

## More Thankful, Less Stressed? Gratitude and Physiological reactions to Stress

### **ABSTRACT:**

#### **Background**

Gratitude is a specific positive emotion described as the recognition that something good has happened to an individual and which is perceived as costly, altruistic, or valuable. It has been previously associated with reductions in responses to stress.

#### **Aims**

This project examines the relationship between gratitude and the cardiovascular response to stress.

#### **Method**

This project uses lab-based stress induction, the experimental manipulation of gratitude, and the longitudinal measurement of heart attacks. Study 1 (N = 68) assesses the relationship between state gratitude and the cardiovascular stress response. Study 2 (N=121) experimentally manipulates gratitude to assess its impacts on the cardiovascular stress response. Study 3 (N = 912) is a longitudinal study. Cardiovascular reactivity was measured in a lab and 7 years later, incidence of acute myocardial infarction was assessed.

#### **Results**

Results of multilevel growth curve analyses for studies 1 and 2 indicate that state gratitude reduced the overall stress response, meaning that state gratitude is associated with a smaller response to stress and faster recovery. The results of mediation analyses for study 3 indicate that heart rate reactivity mediates the relationship between trait gratitude and the likelihood of suffering a heart attack, with trait gratitude lowering the likelihood of suffering one.

#### **Conclusions**

Gratitude is associated with lowered reactivity to and hastened recovery from stress. It was also associated with a lower likelihood of suffering heart attacks. This furthers our understanding of how positive emotions impact physical health. It further implies that gratitude is a useful intervention for the promotion of cardiovascular health.

#### **Keywords**

Gratitude, Stress, Cardiovascular reactivity, Cardiovascular recovery, Positive emotions, Cardiovascular health

### **Published Work:**

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