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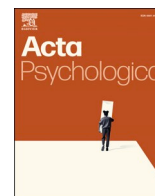
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“What doesn't kill me makes me stronger”: Constructive or illusory posttraumatic growth?

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ABSTRACT

The development of the concept of posttraumatic growth (PTG) and its measurement, the Posttraumatic Growth Inventory, has highlighted the possibility of positive psychological changes after psychotrauma. The actual nature of perceived PTG is, however, debated in the literature. This article aims to summarize the conceptual, methodological, and empirical elements questioning the concept of PTG and to present theoretical perspectives integrating two forms of perceived PTG, real and illusory. The authors performed a review using the PubMed, PsycInfo, and Google Scholar databases. The concept of PTG has been criticized for its confusing and limited definition (particularly as regards the nature of change and its dimensions) and for its complex retrospective self-assessment associated with numerous biases (e.g., self-improvement bias, positive attention bias, downward comparison bias, memory bias). There are further reservations about the character of PTG based on empirical data, such as both the absence of a relationship between perceived and actual changes, and the lack of consensus regarding the adaptive value of PTG (variable associations between PTG and distress and coping types). As for theoretical perspectives, the Janus-Face model was the first to describe constructive PTG and illusory PTG, linked differently to distress and coping. More recent models have also examined these two faces in light of other concepts such as dissociation, and identified PTG trajectories on the basis of person-centered longitudinal analyses, suggesting heterogeneity in PTG. This review underlines the importance of developing further research into patterns of PTG, potentially by improving PTG assessment and considering possible heterogeneity of responses.

1. Introduction

Exposure to a traumatic event (TE) - 70.4 % worldwide (Kessler et al., 2017) - or to an adverse life experience, often leads to distress, even psychopathological and somatic disorders. Yet, for several thousand years, suffering has been considered within the spheres of religion, literature, and philosophy as a potential source of positive change (Tedeschi & Calhoun, 1996), as illustrated by Nietzsche's famous quote “What doesn't kill me makes me stronger” (1888). The notion of growth following critical life crises was originally part of the humanistic and existential psychology movement, as evidenced by the work of Maslow (1954) and Yalom (1980), before being subsequently adopted by the positive psychology movement. From the 1980s–1990s, research was carried out, particularly from the concept of Post-Traumatic Growth (PTG) (Tedeschi & Calhoun, 1996). PTG represents positive psychological changes in five dimensions, such as appreciation of life, relating

to others, personal strength, new possibilities, and spiritual change. Other domains of change will be explored in the remainder of this article.

These transformations result from “the struggle with traumatic or highly challenging life circumstances” (Tedeschi et al., 2018, p. 3). The “psychologically seismic event” shakes fundamental assumptions, leading to a three-stage cognitive process: comprehensibility, automatic/intrusive ruminations management, and significance (Calhoun & Tedeschi, 2014; Magne et al., 2021). Indeed, after the shattering of fundamental beliefs, the person seeks to understand what has happened, through intrusive rumination. Various internal and external resources are mobilized to cope with the emotional distress and automatic rumination. Once this distress has been minimally managed, the individual can engage in more conscious and deliberate rumination focused on the meaning of the event, thus facilitating the reconstruction of core schemas (Calhoun & Tedeschi, 2014).

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Today, the nature of PTG is controversial: is perceived PTG “genuine” (Boals, 2023; Jayawickreme & Blackie, 2014; Mangelsdorf et al., 2019), “constructive” (Zoellner & Maercker, 2006) representing real positive changes, or is it “illusory” (i.e. a coping mechanism) (Boals, 2023; Lahav et al., 2016; Zoellner & Maercker, 2006)? Boals (2023) hypothesizes that the prevalence of true PTG is less than 10 % and that illusory PTG is very common. Although this debate has been widely addressed in the literature, the distinction between constructive and illusory growth is mainly based on the Janus-Face model proposed by Zoellner and Maercker (2006). More recent theoretical approaches, incorporating cognitive, cultural, or dissociative factors, remain largely unexplored. To our knowledge, no review to date has offered an up-to-date synthesis of theoretical models comparing these two forms of growth. Thus, this review of issues related to constructive and illusory growth aims to 1) summarize the conceptual, methodological, and empirical issues associated with PTG, and 2) present integrative theoretical perspectives on real and illusory PTG. A bibliographical search was conducted via the Pubmed, PsycInfo, and Google Scholar databases using the following keywords: “*croissance post-traumatique*”, “post-traumatic growth”, “posttraumatic growth”, “perceived”, “genuine”, “real”, “illusory”.

