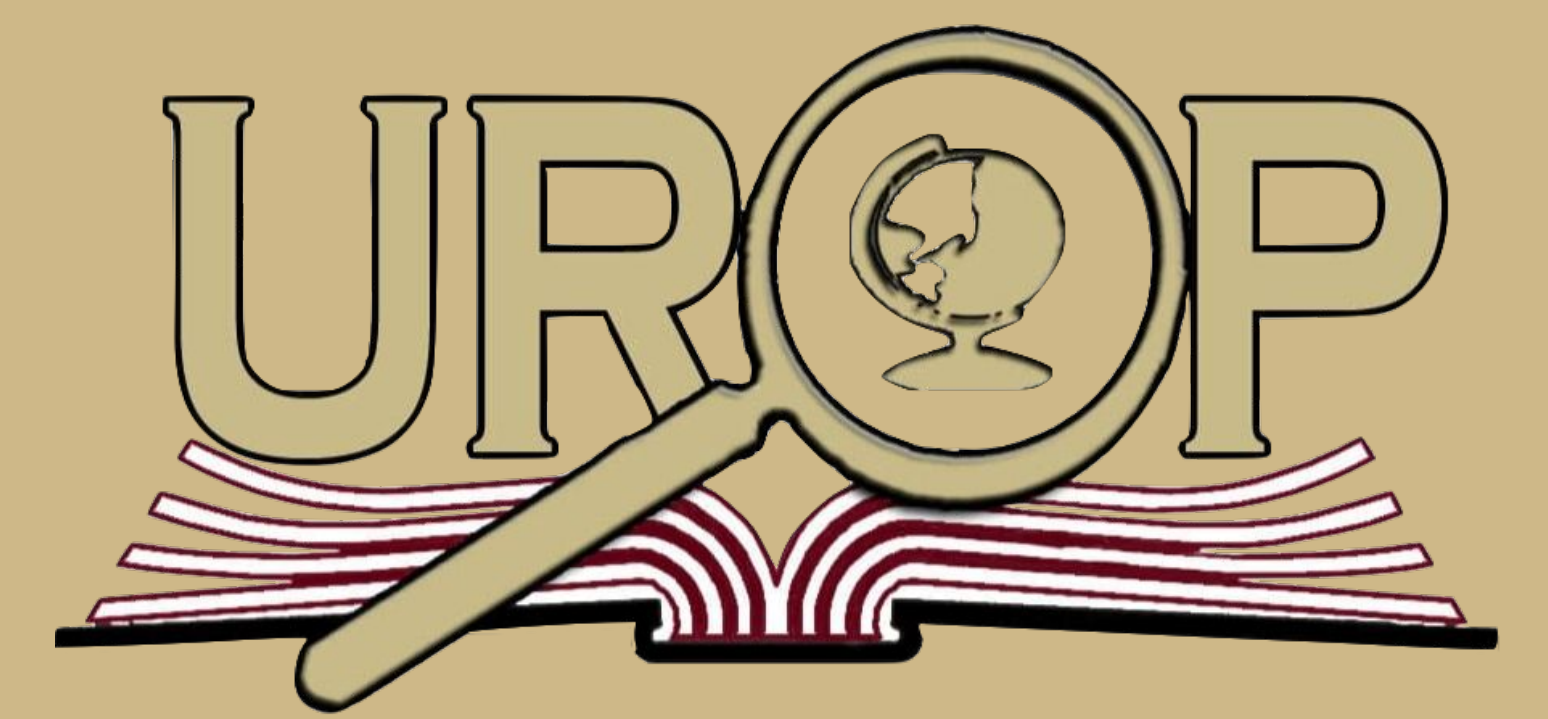




Post Traumatic Growth and Mental Health after Cardiovascular Events and Procedures

