

Math + Chewing Gum = Better Grades?

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Chewing sugarless gum during class and while doing homework may improve academic performance of adolescents, a new study says.

The research was underwritten by the William Wrigley Jr. Co., the Chicago-based chewing gum giant, but scientists from the Baylor College of Medicine say that didn't influence the study's design or its outcome.

And scientists who had nothing to do with the study say it's likely that chewing gum can reduce stress, leading to enhanced concentration and thus better academic performance.

The results of the study, by Craig Johnston, PhD, an instructor of pediatrics-nutrition at the Baylor College of Medicine, and colleagues were at the annual meeting of the American Society for Nutrition's Scientific Sessions and Annual Meeting at Experimental Biology 2009.

and his team enlisted 108 eighth-grade students in four math classes, randomly assigning them to two groups: one group chewed Wrigley's sugar-free gum during school, while doing homework, and also while taking a standardized test; students in the control group didn't chew gum.

Johnston tells WebMD that students who chewed gum showed an increase in standardized math test scores after 14 weeks of chomping in class and while doing homework, compared to those who didn't chew.

Gum chewing was associated with a 3% increase in standardized math scores, which Johnston terms small but still "statistically significant."

The youngsters who chewed also had final math grades that were "significantly better" than those who didn't chew, Johnston says.

The participants included 52 girls and 56 boys. The gum chewers reported chewing at least one stick of gum 86% of the time they were in math class and 36% of the time they were doing homework. Johnston says that chewing gum reduces stress and anxiety and increases arousal.

"Some researchers speculate that a decreased level of stress leads to better focus and concentration, which may explain the relationship between gum chewing and increased focus and concentration," Johnston says. He adds that the study "demonstrates the potential benefits of chewing gum on academic performance in a real-life, classroom setting with teenagers."

He says more research is needed to determine whether chewing would help people in other subjects, such as English and history, "but this is an exciting first step."

Daniel Moran, PhD, an assistant professor of biomedical engineering at Washington University in St. Louis, says the results are plausible but that he needs more convincing, especially since the study was funded by a chewing gum company.

“It makes sense that if it’s acting as a stress reliever, it is making you smarter,” he tells WebMD after reading Johnston’s abstract. “I’d like to know more about the brain mechanism that’s affecting this.” Michael Posner, PhD, a professor of psychology at the University of Oregon, says such studies are “difficult to evaluate” because “it is not possible to tell if chewing gum has an influence or whether those who chew gum are different in other ways from those who did not.”

He tells WebMD that there’s no evidence in the study that higher scores in math or other subjects wouldn’t result from “any form of eating or other movements.”

“It could even be that the attitude created by being allowed to do something that might be forbidden in class might be important to the effect,” he tells WebMD. “The evidence of self-reported stress reduction and alertness seems to support the advantage of gum chewing over doing nothing, but does not indicate whether gum chewing has a special advantage over other forms of activity.”

Still, Johnston says educators who examined the study’s results were “impressed.”

The Wrigley firm says in a statement that the study is meaningful and should be of interest to parents “when related to small steps that can lead to better academic performance.” It says the study builds on previous research but says it is chewing gum and not a particular brand that leads to better scores and reduced stress.

The study was supported by the Wrigley Science Institute, which says its research is focused on exploring the impact of chewing gum on focus, alertness, concentration, situational stress, weight management, and oral health.

The Baylor researchers say their study in a “high stakes testing environment underscores the need for novel approaches to facilitate improved academic performance as standardized test scores have become a mandatory requirement for assessing academic achievement.”