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How Does Coffee Affect Your Metabolism?

Analysis by Dr. Joseph Mercola | Fact Checked

April 13, 2022

STORY AT-A-GLANCE

- Research on coffee and caffeine drinking that many would consider a benefit — it makes you poop
- Extra activity increases gastric activity and caffeine — within four minutes — and the effect persists for at least 30 minutes
- In terms of acting as a laxative, drinking caffeinated coffee has the effect similar to that of eating a meal, and leads to activity that is 60% stronger than drinking water and 23% stronger than drinking decaffeinated coffee
- Molecules including caffeine and cafestol that are passed into consumers in coffee, months or the hereafter, quantifies may be involved in coffee's metabolic effects, possibly due to neurohormonal responses, meaning they involve both neural and hormonal mechanisms
- Bioactivity increasingly indicates coffee and accompanying the function of brown fat, the 2nd possible mechanism underlying coffee's weight loss

Coffee is enjoyed by 7 in 10 Americans each week, while 62% enjoy coffee daily.[1] On the record, the most common reasons why people drink coffee are for the taste and for the pick-me-up because it provides — to increase energy and "wake me up."[2] But there's another, often unspoken, effect of coffee drinking that most people consider a benefit — it makes you poop.

In a study published in 2021, 59% of volunteers said that coffee "induced a desire to defecate," and 29% reported "immediate defecation" within an hour of their coffee. Surprisingly, the effect was stronger for decaffeinated coffee, which "decaffeinated coffee (stimulated or decaffeinated) was consumed" had only 40 calories including sweetener and/or a cup of joe — either four ounces — 1 ounce — or 8 ounces (or 2 ounces).

The Gut study was published in 1989, and the details concerning how coffee affects your metabolism toward toward more healthy weight loss, possibly because coffee's effects on your metabolism are a medical reason to do so. In other words, it's generally understood that coffee promotes toward weight loss, but the research that has been done shows that the effects have real physiological underpinnings.

Coffee Causes Your Colon to Contract

In 1989, researchers with the University of Iowa College of Medicine investigated whether coffee might act as a stimulant to the colon. Using six cancer patients to test the potential of 5 healthy people, colonic motor activity was tracked with the subjects drank black Colombian coffee, decaffeinated coffee or water, or as a meal.

Compared with water, both caffeinated and decaffeinated coffee led to a greater number of contractions in the colon, but caffeinated coffee came out on top in terms of stimulating colonic activity, because it was acting as a laxative remedy. Drinking caffeinated coffee has effects similar to that of eating a meal, and leads to activity that is 60% stronger than drinking water and 23% stronger than drinking decaffeinated coffee.

Beneficial compounds known as melanoidins, which are formed when coffee is processed and cause caramel coffee to be brown, may also play a role in coffee's metabolic effects. While melanoidins play a role in coffee's antioxidant capacity, they function as dietary fiber, being indigestible in the gut.

As such, they're fermented in the gut once consumed, and it's estimated that they could account for 10% of the total dietary fiber intake of dietary fiber in adults, making them significant contributors to overall health.

Speaking with CNN, Dr. Kate Stabler, director of the Gastrointestinal Motility Laboratory at Massachusetts General Hospital, further explained how coffee's effects on the colon "stimulates metabolisms," suggesting that when coffee touches the stomach, it triggers a "reflex arc" between a system or hormone pathway that causes the colon to start contracting. Colon contractions move stool in the colon toward the rectum and voila — you have the urge to have a bowel movement.[3]

Coffee May Induce a Neurohormonal Response

Roasted coffee contains thousands of bioactive compounds,[4] some of which likely affect metabolism via neurohormonal responses, meaning they involve both neural and hormonal mechanisms. Coffee's effects on metabolism, which are spurred the compounds in coffee, months or the hereafter quantifies may be involved.

Gastric stimulates the production of stomach and gastric acid, which plays a role in digestion and could boost activity in the colon. In a study involving 10 adults who drank a coffee substitute and stimulate one cup of home-made regular coffee, gastric levels quickly peaked — 15 minutes after ingestion. Even consumption of decaffeinated coffee led to increases in gastric.

Neither dextrose, cornstarch, calcium, nor amino acid content of the coffee solution can account for the effect, and it's thought that the effect is due to the presence of coffee's bioactive compounds, namely highlighting that the mechanisms behind coffee's gastric-stimulating properties is unknown.

As for other ways that coffee affects the gastrointestinal tract, coffee consumption has been shown to alter gut microbiota with at the bacterial level, with increases in beneficial bacteria such as pathogenic E. coli and Clostridium and Bacteroides were reported with coffee consumption, while beneficial Lactobacillus and Bifidobacterium were unaffected.