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Introduction

Depression is one of many conditions that make cardiovascular surgery a potentially life threatening event due to its influence on the physical body (Huffman, 2013). Although mortality in these operations has declined, many patients describe them as traumatic events, with 17% of individuals (52 surveyed, 69.2% men, median age of 65 years) describing it as the most traumatic event of their lives (Magid, 2019). However, as morbidity rates in cardiovascular surgeries have declined, research has expanded into the post traumatic growth (PTG) patients often undergo from the experience. The predictors of this growth are often related to positive postoperative outcome indicators. For example, depression is strongly correlated with negative outcomes from cardiovascular operations (Tully, 2012) while self-reported mental health and quality of life is correlated to positive results from cardiovascular surgery (Kubzansky, 2018). We can use these predictors to assess the postoperative psychological impacts on patients and appropriately plan their treatment. This can be used to reduce the frequency of negative mental impacts as well as help increase the frequency and magnitude of post traumatic growth from cardiovascular surgery.

Methodology

In order to assess the relationship between PTG and optimal life outcomes following cardiovascular disease (CVD) our group utilized a variety of methods to gather and examine data from multiple studies.

To find sources we used: database searches, FSU Library searches, reference studies from relevant articles, and Google Scholar

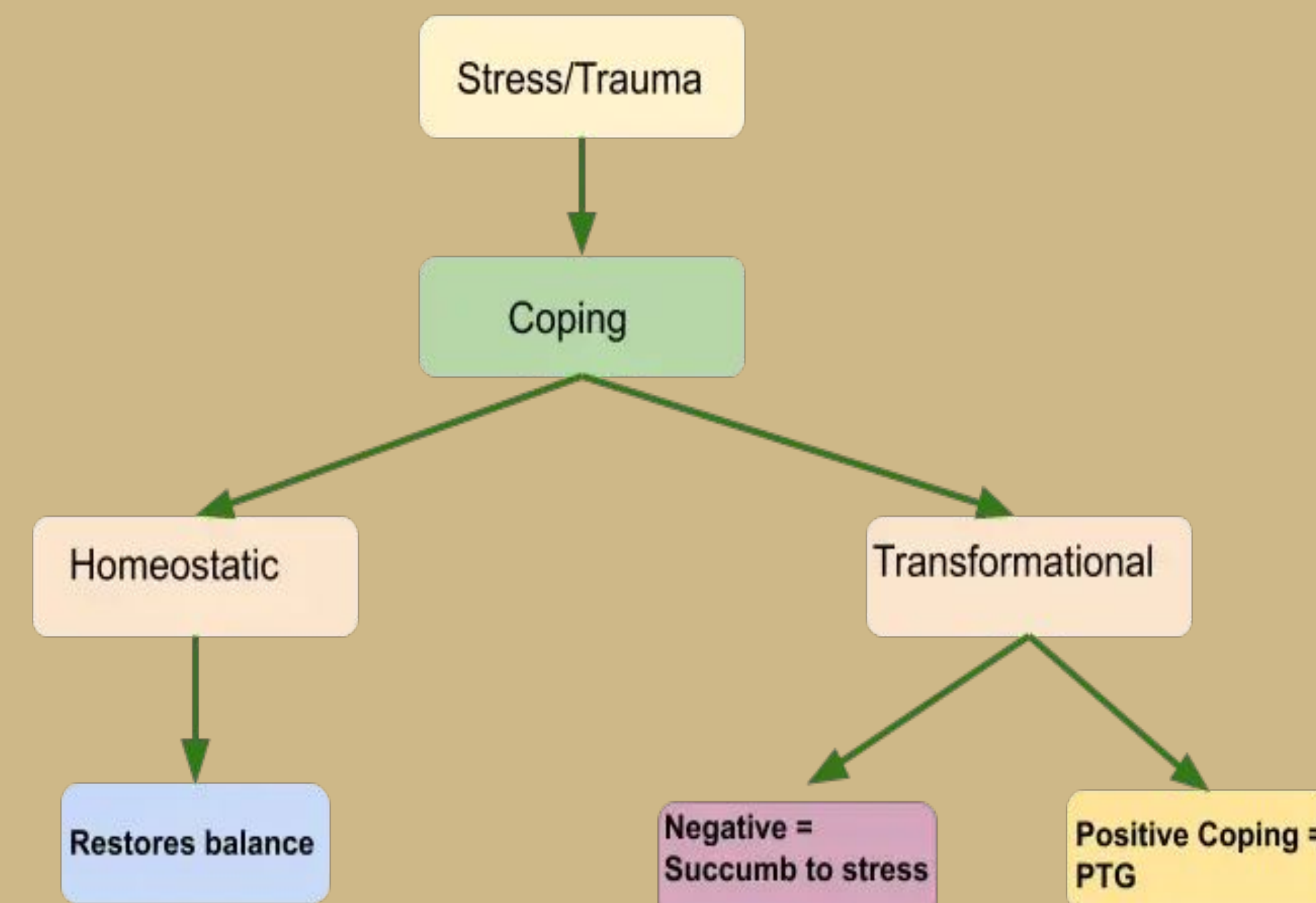
To analyze the sources we compared similar groups based on the available descriptors. We looked to find groups of similar age while analyzing a variety of locations and cultural groups as well as analyzing both genders to establish shared trends over many groups. All patients were adults, the majority being male, and all were observed for at least one year following their procedure.

