



# Research priorities on post-traumatic growth: Where next for the benefit of cancer survivors?

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## 1 | BACKGROUND

The old adage, “What doesn't kill you makes you stronger” may at times be offered as a platitude to those going through diagnosis and treatment for cancer. The idea that traumatic or highly challenging life experiences and the struggles that accompany them may eventually lead someone towards positive changes in behaviour or life outlook has been much explored in cancer survivorship studies, most commonly using the term “posttraumatic growth” (PTG).<sup>1</sup> We propose that there is a need for a focused future research agenda so that the study of PTG translates into benefits for cancer survivors. As a first step in forming that agenda, and to stimulate debate and further enquiry, we suggest five key areas to be addressed.

### 1.1 | Terminology and definitions

PTG has been defined as an unplanned and unexpected emotional, behavioural, or cognitive change which occurs after a life crisis and struggle and following a period of reflection and rumination; it is both a process and an outcome following trauma.<sup>1</sup> The cancer experience differs from an acute event such as an accident or natural disaster; it is focused on the body and highly medicalised. Initial concerns may be around diagnosis and prognosis, but later may (also) relate to treatment experiences or ongoing sequelae. It is, therefore, difficult to define both the nature of any cancer-related trauma and its aftermath.

Cancer survivorship studies use various terms to describe PTG (eg, “stress-related growth”, “perceived benefit”, “benefit-finding”).

This makes systematic identification and synthesis of the literature on PTG extremely challenging. Moreover, it is unclear whether these terms refer to the same construct(s). Where appropriate, researchers should clearly reference the construct(s) being examined in their work and how this/they is/are defined and interpreted. In addition, rigorous scoping work would identify the range of terms used in cancer survivorship research and where there may be inconsistencies.

### 1.2 | Measurement and determinants

Several scales have been used to measure PTG. Whether these are multi-dimensional or (all) measure the same (single) overarching construct of positive change remains unclear.<sup>2</sup> The most commonly used tool, the Post-Traumatic Growth Inventory (PTGI), has notable limitations. The respondent is required to report their current outlook in comparison with life pre-trauma, which may be challenging. Differences in scores between groups of cancer survivors have been reported; it is unclear whether these differences are meaningful. It is also unclear how cancer survivors' scores compare with others who have experienced different traumas. Norm scores (ie, PTGI scores for the general population) are unavailable. Uncertainties remain about issues including test-retest reliability, scaling (eg, does a score of 80 represent twice as much growth as a score of 40?), and responsiveness to changed circumstances over time. It is unclear to what extent the positive changes/growth people describe in qualitative studies are reflected in scales, or whether the PTGI (and other scales) capture all aspects of growth. There is no established cut-off to identify whether growth has occurred or indication of what represents “clinical

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significance". Assessment of measurement properties of available instruments would help clarify how best to quantify PTG among survivors.

Two systematic reviews have synthesised the literature on studies using scale measures to examine factors influencing PTG.<sup>3,4</sup> Both aimed to include studies with a focus on PTG but by necessity searched using various terms and included published research using several measures. Fairly consistent significant relationships between PTG and constructs such as optimism and meaning-making were found. Casselus-Grau et al. reported positive associations with hope and gratitude and Shand et al with spirituality, religious coping, and social support. This suggests that access to support and an ability to construct meaning around the cancer experience is important. Beyond this, there is a lack of consensus on which survivor characteristics, clinical variables, and psychosocial factors are positively or negatively associated with PTG. Cancer diagnosis and treatment may be life-altering and result in various long term consequences for the individual, some visible or obvious to others (eg, scars, lymphoedema, communication problems) and some requiring a considerable amount of ongoing life adjustment. How might these consequences influence PTG? There are also other known unknowns: for example, how resilience, fear of recurrence or previous experiences influence an individual's ability to process their cancer experiences.

The quantitative evidence is largely cross-sectional, meaning that directions of association between some variables (eg, measures of hope, optimism) and PTG is uncertain. Little is known about when PTG develops post-cancer, how it evolves over time, what influences temporal trajectories, or the influence of supportive interventions (eg, specialist nursing, peer or psycho-oncological support). Large-scale longitudinal studies starting (ideally) before confirmed diagnosis, and including non-cancer comparators, would be valuable. These could use analytical approaches which seek to shed light on causal pathways.