Caffeine in Coffee Stimulates Brown Fat

Caffeine in coffee may be responsible for some of coffee's beneficial metabolic effects, including in relation to brown fat, a beneficial form of fat that may generate heat and burn glucose and fatty through a mitochondrial reaction mediated by mitochondrial uncoupling protein 1 (UCP1).[5]

Transfer of cell cultures with caffeine has been found to increase the expression of UCP1, and when researchers compared thermal imaging dose 30 minutes after healthy human volunteers ingested 200 milligrams of caffeine, they found increased activity in brown fat, which subcutaneous area. Potentially increasing metabolic rate and enhancing the function of brown fat, it's possible that coffee contributes to weight loss. The researchers explained:[6]

> "In conclusion, these results provide new complementary in vitro evidence that caffeine (and a coffee beverage) can promote BAT function at doses compatible with human use."

That being said, it's not only the caffeine in coffee that affects metabolism, it's likely that many other compounds in coffee, such as the polyphenols, have metabolic effects. Chlorogenic acid, a polyphenol found in coffee that's stronger significantly more metabolism in the body than had been known. After eating or drinking, your body produces metabolites, or chemicals. A higher number of efficient metabolites may explain, in part, the number of effects coffee has on the body.

The study found that levels of 115 metabolites were altered by drinking coffee, 82 of which were known to affect biological pathways. They also discovered three new kinds of coffee-induced metabolites, fatty acid metabolism and the effects it had on the endocannabinoid system.

Referencing the original Gut study that found coffee promotes motor activity in the colon, researchers from Spain also highlighted that compounds in coffee other than caffeine are likely responsible for some of the metabolic effects:[7]

> "Since (concentrated) coffee contains no calories, and its effects on the gastrointestinal motility are independent of its caffeine content, it is reasonable to suggest that it must (nutraceuticals) exert the effect.
>
> Thus, these findings were interpreted as mediated indirectly by a component of coffee other than caffeine, which by acting on epithelial receptors in the stomach or small bowel would trigger a parasympathetic response, speculated at that time to be due to the release of cholecystokinin or another hormone."

The Health Benefits of Coffee Are Well Established

There is growing consensus that coffee — in organic, unsweetened form — offers multiple health benefits, including protection against Type 2 diabetes, Parkinson's disease, liver disease and report aches by Cholecystokinin Antibodies, PLUS, which identified coffee as a potential "dietary intervention that could reduce the risk of developing neurodegenerative conditions or relieve some symptoms."

Researchers have found that coffee and coffee drinking may provide a protective effect on the neurological system.[8] The authors of several studies have found that drinking coffee lowers your risk for Alzheimer's disease[9] and reduces overall cognitive decline.[10] There are also indications that the caffeine in coffee might increase brain health sensitivity, as well.[11]

Further coffee consumption has been linked to lowered mortality from a number of diseases, including cardiovascular disease and diseases. Type 2 diabetes and several types of cancer, including endometrial cancer.[12]

In one review of 113 meta-analyses about coffee, this popular beverage was linked to a probable decreased risk of colorectal, colon, endometrial and prostate cancers, cardiovascular disease, premature mortality and Parkinsons disease, with researchers noting "Given the spectrum of conditions studied and the consistency of most of the results, these findings indicate that coffee is an part of a healthy diet."[13]

A study presented at the European Society of Cardiology Congress in Barcelona even found that people who drank four cups of coffee per day had a 40% lower risk of death from all causes from any cause. Perhaps it's not surprising that coffee has such health promoting potential, considering that many of the bioactive compounds in roasted coffee have antioxidant, anti-inflammatory, antifibrotic and antiproliferative effects.

It's a myth, by the way, that coffee dehydrates you. Drinking even a moderate amount of coffee each day will not lead to dehydration. In fact, habitual male drinkers may enjoy the same hydration from coffee as from water, and it's likely that the same holds true for women, as well.[14] Moderate coffee drinking is not a dehydrant for your body.

What's the Best Type of Coffee to Consume?

Given all the evidence that coffee stimulates metabolism and the colon, should you reach for a cup of you're feeling "backed up"? It's quite possible that it could help, but you should also address the underlying factors leading to the constipation, such as diet. To prevent constipation, make sure you're drinking enough water each day, and increase your fiber intake to 25 to 35 grams per day.[15] Eat calorie consumption.

In other words, if you want to use a coffee drinker, there's no reason to feel compelled to start, as there are many other factors you can exercise to maintain and improve your metabolic health. For instance, if you want to use coffee for beneficial impact on colonic constipation and fermented vegetables, activities, bone and bath.