The most common procedure undergone was coronary bypasses, although a variety of invasive procedures were included. It was also necessary to verify the validity of this data. To accomplish this we only included studies published in reputable journals to ensure they underwent thorough peer review.

Sources were compiled into a detailed chart, which included categories such as group, study period, assessment of post-traumatic growth, and end point. This allowed us to easily compare results from multiple different studies, as well as summarize all of our main findings.

Once groups were established, we analyzed whether the individual studies' findings on the relationship between depression and PTG were corroborated in groups of differing location and cultures. Most studies followed a similar format allowing for clear connections between depression and post-operative conditions to be drawn.

Figures



The Outcome Theory Of Post-Traumatic Growth
How stress may lead to PTG
[Figure from positivepsychology.com]

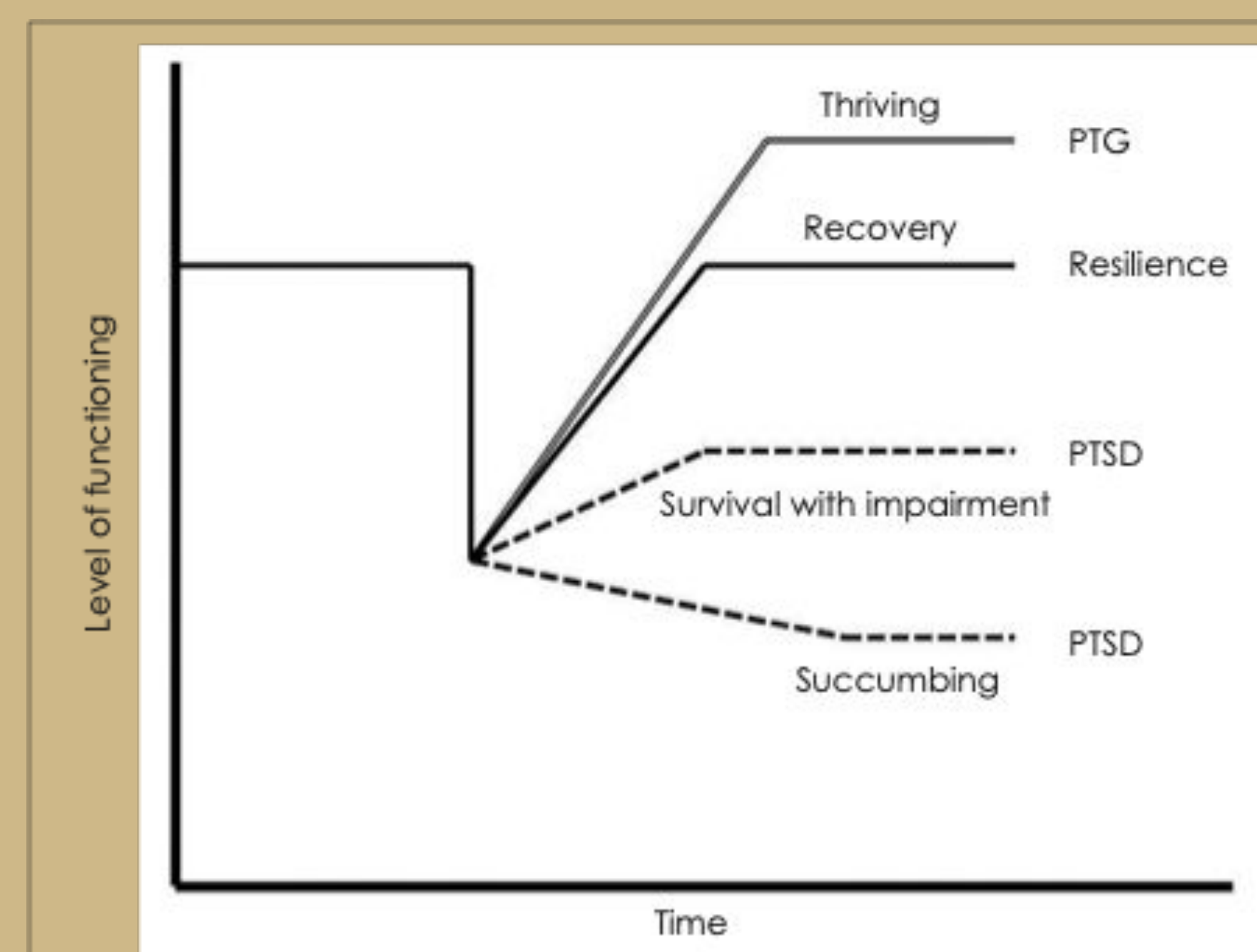


Fig. 1. Possible outcomes of adversity. PTG : Posttraumatic growth, PTSD : Posttraumatic stress disorder.

[Figure from S. Jeong via semanticscholar.org]

Results

Through our research we've found several correlations between PTG and pre-surgical factors. We also found that the success of the surgery is directly correlated to PTG, with fewer complications directly leading to frequency and magnitude of PTG. In addition to complications, rates of mortality play a huge part in the PTG of that population. An increase in mortality leads to significantly reduced rates of PTG following the surgery. It is unclear if this is due to higher mortality being correlated to more complications and lower quality of healthcare, or because the patients are less afraid of the procedure due to reduced risk.

