Posttraumatic Growth and Medical Pathological Conditions: Examining the Role of Illness Perception in College Students

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Abstract

Ongoing research has repeatedly demonstrated the incidence of positive psychological change in individuals who have experienced traumatic life-event(s). Although prior studies have analyzed posttraumatic growth (PTG) in adults with serious medical ailments, there is a dearth of evidence exploring how adolescents and young adults attain PTG following the diagnosis of a serious pathological condition. By examining how a participant's perception of illness severity (e.g., temporary condition vs. permanent condition) and conceptualization of the pathological disorder (e.g., physical ailment vs. emotional condition) impacts PTG, this study aims to contribute to the growing body of evidence assessing the predictors of psychological growth. College students who identified an illness as their most traumatic life-event voluntarily responded to a set of inventories. Results showed that participants who perceived their medical pathology as a permanent condition experienced significantly greater PTG than participants who perceived their condition as being temporary. Furthermore, participants who conceptualized their illness emotionally attained greater PTG than participants who did not. These results not only suggest the potential importance perception may play in PTG development, but they also imply the significance of processing and internalizing the trauma for better psychological adjustment.

Keywords: Posttraumatic growth, illness, young adult, perception, psychological condition
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The incidence of trauma is intertwined with the existence of the human experience. From the forager civilization of the prehistoric era, to the fast-paced technologically inclined society of the twenty-first century, distress is a common thread that seeks to bind humans throughout time. Perhaps because of its frequent manifestation, scientists and philosophers alike have sought to study the effects of trauma on several levels; however, most studies have dealt with the deleterious effects of stressful events, from the biological perspective to the existential. For instance, the fact that pathologies like mood disorders and anxiety disorders are ubiquitous in the vernacular of the general population serves to underscore the attention mental illness has amassed.

Contrastingly, a paradigm shift is sweeping the field of psychology and medicine alike, wherein "healthy" mental processes are being examined. For example, pioneering research is revealing the existence of positive outcomes in the aftermath of trauma, a term titled "posttraumatic growth" (PTG). As defined by Tedeschi and Calhoun (2004), PTG refers to, "Positive psychological change experienced as a result of the struggle with highly challenging life circumstances."

To illustrate the mechanism toward psychological growth, Tedeschi and Calhoun (2004), generated a PTG model, an algorithm showcasing the nuances behind this process. Moreover, since this model alludes to the importance of an individual’s subjective interpretation of the traumatic experience, the implications of this factor cannot be overlooked. Based on current literature, only one study has examined how the perception of illness permanence may potentiate PTG in adolescents (Turner-Sack, Menna & Setchell, 2012), and only two prior studies have examined this effect on adults (Leung, Alter, Prior, Stewart, Irvine & Grace, 2012; Postluszny, Baum, Edwards & Dew, 2011). These studies indicated that participants who believed their disease process would recur consistently showed higher PTG levels than participants who believed their disease process was fleeting.
Purpose 1: To examine PTG in college students afflicted with various medical pathologies and assess how their perception of the severity of their condition (e.g., temporary condition vs. permanent condition) affects PTG.

Hypothesis 1: Participants who perceive their condition to be permanent will incur greater PTG than participants who perceive their affliction to be temporary.

While it is important to examine the disease process when evaluating PTG, one cannot ignore the disease itself when questioning why certain traumatic events incite greater growth than others. Based on a review of current literature, a limited number of studies have ranked illnesses that induce the most PTG in adults, (Leung, Gravely-Witte, MacPherson, Irvine, Stewart and Grace, 2010; Smith, Dalen, Bernard & Baumgartner, 2008; Morris and Shakespeare-Finch, 2011), and no such data exist for college students. Synthesizing the results of these aforementioned studies, breast and prostate cancer caused greater PTG than cervical cancer, hematological and colorectal malignancies. Perhaps the reason why breast and prostate cancer induced the greatest amount of growth was because they disrupted the perceived distinguishing, self-defining schema of a man or a woman, e.g., breast or prostate gland. Based on these studies, it appears physical pathological conditions are more likely to disturb the fundamental ways an individual defines himself/herself than psychological medical conditions, e.g., depression, anxiety.

Purpose 2: Assess whether physical and psychological medical pathologies differ in their ability to incite PTG in college students.

Hypothesis 2: Physical pathologies will induce greater PTG than psychological conditions.