However, if you enjoy coffee, there's good reason to serve a cup — or a few — each day. Enough there are some caveats to consider. Coffee, which is a heavily pesticide-sprayed crop, has been subject to organic or biodynamically grown, as well as shade-grown. Coffee is a shade-loving plant, but growers often strip forests to make growing and harvesting easier.

Also, drink your coffee black, skipping the added sugar and milk or cream, as the antioxidant benefits may be lost when you add something to your coffee. Also, avoid using a paper filter, as something in your coffee by-course of a medium-sized triglyceride that's known to raise bad cholesterol. Instead, use a stainless steel or porcelain filter, or bamboo. Bamboo, consider choosing whole beans and grinding the coffee yourself, or choose Eco-Pods, not ground.

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Guillermo 2022-04-13 12:13:13 AM
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Interesting contributions from Dr. Mercola's article. Coffee is a bitter-tasting beverage that contains more than 1,000 chemical compounds, including caffeine, which is a bitter-tasting substance. Coffee's bitterness is due to the chlorogenic acid found in bioactive compounds and not just to caffeine, which has been positively tested by numerous studies as a stimulant agent for all mentioned against sedative drainage, with extensive activity and anti-inflammatory effects. Oil polyphenols, which can cause a rainy day, and cafestol, which is a bitter-tasting substance. Coffee's effects on the human body are well documented, with antioxidant, anti-inflammatory, and antiproliferative effects.

Chlorogenic acids, the most important polyphenols in coffee, have been reported to have antioxidant activity, hepatoprotective activity, and antiproliferative effects. Hepatoprotective and can help protect against dehydration, obesity and hypertension, and can help protect against dehydration, obesity and hypertension, and can help protect against dehydration, obesity and hypertension,

Hooray. I love my organic black coffee. Thank you.

Reply | Mark as Spam | Posted On: 4/22/2022 6:31:19 PM

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askershaw
Joined On 7/8/2013 3:01:14 PM
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Have you ever asked the questions: Why did coffee plants evolve to produce caffeine? Are there other animals that enjoy the benefits? If you are around coffee plants when they are in bloom, wou will see that the flowers attract many pollinators to the detriment of other flowering plants nearby. Crueis also enjoy coffee. Instead of the flower they eat the fruit and excrete the beans. The additional complexity produced by the digestive process makes civet excreted beans coveted. The nectar and odor of the flowers attract pollinators including honey bees. The caffeine in the flesh of the berries attracts civets. The excreted beans can produce more trees. Nature's drug trade that I am happy to partake in. Before my morning coffee, I am not human.

Reply | Mark as Spam | Posted On: 4/22/2022 4:16:17 PM

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Tompkins
Joined On 5/9/2007 3:39:46 PM
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Most people are stimulated by coffee, but it is the opposite for me. I have issues that cause me to very easily become over stimulated by people, energies, weather etc. My myelin sheaths are damaged. Coffee relaxes me and sometimes puts me to sleep. My husband is the same way. We drink our coffee every day with organic coconut oil made in the Philippines using ancient traditions.

Reply | Mark as Spam | Posted On: 4/22/2022 11:58:36 AM

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PathNotes
Joined On 12/25/2012 3:44:06 PM
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"Stopping or reducing dietary fiber intake reduces constipation and its associated symptoms" - *World Journal of Gastroenterology*, September 2012. The Fiber Myth was foisted onto the world by people like Harvey Kellogg (corn flakes) based on vegetarian religious beliefs. (Fiber is a carbohydrate. There is no such thing as an essential carbohydrate.)

Reply | Mark as Spam | Posted On: 4/22/2022 9:54:22 AM

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susesmuss
Joined On 6/4/2009 1:04:56 PM
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All good..... I take mine with coconut milk powder full fat raw milk and a bit of stevia..... delicious and nutritious! :)

Reply | Mark as Spam | Posted On: 4/22/2022 9:42:01 AM

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grulla
Joined On 1/17/2012 8:03:55 AM
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Thinking about my usually good morning regularity, it does not surprise me to hear that coffee can be a good natural laxative.

Reply | Mark as Spam | Posted On: 4/22/2022 9:06:09 AM

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MaryRN
Joined On 11/23/2009 11:22:14 AM
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Not a coffee drinker but interesting information, as most of the people I know are coffee drinkers. MMC88121

Reply | Mark as Spam | Posted On: 4/22/2022 8:16:46 AM

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lmoberoi
Joined On 3/7/2008 10:08:01 PM
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It's also good for NAFLD.