### 1.3 | Understanding pathways to growth

The route towards PTG for cancer survivors may be highly complex. Several have questioned what might represent "genuine" PTG. Tedeschi et al. address these concerns by suggesting that any self-deceptive reports of positive change may be part of the process of dealing with trauma and can be considered as rumination. Regarding cancer, it would be valuable to better understand whether this type of positive reframing forms part of the coping process, whether PTG is simply a specific coping strategy, and/or whether other adaptive coping strategies can transform into embedded positive changes and, hence, PTG.

Seiler and Jenewein offer a conceptual framework related to resilience.<sup>5</sup> They suggest there may be a direct pathway to PTG facilitated by personality traits such as greater pre-existing levels of resilience but that some cancer survivors may take a more indirect path, with PTG facilitated by adjustment and positive reframing. Frameworks such as this are currently not well supported by empirical data and would benefit from deeper exploration of individuals' experiences of

#### Key Points

1. The study of post-traumatic growth (PTG) is a growing field in cancer survivorship research. Greater clarity regarding definitions and terminology around PTG is needed to ensure relevant literature can be identified and better understand the differences between closely related constructs.
2. Consensus is required on what constitutes "meaningful" PTG in cancer survivors and how it can be quantified.
3. Further qualitative research exploring what survivors perceive as helping or hindering positive change post-cancer would suggest possible pathways towards PTG.
4. Large-scale longitudinal quantitative studies, with non-cancer comparators, would help better understand temporal trajectories in PTG and whether health-related quality-of-life and related outcomes are corollaries of PTG.
5. A focused future research agenda, incorporating the issues above, would help translate the study of PTG into interventions that, if effective, may provide long-term benefits for cancer survivors.

change over time. Returning to the above definition of PTG,<sup>1</sup> greater focus is now needed on process(es) rather than outcome.

### 1.4 | Understanding potential corollaries of PTG

It is important to determine whether cancer survivors who report PTG experience additional psychosocial (or other) benefits than those who do not. Studies have tentatively suggested positive associations between moderate-to-high PTG and health-related quality-of-life (HRQoL)<sup>6</sup> and PTG and psychological wellbeing.<sup>7</sup> Better understanding of these associations is of considerable importance, especially as HRQoL is gaining recognition as an independent prognostic factor in cancer.<sup>8</sup>

### 1.5 | Informing intervention development

If PTG does hold additional benefits for cancer survivors, the next natural step should be to determine whether it can be facilitated and enabled. Guidance on intervention development points to a need to review published evidence, draw on existing theories, understand the context in which the intervention will be implemented, and involve key stakeholders who may benefit.<sup>9</sup> The formative evidence on PTG determinants and pathways is currently insufficient to form a basis for intervention planning. Filling the gaps is an essential precursor to intervention design work, which should involve patients, carers and

potential service providers. Iterative refinement and optimisation involving users will result in interventions ready to be tested in the “real world”, initially in terms of acceptability and feasibility and subsequently in terms of efficacy.

Importantly, any focus on PTG within interventions to support cancer survivors does not mean that the negative consequences of cancer should be disregarded or downplayed. PTG and associated terminology should not be presented as an expected outcome following cancer as this may lead to feelings of negativity or pressure<sup>10</sup>; the focus should be on aspiration rather than expectation.

## 2 | CONCLUSIONS

Post-traumatic growth is a complex phenomenon. Better understanding of how and when it is experienced, how to measure it, what influences its development and how any benefits might be enabled would make a hugely valuable contribution to cancer research. A focus on these key areas can lead towards more evidence-based long-term support for survivors—working towards the goal that lives following cancer are lives lived well.

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### CONFLICT OF INTEREST

The authors have no conflicts of interest to declare.

### ETHICS STATEMENT

This article is a commentary and did not require institutional or national ethical committee approval.

### DATA AVAILABILITY STATEMENT

Data sharing is not applicable to this article as no new data were created or analysed.

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