This article is primarily set within a postpositivist framework, approaching the phenomenon of “genuine” posttraumatic growth as a set of observable changes, identified on the basis of empirical measures focusing on domains of PTG and/or on variables enabling it to be distinguished from so-called “illusory” forms. We nevertheless recognize the relevance of other epistemological paradigms, such as social constructivism and critical realism, which offer complementary perspectives for apprehending the complexity of the phenomenon. These approaches emphasize the socially constructed and interpretative nature of experience, integrating the interplay between measurable individual factors and contextual factors less accessible from traditional measures. As we shall see in this review, some researchers recognize the importance of cultural context and/or personal narratives in the way individuals perceive positive changes after trauma.

2. Constructive or illusory posttraumatic growth?

2.1. Definition of PTG

The nature of change is not clearly specified in the definition of PTG (Boals, 2023). Some consider that a change in perspective is not enough, determining PTG as a change in personality (Jayawickreme & Blackie, 2014), a transformation of identity (Sumalla et al., 2009), the development of virtues (Brady & Jayawickreme, 2023), a reduction in symptoms, or a change in behavior (Hobfoll et al., 2007). Also, growth would exist as a state (Jayawickreme et al., 2022). The permanence of change over time (Miller, 2014) and its temporality are uncertain. Participants use a chronology of change that is closer to the definition of recovery (Boals, 2023).

More specifically, the PTG dimensions are deemed reductive, failing to take inter-individual and cultural differences into account (Magne et al., 2021). Certain authors suggest, for example, to add changes in moral outlook, development of forms of vulnerability, and achievement of epistemic goals (Brady & Jayawickreme, 2023), as well as changes in the body (Hefferon et al., 2009; Sumalla et al., 2009; Walsh et al., 2018). Patients diagnosed with a physical illness report “a new awareness of the body”, marked by positive re-identification with their body, attentive listening to it, taking personal responsibility for their health, monitoring their health, improving health behaviors, and stopping risky behaviors (Hefferon et al., 2009). To measure this physical PTG, Walsh et al. (2018) developed the Physical Post Traumatic Growth Inventory (P-PTGI), composed of two factors: Health Autonomy (e.g., confidence, strength, sense of achievement) and Health Awareness (e.g., physical awareness, responsibility for health).

Furthermore, given the frequent heterogeneity of PTG levels across

the five domains (Boals, 2023), it is difficult to conclude the presence of growth when improvement and degradation coexist (Brady & Jayawickreme, 2023; Miller, 2014).