Reply | Mark as Spam | Posted On: 4/22/2022 7:39:17 AM

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lilmissy
Joined On 2/17/2020 6:12:47 AM
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I love a good cup of organic coffee in the am but found it has increasesd my bp lately. The most I would drink is 2 cups in the am at home.

Reply | Mark as Spam | Posted On: 4/22/2022 6:14:47 AM

Like | Dislike

pisces
Joined On 6/20/2006 6:39:36 AM
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Caffeine addicts will always find a way to justify their addiction. Some people can handle caffeine, many cannot. Phase 1 compromised individuals may easily wind up responding to caffeine similar to a four year old at a Sunday afternoon birthday party after drinking a can of Coke. Caffeine elevates one's CNS response, thus elevating heart rate, blood pressure, blood sugar, and insulin levels, while slowing down non-essential digestive functions. Increasing bowel elimination might happen in a similar fashion to the body eliminating excess water stores and urine under stress, but it will NOT increase the quality of digestion. That would be like arranging the deck chairs on a the Titanic; completely counterproductive during fight or flight or even during a build up to it.

Taking a small medicinal dose of coffee is FAR different than the average caffeine junkie heading for a third double grande at Starbucks. My question would be, "what is wrong with a person's endocrine system that they need to provide so much outside stimulation to get the body to do what it used to do with an apple and a glass of water? Put another way, yes, I could probably get a VW to generate enough horsepower to enter the Indy 500, but what are the long term costs of doing so? The bottom line is that caffeine was nature's way of controlling parasites from ravaging the coffee tree, but just because we have a large liver doesn't mean we should always be putting it to the test.

Reply | Mark as Spam | Posted On: 4/22/2022 10:26:22 AM

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Letro525
Joined On 4/22/2022 8:40:40 AM
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Easy question what is a "cup" referenced in these studies ? "Mr coffee " defines cup as 6 oz. as marked on side for water filling. National Coffee assoc. set the "Golden Ratio" of 1-2 Tbsp. of coffee per 6 oz. of water. Specialty Coffee assoc. set the "Golden Cup Standard" of 55 gm of coffee per 1 liter of water. Back in the old days 1950 to 2000 the cup of coffee at the coffee shop was 6 oz. I practice drinking coffee before my weekly coffee enema to detox liver, now for 15 years. Good article thank you.

Reply | Mark as Spam | Posted On: 4/22/2022 8:54:06 AM

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fundamentalassumptions
Joined On 4/1/2009 12:17:58 PM
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AHHHH, the grand old coffee wars! Either or dialectic& overly rigid ascetic legalistic nonsense. I've enjoyed a good cup of coffee since my days in VeraCruz Mexico getting an eyeful of both the ckls& the supposedly new religious tyrannies, including the idolatrous humanist Universal& angle working in harmony to keep the people entrafu&& dumbed down: carefully steered from dangerous lines of questioning:sorted, placed& managed in semi-literate 'usefulness'the ancient serfs& craft elite divisions out from Babel maintained.

It was one thing that crossed the great divide which was little understood by an American of that era, tho there was that element striving to bring it to truly biblically influenced America, dividing us to their gain as well. They've come a long way, baby. I noticed the lightening of the body& clearing of the mind w/ a shot of energy that helped a mongrel mix of Celt& German farmgirl body to better function,& given the free, generational family forms of true biblical Christian influence& tyranny-modifying order of the children of biblically born again parents, not utterly cut off from their roots still remaining in Ohio, or just a generation removed by the mere& women of craft w/ their science falsely so-called,the effects of purpose-driven peasant feeding were little felt.

That would change as the modified generations were never truly born again by the word& nothing but idolatrous gnostic Alexandrian & Augustinian Christians at best becoming the general rule. My WV husband,on the other hand, had generations behind him deprived by both the elite-corporatist managed company towns of the mines& timber camps,& later the social justice idolatrous humanist progressive Augustinian 'Christianity' w/their nicolaitan tricks&schemes keeping themselves in the sweet seats over their fellow men& brethren,professing 'Christian' or non. Disturb#ful of tyranny. He's always savoured his morning coffee as being a 'good physic' to be preferred over castor oil!

Reply | Mark as Spam | Posted On: 4/22/2022 7:28:16 AM

Like | Dislike

ChrisColes
Joined On 5/5/2009 2:40:01 AM
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fundamentalassumptions wow! that is quite a comment from a Celt& German farmgirl. Nothing is quite like being on the receiving end of a passionate believer of the need to challenge all forms of religion. Made my day!

