MORE THANKFUL, LESS STRESSES? GRATITUDE AND PHYSIOLOGICAL REACTIONS TO STRESS

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Background: This research aims to explore how gratitude affects cardiovascular health. Cardiovascular disease (CVD) causes approximately 10,000 deaths annually in Ireland a year. The World Health Organization has classified CVD as the leading cause of mortality globally, with number of CVD deaths projected to reach 22.2 million by 2030. Robust research has established the behavioural and physical risk factors of CVD, for example blood pressure, obesity, tobacco use and lack of physical activity. However, emerging evidence highlights the significant role of non-traditional psychological factors in the aetiology of CVD, notably stress. However, despite much robust work on psychosocial stress moderators on reactivity and the growth in the literature on the benefits of gratitude for health, scholars have not yet explored how gratitude, through positively appraising daily life, physiologically influences reactions to stress. Cross-sectional, longitudinal, and lab research evidence consistently that gratitude predicts better psychological health, with recent studies showing that gratitude serves a protective and predictive role in physical health.

Aims: To date, no research has examined how being thankful may serve a protective role in how stress is perceived and affects physiology. This research aims to explore how gratitude effects psychophysiological reactivity to stress and health outcomes, and identify the factors that moderate this effect.

Method: Currently, the project aims to complete three experimental studies.
Study one:

Design: This will employ an experimental within-subjects, stress-testing protocol design. Physiological responses (blood pressure and pulse) will be recorded throughout a baseline, standard stress-task and recovery period. The primary predictor variables will be state and trait gratitude assessed psychometrically. The dependent variable will be cardiovascular recovery (SBP, DBP, HR). Demographics, psychosocial and health variables will be measured psychometrically at baseline to assess pre-existing levels. Based on power calculations, a minimum sample size of 68 participants is needed to detect a significant effect (p = .05, $f2$= 0.06) at 80% power. Given the novelty of the research, no prior research provides indications of expected effect size, pertaining to gratitude's influence on cardiovascular reactivity. Based on study 1 findings, a priori sample size calculations will be conducted for the following studies.

Study two:

Design: This will employ a randomized mixed experimental stress-testing protocol design. Physiological responses will be recorded throughout a baseline, gratitude induction, standard stress-task and recovery period. Participants will be randomly allocated to the experimental (grateful induction) or control condition (neutral induction). Gratitude will be induced by adapting gratitude manipulations utilized in previous work. Demographics will be measured at baseline. Psychosocial and health variables will be measured psychometrically

at baseline to assess pre-existing levels and after both manipulations (allocated induction and stress task) to monitor expected change over time between conditions.

Study three:

Design: This will be a replication of study two, except participants will complete assigned activity (gratitude induction or neutral control) after completing the stress task to examine the impact of gratitude induction on physiology during recovery phase.

Participants: Healthy adults, including undergraduate students, will be recruited to participate in each study. Ethical approval has been granted for this research by The Biomedical & Life Sciences Research Ethics Subcommittee at the University of Maynooth, Ireland.

Current status: All studies have been outlined in detail. Articles are being gathered articles for a literature review. Data from 69 participants have gathered for study 1 and is currently being inputted into SPSS. It is anticipated that this will be analysed in the coming weeks. Materials for study 2 are being prepared in order to pilot the design. This will begin by mid-March.

Keywords: Gratitude, Stress, Cardiovascular Health, Well-being.

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