2.2. Retrospective self-assessment of PTG

The 21-item Posttraumatic Growth Inventory (PTGI) (Tedeschi & Calhoun, 1996) is the most widely used self-reporting tool (Boals, Jayawickreme, & Park, 2023b). This retrospective evaluation would not measure genuine PTG (Boals, 2023) for several reasons. Firstly, it involves complex cognitive work in five steps: estimating one's current position on the dimension being assessed, recalling one's previous position on that dimension, comparing them, calculating the degree of change, and assessing how much of the change was caused by the event (Jayawickreme & Blackie, 2014). In reality, according to mental chronometry, individuals engage in a single step and even when coached to follow the steps, they do not accurately report PTG (Boals, Griffith, & Park, 2023a). Individuals are prone to retrospective self-improvement biases depreciating their attributes in the past (McFarland & Alvaro, 2000). Secondly, positive wording of PTGI items rated on a one-way scale increases PTG levels. In order to limit positive response bias and better understand the nature of post-trauma changes, Baker et al. (2008) introduced the concept of posttraumatic depreciation (PTD), defined as negative changes in PTG domains. Within this framework, the Paired Format Posttraumatic Growth Inventory (PTGI-42) was developed, including the original 21 positively worded items of the PTGI and 21 matched but negatively worded items to measure PTD. The Posttraumatic Growth and Posttraumatic Depreciation Inventory - Expanded Version (PTGDI-X), a 50-item instrument, has been validated in ten countries (Taku et al., 2021). More and more research (e.g., Pięta & Rzeszutek, 2022; Romeo et al., 2022) is jointly exploring PTG and PTD. However, the scales used are not bidirectional. Boals and colleagues then proposed two new scales: the Stress-Related Growth Scale-Revised (SRGS-R; Boals & Schuler, 2019) composed of neutral items rated on a two-way scale and the SRGS-Neutral (Boals & Glidewell, 2023) composed of neutral items rated on a 3-point scale: a positive change, a negative change, a mixture of positive and negative change. The percentage of no PTG is 32 % higher using the SRGS-R (Boals & Schuler, 2019) and the percentage of PTG is 27 % lower using the SRGS-Neutral (Boals & Glidewell, 2023).

Overall, PTG is reported three times more quantitatively or qualitatively than PTD (Boals, 2023). People without trauma also report growth (Tedeschi & Calhoun, 1996) with no significant differences from people with an event according to a meta-analysis (Mangelsdorf et al., 2019). In response to a non-traumatic event, 35 % report moderate to high PTG (Boals & Liu, 2020). The scale can then measure only a global or normal change over the course of life (Mangelsdorf et al., 2019), a positive outlook on life (Jayawickreme & Blackie, 2014), or the ability to find positives (McFarland & Alvaro, 2000). The high internal consistency of the PTGI, contrary to the results on the heterogeneity of the PTG, may suggest that people convince themselves that they have grown in all dimensions (Boals, 2023).

According to a meta-analysis (Gower et al., 2022), evaluation is sensitive to three main biases: the positive attention bias, the downward comparison bias, and growth beliefs. Individuals with these biases enhance their self-evaluation (Jayawickreme & Blackie, 2014; Maercker & Zoellner, 2004). Other biases have been studied, such as defensiveness (neurotic and immature), memory bias (overgeneralization of autobiographical memory, imprecision of chronology, or inaccurate recall of previous functioning), social desirability bias (Gower et al., 2022), or “positive illusions” (Taylor & Brown, 1988). Indeed, perceived growth could be associated with three forms of illusions: (1) unrealistic positive self-evaluations or the tendency to overestimate one's qualities, e.g. patients evaluating themselves as better adapted to cancer (Taylor, 1983), (2) illusion of control or the tendency to overestimate one's abilities to control events, e.g. regarding cancer recurrence (Taylor,

1983), and (3) unrealistic optimism or the tendency to believe that more positive than negative events will be experienced relative to others and vice versa, e.g. concerning the risk of developing Acquired Immuno-Deficiency Syndrome (AIDS) in Human Immunodeficiency Virus (HIV)-positive men (Taylor et al., 1992). They can give new meaning to their lives, regain their perception of control, and restore their self-esteem (Taylor, 1983). Collard et al. (2016) developed the Positive Irrational Beliefs Scale (PIBS) to directly measure these illusions independently from context.

Also, cultural expectations underpinned by master narratives, culturally shared and valued scripts, can influence how individuals interpret and report their experience (McLean & Syed, 2016). One of the narrative schemas most deeply rooted in Western cultures is that of the “hero’s journey”, conceptualized by Campbell (1949), in which an individual undergoes a series of hardships and emerges grown-up and transformed, like a hero. McAdams (2006) develops the notion of redemptive narrative, a form of narration in which negative experiences are seen as catalysts for personal growth. These narratives, which emphasize the transformative power of adversity, can encourage individuals to perceive posttraumatic growth (Jayawickreme & Blackie, 2014). Thus, the extent and nature of perceived PTG may depend on the degree of adherence to cultural scripts (Boals, Jayawickreme, & Park, 2023b).