Method

Participants

Undergraduate college students from Oakland University located in Rochester, Michigan, completed a set of inventories, and $N = 111$ identified an illness as being their most traumatic event. The gender and class standing of the sample can be found in Table 1.
Table 1

Demographic Characteristics of the Sample

<table>
<thead>
<tr>
<th>Demographic Characteristic</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>26</td>
<td>23.40%</td>
</tr>
<tr>
<td>Female</td>
<td>85</td>
<td>76.60%</td>
</tr>
<tr>
<td>Class Standing</td>
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<tr>
<td>Freshman</td>
<td>51</td>
<td>45.95%</td>
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<tr>
<td>Sophomore</td>
<td>30</td>
<td>27.03%</td>
</tr>
<tr>
<td>Junior</td>
<td>16</td>
<td>14.41%</td>
</tr>
<tr>
<td>Senior</td>
<td>9</td>
<td>8.11%</td>
</tr>
<tr>
<td>Other</td>
<td>5</td>
<td>4.50%</td>
</tr>
</tbody>
</table>

Measurement

**Growth Survey with Undergraduate Students.** All participants completed *The Oakland University 2008 Growth Survey with Undergraduate Students* questionnaire assessing potential PTG after a traumatic life event. Participants were asked to select among twelve categories pertaining to their traumatic event, e.g., *Natural Disaster, Accident/Injury, Serious Illness, Move, Academic Problem, Family Issues, Romantic Relationship Problem, Financial Problem, Bullying/Abuse, Death of a Loved One, Friendship Problem* and *Other*. Furthermore, of the aforementioned list, they were asked to select one category that was most traumatic and to openly discuss any pertinent details.

**Posttraumatic Growth Inventory Questionnaire (PTGI).** All participants completed a 21-item PTGI questionnaire assessing the frequency of life-altering events on a 6-point Likert-type scale (Tedeschi & Calhoun, 1996). Each item is rated from 0 (*I did not experience this change as a result of my crisis*) to 5 (*I experienced this change to a very great degree as a result of my crisis*). The internal consistency of the PTGI is strong (α = .92).

**Subjective Ratings.** To examine whether a participant’s subjective interpretation of illness permanence affected total PTG scores, researchers evaluated the response on the questionnaire that asked participants, “Would you say the event was temporary or permanent?”
In order to assess if a physical ailment caused greater PTG than a psychological ailment, researchers evaluated the response on the questionnaire that asked participants, "Would you say that the event was primarily physical, emotional or both?"

Procedure

In order to evaluate the effect a medical pathology had on PTG levels in participants, specific inclusion criteria were set. First, participants that selected the illness category as their most traumatic event on the questionnaire were included. No limitations were set for age or class standing. Next, in order to ensure that other categories were not being overlooked, researchers read the open-ended responses provided by each participant to determine whether the traumatic event was medically related in nature. For instance, if a participant selected Family Problem as their most traumatic event, but their open-ended response indicated that the problem was a health or medically related issue, like his/her mother having cancer, they were included in the study. To increase the reliability of this procedure, three researchers independently rated each participant’s response as, 1 (clearly medically related pathological condition), 2 (clearly medically related pathological condition without an explanation), or 3 (not a medically related pathological condition). Only conditions that raters selected as 1 and 2 were used for this study, and at least two raters had to agree. Thus, the reliability for two out of three matches = 94.31%, while for three out of three matches = 66.67%

Results

Perception of Illness Permanence

To assess if total PTG levels differed based on whether the participant perceived the medical pathology to be permanent or temporary in nature, a t-test for independent means was conducted. Results showed that participants ($n = 69$; Males = 12, Females = 57) experienced significantly greater PTG when they perceived their medical pathology as being permanent in nature ($M = 62.03, SE = 17.28$) than participants ($n = 39$; Males = 14, Females = 25) who perceived their condition as being temporary ($M = 51.87, SE = 23.87$); $t(60.87) = -2.33, p < .05$. However, the effect size was small to medium, $r = .25$.