A number of physical factors affect survivability and by extension PTG, such as ejection fraction, previous myocardial infarction, obesity, gender, age and previous admissions to the hospital. This is not a comprehensive list, but it seems that any factor decreasing health (i.e. age, obesity, previous health issues) increases mortality as would be expected. Of particular note is the relationship between gender and success of the procedure, which is thought to be due to the differences in structure of the cardiovascular system and hormonal balances between men and women.

Throughout our literature review, we determined that depression is prospectively associated with a significant increase in myocardial infarctions, as well as coronary death. We found that mental factors not always thought of as related to heart disease like depression, religious belief, anxiety, and poor self-reported quality of life previous to surgery were significant predictors. For example, researchers have found that it is important to study PTSD in relation to coronary artery disease (CAD). For CPR survivors, PTSD and PTG scores were highly related, allowing researchers to predict PTG score from PTSD, time passed since CPR and physical disability caused by CPR. Greater PTG was related to lower depressive symptoms and greater social support. These factors are correlated with both negative results from operations as well as decreased frequency and magnitude of PTG. It has long been known that mental status affects your physical body, and it would seem this holds true for cardiovascular patients.

Discussion

Through our research we have come to understand that a patients PTG following cardiothoracic surgery is a very important topic to analyze further, because of the implications for patients following a procedure when post op depression is not anticipated as a possibility. Mental health can significantly effect a patients pre and post operative mortality rates, and though it is not entirely understood why this correlation exists, it is important for the scientific body to study this phenomenon more in the future. Improving a patients PTG will cause more patients to survive OHS and CVE's, which will result in more people living fulfilling lives following this procedure which is oftentimes very traumatic for the patients who must go through this experience.

References

