## Carpe Diem - Seize the Day Blog

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Perhaps you are among the multitudes of people who could not wait to say, "Goodbye 2020, don't let the door hit you on the way out." But is it possible that going into 2021, you were feeling at least a little grateful? What about your good health? Your family?

Practicing gratitude feels good, but studies show there are actual health benefits as well. Researchers say there are real health benefits to practicing gratitude, including better sleep, reduced physical pain, decreased levels of inflammation, lower blood pressure, less stress-the list goes on. Grateful people also tend to recover faster from injury, trauma, and grief according to neuroscientist Glenn Fox, PhD, who spoke with NPR last year.

So, let's discuss some of the health boons of this habit, as well as good strategies to bring more gratitude into your life.

## How does gratitude work?

Feelings of gratitude activate certain parts of the brain, including the ventral and dorsal medial prefrontal cortex. These are the areas that are involved in feelings of rewards, morality, empathy, and interpersonal bonding.

Feeling grateful also releases those same "feel-good" neurochemicals triggered by working out and sex. These are dopamine, serotonin, and oxytocin, and they lead to feelings of well-being, closeness, accomplishment, and other happy feelings.

But what does all of this do for physical health?

## Blood pressure and heart rate

Actively practicing gratitude can do more than just leave you appreciating the good things about life. According to some studies, it can have a physical impact on our health. A study published this month in the International Journal of Psychophysiology sought to examine just this.

The study aimed to replicate and extend on past research, which indicated that gratitude has a positive association with cardiovascular stress reactivity. It looked at 324 healthy participants and assessed their levels of gratitude using questionnaires. Participants were divided into two groups: those who experience varying levels of "state gratitude," which means being grateful in reaction to specific situations; and those with "trait gratitude," which means having a predisposition to feelings of gratitude in general. Each participant's blood pressure and heart rate were then monitored while they were engaged in an acute mental task.

The researchers found that, after adjusting for baseline cardiovascular activity, body mass index, depressive symptomology, and several other variables, gratitude was associated with lower
systolic blood pressure and heart rate reactivity. Surprisingly, no associations were found between trait gratitude and any of the cardiovascular variables. This suggests that actively practicing gratitude could help to temper cardiovascular stress reactivity. The study's authors concluded that higher levels of state gratitude may be protective against adverse stress-related health outcomes.

## Inflammation, pain, and mental health

Research indicates that depression and inflammation fuel each other. For example, depression is known to prime larger cytokine responses to stressful situations. According to an article published in the American Journal of Psychiatry, depression and its accompanying behaviors can also influence the gut microbiome and promote intestinal permeability, which can also lead to prolonged inflammatory responses, like pain or disturbed sleep. This, in turn, can exacerbate mental health issues. The article's authors concluded that effective depression treatments may have a far-reaching impact on mood, inflammation, and health.

According to a study published in Personality and Individual Differences in October of this year, gratitude may be able to help with this. The study examined the relationship between gratitude, depression, and "zest for life." Researchers looked at 326 students who filled out questionnaires regarding their mental health and their general feelings of gratitude. After controlling for demographic variables, the authors found a significant inverse association between levels of depression and feelings of gratitude and concluded that depression appears fully mediated by how often you feel grateful.

Various other studies support this, suggesting that more frequent feelings of gratitude may help combat depression and reduce physical pain.

## General well-being

It is not just state gratitude that is associated with various physical health benefits; research suggests that trait gratitude, too, is a path to better well-being in general.

One meta-analysis of literature on gratitude, published in Personality and Individual Differences in October of this year, looked at 158 sources and examined more than 400 effects of gratitude on mental well-being. The authors concluded that dispositional gratitude is moderately-tostrongly correlated with well-being.

And a growing body of research suggests that feelings of well-being are related to various positive physical health outcomes. A 2018 study published in Psychology, Health \& Medicine, looked at over 600 healthy adults and found that the positive effect of gratitude on physical health was significantly mediated by lower reported levels of perceived loneliness and stress. The authors concluded that gratitude may serve as a buffer against these negative emotions and improve somatic health symptoms in the general public.

## How to practice gratitude

All of this raises an important question: How do you start cultivating feelings of gratitude?
According to some health experts, one of the best ways to do this is through writing.

In his interview with NPR last year, Dr. Fox said that journaling can help condition the brain to feel more grateful more often. Fox, who completed his PhD on the neural bases of gratitude, began his own gratitude journal while grieving the death of his mother. While it did not stop the pain, he said he helped make the ordeal far more manageable and changed his perception of the tough time he was going through.

Gratitude journaling can take many forms. You can write down all the things you have felt grateful for in the past 24 hours, or you can focus on one good event and try to write down all the details of it. You can even write letters that do not intend to send-simply the act of writing could help train your brain to acknowledge the positive sides of life well into the future.

So, grab a pen, get comfy, and consider all the good things in your life-from significant longterm relationships to minor things like a nice coffee break. Both your mind and your body will thank you.

Editor's Note: The Carpe Diem - Seize the Day Blog will be distributed and posted weekly. Always remember - CARPE DIEM - SEIZE THE DAY!

Steve.Hutton@epilepsy-ohio.org

