



ARMED  
SERVICES  
TRAUMA  
REHABILITATION  
OUTCOME  
STUDY

## ***The underlying mechanisms by which Post-Traumatic Growth is associated with cardiovascular health in male UK military personnel: The ADVANCE cohort study***

Dyball, D. et al. DOI: <https://doi.org/10.1177/13591053241240196>  
Published in the Journal of Health Psychology, April 11th, 2024

### ***What is the ADVANCE Study?***

The ADVANCE Study investigates the physical and psycho-social outcomes of battlefield casualties in the long-term. The study includes 1,145 male participants who served in the armed forces and were deployed to the conflict in Afghanistan (2002-2014). Half of the cohort have sustained serious battlefield injuries, and the other half are the comparison group of non-injured servicemen.

### ***What does this piece of ADVANCE research look at?***

The understanding of disorders such as depression, anxiety, Post-Traumatic Stress Disorder (PTSD) and other negative responses to stress or trauma, along with interventions and treatments for these pathologies, has progressed considerably over the past century. However, a focus on mental illness limits our understanding of the full spectrum of mental health, both positive and negative, and their associations with physical health. One aspect of the positive impacts of trauma is Post-Traumatic Growth (PTG). PTG is the experience of beneficial psychological growth following exposure to a traumatic event. There is some evidence to suggest that PTG is associated with better cardiovascular health, however the mechanisms of this are poorly understood. In this research we investigated whether specific domains of PTG were associated with cardiovascular health in the ADVANCE study cohort.

### ***Domains of Post-Traumatic Growth***

PTG can have many domains, however five are most commonly reported in the scientific literature; a greater ability in Relating To Others (RTO); an increase in Personal Strength (PS); seeing New Possibilities (NP) in your life; a greater Appreciation Of Life (AOL) and Spiritual Change (SC).

### ***Cardiovascular risk***

In this piece of research, we investigate three areas of the cardiovascular system in particular: cardiometabolic effects (e.g. blood pressure, cholesterol); inflammation (e.g. high sensitivity C-reactive protein) and haemodynamic functioning (e.g. heart rate, pulse wave velocity).



### ***What were the findings?***

Our findings showed that PTG was associated with mostly cardiometabolic effects, such as lower triglycerides and total levels of cholesterol, as well as an indicator of haemodynamic functioning (lower diastolic blood pressure), but not inflammation. However, we found the surprising finding that some aspects of PTG were associated with negative indicators of cardiovascular health, specifically NP and SC were associated with lower levels of good cholesterol and higher levels of total cholesterol.

### ***What do the findings mean?***

PTG generally has a positive effect on your heart health, however, specific aspects of PTG are associated with worse cardiovascular functioning. To understand why, we will likely have to inspect behavioural mechanisms of cardiovascular health, such as alcohol use, diet, and exercise. The relationship between PTG and cardiovascular functioning is complex and in need of further scrutiny, and needless to say ADVANCE will be investigating these aspects in future assessments of the cohort. It is very likely that interventions that target positive psychological constructs such as PTG will have positive effects on the cardiovascular system.

*Many thanks to the ADVANCE study participants for taking part and to all of the ADVANCE funders for their generous support.*