

# LIVE WELL WORK WELL

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## NUTRITION HAS BENEFITS for Brain Network Organization

Nutrition has been linked to cognitive performance, but researchers have not pinpointed what underlies the connection. A new study found that monounsaturated fatty acids (MUFAs) – a class of nutrients found in olive oils, nuts, and avocados – are linked to general intelligence, and that this relationship is driven by the correlation between MUFAs and the organization of the brain's attention network.

"Our goal is to understand how nutrition might be used to support cognitive performance and to study the ways in which nutrition may influence the functional organization of the human brain," said study leader Aron Barbey, a professor of psychology. "This is important because if we want to develop nutritional interventions that are effective at enhancing cognitive performance, we need to understand the ways that these nutrients influence brain function."

"In this study, we examined the relationship between groups of fatty acids and brain networks that underlie general intelligence. In doing so, we sought to understand if brain network organization mediated the relationship between fatty acids and general intelligence," said Marta Zamroziewicz, a recent Ph.D. graduate of the neuroscience program at Illinois and lead author of the study.

The researchers found that general intelligence was associated with the brain's dorsal attention network, which plays a central role in attention-demanding tasks and everyday problem solving. In particular, the researchers found that general intelligence was associated with how efficiently the dorsal attention network is functionally organized using a measure called small-world propensity, which describes how well the neural network is connected within locally clustered regions as well as across globally integrated systems.

In turn, they found that those with higher levels of MUFAs in their blood had greater small-world propensity in their dorsal attention network. Taken together with an observed correlation between higher levels of MUFAs and greater general intelligence, these findings suggest a pathway by which MUFAs affect cognition.

Barbey hopes these findings will guide further research into how nutrition affects cognition and intelligence. In particular, the next step is to run an interventional study over time to see whether long-term MUFA intake influences brain network organization and intelligence.

"Our ability to relate those beneficial cognitive effects to specific properties of brain networks is exciting," Barbey said. "This gives us evidence of the mechanisms by which nutrition affects intelligence and motivates promising new directions for future research in nutritional cognitive neuroscience."

University of Illinois at Urbana-Champaign. "Nutrition has benefits for brain network organization." ScienceDaily. [www.sciencedaily.com/releases/2017/09/170907112408.htm](http://www.sciencedaily.com/releases/2017/09/170907112408.htm) (accessed February 23, 2018).



## THE NEGATIVE IMPACT of Energy Drinks on Young People

In a survey of 2,055 young people, over half of those who had ever consumed an energy drink reported experiencing an adverse health event, including rapid heartbeat, nausea, and, in rare cases, seizures.

"The health effects from energy [drinks] could be due to the different ingredients than coffee, or the ways in which they [are] consumed, including with alcohol or during physical activity; regardless, the findings suggest a need to increase surveillance of health effects from these products," said David Hammond a Professor in the School of Public Health at the University of Waterloo.

In conducting the study, the researchers surveyed 2,055 young people aged 12 to 24. Of those that had reported consuming energy drinks at some point in their lives, 55.4% reported experiencing an adverse health event.

Of those reporting adverse health events, 24.7% reported experiencing a fast heartbeat, 24.1% reported difficulty sleeping and 18.3% reported experiencing headaches. A total of 5.1% reported nausea, vomiting or diarrhea, 5% sought medical attention, 3.6% reported experiencing chest pains, and .2% reported having a seizure.

"The number of health effects observed in our study suggests that more should be done to restrict consumption among children and youth," said Hammond. "At the moment, there are no restrictions on children purchasing energy drinks, and they are marketed at the point-of-sale in grocery stores, as well as advertising that targets children."

University of Waterloo. "Energy drinks can negatively impact health of youth." ScienceDaily. [www.sciencedaily.com/releases/2018/01/180115094219.htm](http://www.sciencedaily.com/releases/2018/01/180115094219.htm) (accessed February 23, 2018).

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## THE IMPORTANCE OF SLEEP For Your Health

The National Sleep Foundation sponsors Sleep Awareness Week every March to educate Americans on the importance of sleep to their overall health and wellbeing. The CDC has linked insufficient sleep to the development of chronic diseases and conditions, including diabetes, heart disease, obesity, and depression. In honor of Sleep Awareness Week occurring this March 11th through 17th, try adopting the following five healthy sleep habits:

1. Keep a regular schedule and try to go to bed and wake up at the same time each day, including weekends.
2. Create a good sleep environment, including comfortable room temperature, minimal noise, and sufficient darkness.
3. Keep track of habits that help you fall asleep, like listening to relaxing music or reading before bed. Repeat those activities each night.
4. Avoid caffeine and nicotine three to four hours before going to bed.
5. Limit alcohol before bed, as it can reduce sleep quality.



# KIDNEY DISEASE and Its Role in Causing Diabetes

Diabetes is known to increase a person's risk of kidney disease. Now, a new study from Washington University School of Medicine in St. Louis suggests that the converse also is true: kidney dysfunction increases the risk of diabetes.

Further, the researchers deduced that a likely culprit of the two-way relationship between kidney disease and diabetes is urea. Kidneys normally remove urea from the blood, but it can build up when kidney function slows down.

"We have known for a long time that diabetes is a major risk factor for kidney disease, but now we have a better understanding that kidney disease, through elevated levels of urea, also raises the risk of diabetes," said the study's senior author Ziyad Al-Aly, MD, an assistant professor of medicine at Washington University.

In collaboration with scientists at the St. Louis Veterans Affairs' Clinical Epidemiology Center, Washington University researchers evaluated the records of 1.3 million adults without diabetes over a five-year period, beginning in 2003.

A common blood test that measures the amount of urea nitrogen found in the blood showed that 117,000 of those without diabetes – or 9% – had elevated urea levels, signaling poor kidney function.

Overall, he said, those with high urea levels had a 23 percent higher risk of diabetes -- a figure researchers determined by comparing risk between those with high and low urea levels. In each year studied, the researchers documented new cases of diabetes in 2,989 of every 100,000 people with low urea levels and 3,677 new cases of diabetes among those with high urea levels.

Washington University in St. Louis. "Kidney disease increases risk of diabetes, study shows: Elevated urea levels likely a culprit." ScienceDaily. [www.sciencedaily.com/releases/2017/12/171211090752.htm](http://www.sciencedaily.com/releases/2017/12/171211090752.htm) (accessed February 23, 2018).

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## MARCH RECIPE Herb Crusted Salmon

- 1 lb skinless salmon fillet\*
- 2 Tbs fennel seed
- 2 Tbs coriander
- 1 tsp salt
- pico de gallo (optional)



Preheat oven to 375 degrees or heat a grill to medium heat. Crush fennel seeds and mix together with coriander and salt. Pat mixture evenly on all sides of the fillet. Spray a piece of aluminum foil with non-stick spray. Lay fillet on foil and cook in the oven or on the grill for 15- 20 minutes, or until fillet is cooked through. Top with pico de gallo and serve.

Yield: 4 servings. Each serving provides 150 Calories, 5.5 g of Fat, 25 g of Protein, 0 g of Carbohydrates

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