academic progress, productivity, drug use, and interpersonal interaction that occur during college (Hunt).

In light of the increased prevalence, one study found that adolescents who ate spicy foods three or more days a week were more likely to have depression and anxiety symptoms compared to those who did not eat spicy foods. This study published in *Nutrients* aimed to explore the relationship between spicy food consumption and mental health status in Chinese college students. The study was conducted via an online questionnaire that was distributed to college students in the Guangdong province. The online questionnaire included questions about general demographics and lifestyle behaviors such as alcohol consumption, sleep quality, and physical activity. The questionnaire assessed the mental health status of the 1,771 participants using the Depression Anxiety Stress Scale. Spicy food consumption was assessed by asking if the participant ate spicy food, how often they had eaten spicy food within the past month, and their preferred spice intensity (Zhang et al., 2022).



Findings

The study found that those who consumed spicy food three or more days during the week had higher odds of exhibiting depressive (OR=1.38) and anxiety symptoms (OR=1.50) compared to individuals who did not consume spicy foods. Additionally, the study found that higher spice intensity consumption had a higher odds ratio of suffering from a depressive episode (OR=1.34) compared to individuals who did not consume spicy foods (Zhang et al., 2022).

"Overall, compared with the reference group (non-consumers), higher intensity of spicy food intake was associated with higher odds of having depressive symptoms."



The results of both studies show that there seems to be some correlation between spicy foods and depression, but after adjustment in the Iranian population, the correlation disappears, signifying that the correlation is stronger and statistically significant in Chinese college students. This difference could arise due to differing gastronomical practices in Chinese and Iranian cultures (Sangouni et al., 2022; Zhang et al., 2022).



Comparative Analysis

A second study aimed to explore the correlation between dietary habits and behaviors in Iranian teenage girls. This study evaluated diet intake and behaviors and considered the consumption of spicy food as a dietary behavior (Sangouni et al., 2022). The crude model displayed similar results to the findings of the study conducted on Chinese college students. The crude model of the study in Iranian girls found that the frequency of spicy food consumption was associated with depression scores, but after adjustment, this correlation disappeared. The crude model displayed similar results to the findings in the Chinese college study (Sangouni et al., 2022; Zhang et al., 2022).

"32.3% of participants were categorized with mild-to-severe depression symptoms."

Future

While the current literature does not prove that eating spicy foods leads to depression or vice versa, the correlation between spicy foods and depression found in this study could have interesting implications and needs to be further researched. One possible explanation for an increased likelihood of depression among those who consume spicy food is because of a compound known as capsaicin, which is naturally present in many peppers and spices. Some research has found that capsaicin has an antidepressant effect and reduces symptoms of depression by increasing the release of endorphins in animal studies (Pasiński & Szulczyk, 2022). This finding may establish evidence that those with depression are subconsciously more likely to eat spicy foods so that they can experience the short-term antidepressant effects of capsaicin; however, this area needs extensively more research in order to prove this theory.

References

- Hunt, J., & Eisenberg, D. (2010). Mental health problems and help-seeking behavior among college students. *The Journal of adolescent health : official publication of the Society for Adolescent Medicine*, 46(1), 3–10. <https://doi.org/10.1016/j.jadohealth.2009.08.008>
- Lipson, S. K., Zhou, S., Abelson, S., Heinze, J., Jirsa, M., Morigney, J., Patterson, A., Singh, M., & Eisenberg, D. (2022). Trends in college student mental health and help-seeking by race/ethnicity: Findings from the national healthy minds study, 2013-2021. *Journal of affective disorders*, 306, 138–147. <https://doi.org/10.1016/j.jad.2022.03.038>
- Pasierski M, Szulczyk B. Beneficial Effects of Capsaicin in Disorders of the Central Nervous System. *Molecules*. 2022 Apr 12;27(8):2484. doi: 10.3390/molecules27082484. PMID: 35458680; PMCID: PMC9029810.
- Pedrelli, P., Nyer, M., Yeung, A., Zulauf, C., & Wilens, T. (2015). College Students: Mental Health Problems and Treatment Considerations. *Academic psychiatry : the journal of the American Association of Directors of Psychiatric Residency Training and the Association for Academic Psychiatry*, 39(5), 503–511. <https://doi.org/10.1007/s40596-014-0205-9>
- Sangouni AA, Beigrezaei S, Akbarian S, Ghayour-Mobarhan M, Yuzbashian E, Salehi-Abargouei A, Ferns GA, Khayyat-zadeh SS. Association between dietary behaviors and depression in adolescent girls. *BMC Public Health*. 2022 Jun 11;22(1):1169. doi: 10.1186/s12889-022-13584-0. PMID: 35690748; PMCID: PMC9188218.
- Zhang, C., Ma, W., Chen, Z., He, C., Zhang, Y., & Tao, Q. (2022). The Association between Spicy Food Consumption and Psychological Health in Chinese College Students: A Cross-Sectional Study. *Nutrients*, 14(21), 4508. <https://doi.org/10.3390/nu14214508>