Mark as Spam | Posted On: 4/22/2022 7:55:27 AM

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fundamentalassumptions
Joined On 4/1/2009 12:17:58 PM
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We were deceived to ignore crafts& the ancient counterfeit, as tho the leopard could change its spots,& the final chapters of the KJV preserved word of God & standard revealing truth & the character & being of God did not warn. All the haters of truth love to hold up mirrors deflecting its light,the 'real' of John 3, hiding from the light...& playing the game of that old Accuser of the brethren: sedcer&sophists par excellence as the Baals of Peor& that old hindrin& concerns; Balaam,w/ their occulted ordere& deceit as the cunning Jesuit. Our bad. Sad reality. The Britions& Celts were very privileged to receive& carry out the Gospel of the Lord Jesus Christ according to the word of God earlier than most, even w/ Claud&& Rufus from the very apostolic age, refreshed& revived by Padraig/Patrick just before the second Romish assault via the idolatrous shepherd godman Augustine of Canterbury w/ his murderous crony cultic Saxons sent by the papist Romish Babylonians w/ their doctrines of men& devils,their bloody forced conversion & layered gnostic elitism.

I was saved out of that garbage, know the difference: not going back. Salt stings. Real love tells the truth& takes it on the chin. Fake love lies& uses those it believes itself to be 'superior' to, as tho no sinner& the compromise didn't manifest their true father& spirit,& true state of need.

Jesus exposed that in John 8 & showed the way to freedom indeed for those w/ eyes to see & ears to hear,& the real Peter further clarified as moved by the Spirit of Truth, the counterfeit licentiousness sans truth of that old Dragon& fallen cherub of Ezekiel 28&Isaiah14, Genesis 3 & Revelation 12-20 KJ0 which ends in destruction, along w/ all the mighty men of the earth behind which he stand&& thru whom he works. We owe men nothing more than the truth: freely offered, freely received. The rest can rarely receive it. Still offered, as he died for all whether they choose to avail or not. No more hiding the true light.

Mark as Spam | Posted On: 4/22/2022 8:53:05 AM

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Mercola_Fan
Joined On 1/11/2009 12:28:23 AM
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You got all of that out of a coffee article? Wow!

Mark as Spam | Posted On: 4/22/2022 9:42:17 AM

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fundamentalassumptions
Joined On 4/1/2009 12:17:58 PM
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Multi-faceted personality stck of having false religion crammed down my throat with a whole lot of fake etse because of playing by the fake nice one-sided censorship rules. Truth beats that hands down & is a whole lot nicer & makes for a more interesting life with purpose & freedom indeed for & in the long run. And, yes, coffee brought back a whole lot of memories from back when I was a lost & doped exchange student to a Rome- and pagan-ism dominated country with that weird socialist commie spin to things even then, back in the '70s. I could have added what a shock it was when the fake two-party system bussed in the campaniss for the 'election', & there were machine gun armed soldiers manning both ends of the little passthrough on the way to our favorite cafe.

What on earth?! ....now they're done the same to the U.S. and we're all supposed to pretend along that it was the people & not the same stinking covert-ed powers manipulating both to the same dumbing down, drugging & demoralization? Nope. I've had lies crammed down my throat and the lies of forced change & false religion that can't stand the light of truth & the word just keep forcing the change & censoring the truth while trumpeting how they "LOVE" the truth. I have a black ancestor, too, via the neer do well youngest son of the Adams family of Adams country Mississippi who took her & his cards to the River after the War.

Not ashamed of her either, nor of my baptist brethren in the Lord of Providence, Rhode Island where slavery was NEVER legal. All of my memories are centered on truth & amazement that the Lord of glory & his Book had the answers to what wasn't adding up the fake history & goings on around me: my own sin included, all along. While we allow men & women to play 'gods' & pretend never-never land, with a playdough Bible & Constitution, the real God gets no glory, & many souls deceived as I once was, go to Hell. Until finally God says enough & sends judgment. I think it's here.

Mark as Spam | Posted On: 4/22/2022 2:42:19 PM

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askershaw
Joined On 7/8/2013 3:01:14 PM
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fassumptions: perhaps you should review your Rhode Island history. Though NEVER legal in RI, slave trading was the basis of much of its colonial wealth. The Brown family of Brown University were merchant slave traders and partook of the triangle. slaves, molasses, rum. John Brown was also a banker and started Providence Bank, another nefarious trade. It is now part of BofA. If we take honor or shame from our roots, perhaps a slave ancestor carries more honor. en.wikipedia.org/.../John_Brown_ (Rhode_Island_politician)

Mark as Spam | Posted On: 4/22/2022 4:00:06 PM

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