Physical vs. Psychological Pathology
In order to evaluate whether a psychological pathology differed from a physical pathology in inciting PTG in an individual, a t-test for independent means was conducted. It should be noted, however, that since hypothesis and purpose 2 of the study strictly dealt with examining potential differences in total PTG scores between physical and emotional disorders, participants who indicated that their trauma occurred on both a physical and emotional level were excluded from the study. Thus, 59.46% (n = 66) participants were omitted from the testing of this hypothesis. Results showed significant differences between the two groups, in that participants (n = 26; Males = 4, Females = 22) who perceived their disease primarily as an emotional problem experienced significantly greater PTG (M = 59.58, SE = 20.54); t(43) = -2.32, p < .05, than participants (n = 19; Males = 8, Females = 11) who perceived their disease primarily as being physical in nature (M = 43.89, SE = 24.69). However, the effect size was small to medium, r = .30. The decrease in the degrees of freedom from the results of hypothesis 1 to hypothesis 2 reflects the reduction in number of participants secondary to the exclusion criteria.

**Discussion**

**Perception of Illness Permanence**

The results from the t-test for independent means supported the hypothesis: Permanent medical pathologies did indeed elicit greater PTG than temporary medical pathologies. For example, upon examining the open-ended responses provided by participants, discussed diseases included, Crohn’s disease, type II diabetes, various forms of cancer (brain, lung, liver and multiple myeloma), heart failure, leukemia, Alzheimer’s disease, myocardial infarction, chronic migraine, stroke, pulmonary fibrosis and lupus. The aforementioned pathologic conditions are all chronic in nature, in that they are long lasting or recurrent, meaning that the trauma does not necessarily end. Next, the responses that participants chose as being temporary in nature were examined, and they included various sports injuries (dislocated elbow, dislocated collar bone, shoulder problems, broken foot and ligament strain) along with strep throat, ruptured ovarian cyst, and Steven’s Johnson Syndrome. These disease processes are acute in nature, in that they have a rapid onset, short course or both. It must be added, however, that several participants also described events that would clinically be defined as chronic, such as depression, cancer, alcohol
addiction and bipolar disorder, but they categorized them as being temporary. Thus, in analyzing the pathway to PTG, the importance is not the clinical distinction of disease course, but rather the subjective interpretation.

**Physical vs. Psychological Pathology**

The results from the t-test for independent means negated the hypothesis, demonstrating instead that the *interpretation* of one's condition was more important than its subjective categorization as a physical or psychological illness. For instance, participants' open-ended descriptions of their trauma showed that even if the disorder was of physical origin, (e.g., deviated septum, leg fracture, brain tumor, and tonsillitis), as long as the perceived incident was identified primarily as an emotional problem, greater PTG was attained. Furthermore, the lack of an emotional reactivity to a physical ailment yielded less psychological growth. For example, participants that identified physical disorders affecting them primarily in a physical fashion (e.g., anterior cruciate ligament tear, broken ankle, broken arm, broken foot, injured knee, injured shoulder, sprained ankle, dyspepsia, lung biopsy, and myositis secondary to streptococcal infection) showed significantly less PTG. Considering that prior studies have repeatedly demonstrated the influence of a trauma's intensity or seismicity on inciting PTG, it appears that the emotional processing of a traumatic event is may be of equal or greater importance than disease classification itself.

**Limitations and Future Directions**

The first limitation of the study was the unequal representation of female and male participants. Prior studies have revealed that American females tend to exhibit greater PTG than their male counterparts, and as such, the disproportionate number of female participants in this sample could have positively skewed results. Thus, future studies should reexamine the hypotheses with equal male and female participants.

Secondly, although the purpose of part 2 of the study was to assess if physical pathologies incited greater growth than psychological pathologies, the results did not accurately assess the existence of such a discrepancy. While the results substantiated the influence of perception on PTG, it would be prudent to
analyze objective definitions of diseases and their processes to examine any underlying differences in PTG development. Accordingly, future studies should examine objectively-defined Axis I and II disorders against objectively-defined Axis III disorders to see if one contributes to greater growth than the other. Such future research can aid clinical practitioners define a patient population best suited to benefit from PTG education.

Lastly, in order to test hypothesis 2, more than half of all participants who identified experiencing their trauma both physically and emotionally were excluded from statistical analysis. Accordingly, the majority of participants appeared to have internalized and processed their medical pathological condition both physically and emotionally, begging the question of whether this is typical of individuals post trauma or an anomaly seen only in this sample. Future studies can explore this notion further, exacting the process that leads to PTG.

**Implications**

In synthesis, it is essential to recognize that the subjective interpretation of a traumatic medical pathology might be of greater importance than objective definition when it comes finding factors that enhance psychological growth. As such, clinicians should augment a patient’s perspective by not only making them think of the long-term consequences of a disease process, but also by facilitating ways to ensure that the trauma has been conceptualized emotionally.
References


