Gender and Age Effects on PTG Explained by Psychological Factors in Cardiac Patients

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Introduction

‣ Posttraumatic growth is defined as the experience of positive change following trauma that can occur in struggle with highly challenging life crises or stressful events.
‣ These changes may pertain to the concept of self, relationships with others, life philosophies, and behavioral patterns.

‣ Posttraumatic growth research in cardiac patients remains in its infancy.
‣ Our research aimed to explore whether religious coping methods, along with other religious and secular factors, predict post-traumatic growth at a 30-month follow-up.

Methods

Eligibility criteria:

(a) aged 35 years or older; (b) scheduled for admission for nonemergency, non-transplant cardiac surgery [e.g., coronary artery bypass grafting (CABG), aneurysm repair, and valve repair/replacement], requiring cardiopulmonary bypass; (c) able to speak and understand English; and (d) cognitively and physically capable of providing informed consent.

Measures
Demographics
HD-specific medical indices
Posttraumatic Growth
Perceived Spiritual Support
Preoperative Perceived Social Support
Preoperative Optimism
Preoperative Hope
Preoperative Religious/ Spiritual Coping
The preoperative sense of Reverence
Religiousness
Prayer Coping
Preoperative Depression
Medical Comorbidities

Data collection was carried out through 3 interviews. First was 2 weeks prior to surgery, the second was 2 days before the surgery. The last was 30-months post surgery. The first two interviews were collected for previous studies by one of the authors of the current study.
Analyses: Hierarchical Regression, Correlation

Results

Variable	Step1 Beta (SE)	Step2 Beta (SE)	Step3 Beta (SE)	Step4 Beta (SE)	Step5 Beta (SE)
Gender	.144 (.070)*	.147 (.071)*	.139 (.074)	.049 (.076)	.030 (.072)
Age+	.170 (.003)**	.173 (.003)**	.172 (.003)*	.092 (.003)	.106 (.003)
Race	−.183 (.122)**	−.183 (.122)**	−.179 (.126)**	−.117 (.123)	−.107 (.118)
Marital status	−.152 (.082)*	−.152 (.083)*	−.159 (.084)*	−.160 (.081)*	−.148 (.077)*
Step 1 $F = 7.323$ (df = 4,211, $p < .001$)					
ClassNYH		−.022 (.043)	−.032 (.043)	.000 (.041)	.031 (.040)
LVEF		−.061 (.003)	−.069 (.003)	−.035 (.003)	.001 (.003)
Step 2 $F = 4.991$ (df = 6,209, $p < .001$)					
Medical comorbidity			−.001 (.017)	.000 (.016)	−.020 (.015)
Preoperative depression			.049 (.044)	.015 (.042)	.054 (.040)
Preoperative optimism			.073 (.077)	.022 (.075)	.024 (.072)
Preoperative hope			−.056 (.078)	−.062 (.076)	−.044 (.072)
Perceived social support			.061 (.059)	−.008 (.058)	.008 (.055)
Step 3 $F = 2.859$ (df = 11,204 $p < .01$)					
Prayer coping				.020 (.065)	−.040 (.063)
Public religiousness				.089 (.011)	.077 (.010)
Private religiousness				−.060 (.014)	−.082 (.014)
Subjective religiousness				−.032 (.033)	−.087 (.031)
Religious reverence				.128 (.040)	.076 (.039)
Secular reverence				.050 (.029)	.035 (.028)
Positive religious coping				.268 (.060)*	.196 (.058)
Negative religious coping				−.062 (.099)	−.010 (.096)
Step 4 $F = 3.697$ (df = 19,196, $p < .001$)					
Perceived spiritual support					.363 (.035)***
Step 5 $F = 4.896$ (df = 20,195, $p < .001$)					
R^2	.122	.125	.134	.264	.334

* $p < .05$, ** $p < .01$, *** $p < .001$

Our final model tested the mediator, namely perceived spiritual support since patient's survival, to explain the prospective influence of preoperative religious coping.

The R-Square change was significant, accounting for an additional 7 % of the variance.

Consistent with the second hypothesized mediation, the addition of perceived spiritual support significantly marginalized the influence of positive religious coping on personal growth at follow-up (from $Beta = .27$, $p < .01$ to $Beta = .20$, $p = na$). The final model accounted for one third of the variance [$F(20, N = 215) = 4.896$, $p < .001$, $R^2 = .334$].

Bivariate correlations related PTG with female gender, older age, minority race, marriage, and increased faith-based factors, but no medical or other psychosocial factors.

Discussion

As hypothesized, hierarchical regression analyses indicate a positive role of positive religious coping in personal growth among middle-aged and older patients, after controlling for key confounders (e.g., demographics, cardiac indices, and self-reported medical comorbidities, depression, and known protectors for cardiac health). Importantly, entering perceived spiritual support diminished the direct effect of positive religious coping, indicating a mediating effect, see above.

In hierarchical regressions, gender and age were linked with PTG, alongside other demographics in Step-1. These effects sustained after entry of STS indices, in Step-2, but the gender role diminished after adding medical comorbidities, preoperative depression, optimism, hope, and social support in Step-3. The age effect vanished when faith factors were entered.

This suggests that more research should aim to explore the effect of gender and age on PTG in general. For cardiac patients, care providers may encourage positive faith-based coping prior to cardiovascular surgery.

Scan the QR Code for References and for any further information, please reach out to Beren Crim Sabuncu at csabuncu@fsu.edu