Nevertheless, these previously mentioned biases are not considered in the theoretical frameworks of perceived PTG, which should be weakly and/or negatively related to them (Gower et al., 2022).

2.3. Lack of consensus on the relationships between perceived PTG and real changes, distress, and adaptation

According to prospective studies (Boals et al., 2019; Corman et al., 2021; Frazier et al., 2009; Owenz & Fowers, 2019; Yanez et al., 2011), with the exception of Manove et al. (2021), perceived PTG does not reflect real PTG, i.e., a quantifiable change compared with before the TE. Perceived changes are weakly related if at all to actual changes in measures corresponding to PTG domains, except in cases of high event centrality, i.e., when the memory of the event is perceived as a central element of the person’s identity and a defining moment in their lives (Johnson & Boals, 2015). In retrospect, relationships are weak or absent between perceived PTG and longitudinal changes in PTG domains such as self-efficacy, life purpose (Kunz et al., 2019), spirituality (Trevino et al., 2016), personal attributes (Ransom et al., 2008), and personal resources, except when PTG is assessed as a stable trait from 3-time measures (Park et al., 2023). Nevertheless, perceived changes can be corroborated by significant others (Vitorino et al., 2023) and changes in item meaning are not always reflected in quantitative scores (Tedeschi & Moore, 2021).

Moreover, the relationships between PTG and distress are unclear, sometimes positive (Bistricky et al., 2023), negative (Kunz et al., 2019), or insignificant (Yu et al., 2022). According to meta-analyses, PTG is not related to anxiety and depression (Long et al., 2021), while it is positively related to PTSD (Liu et al., 2017; Marziliano et al., 2020; Schubert et al., 2016). Frazier et al. (2009) then conclude that perceived PTG is necessarily a coping mechanism due to its positive association with distress. According to other research, the PTG-PTSD relationship may be curvilinear: moderate PTSD severity predicts high PTG (Eisma et al., 2019; Weber & Schulenberg, 2023; Wen et al., 2020; Whealin et al., 2020), or moderate PTG predicts high levels of PTSD (Kleim & Ehlers, 2009), depression, and anxiety (Kleim & Ehlers, 2009; Weber & Schulenberg, 2023). As for retrospective longitudinal studies, four categories of results are identified 1) PTG positively (Zalta et al., 2017) or negatively (David et al., 2023) predicts later distress, 2) PTSD (Hall et al., 2015; Park et al., 2022) and anxiety (Park et al., 2022) positively predict subsequent PTG, 3) PTG and distress influence each other (Blix et al., 2016), and 4) PTG and distress do not influence each other (Eisma et al., 2019). PTG/PTSD patterns would be heterogeneous: low PTSD/PTG,

high PTSD/PTG, and low PTSD/high PTG (Fletcher et al., 2023).

Tedeschi and Moore (2021) remind us that temporality should be considered: in the first instance, trauma-related distress could trigger PTG which in the second instance could decrease distress. Perceived PTG, illusory or not, may promote real change (Tedeschi et al., 2018), although a longitudinal study (Gangel et al., 2023) concerning an event that occurred 3 to 15 months earlier contradicts this hypothesis. According to a meta-analysis (Mangelsdorf et al., 2019) including longitudinal studies evaluating the domains of growth and well-being, genuine growth would develop one to two years after the event.

It is also important to note that PTG is a complex phenomenon, distinct from “the sense of psychological comfort” (Calhoun & Tedeschi, 2014). Indeed, PTG does not necessarily imply a reduction in psychological distress. Positive changes may coexist durably with negative repercussions of the trauma, notably the persistence of post-traumatic symptoms (Greene et al., 2015; Stein et al., 2020).

Finally, perceived PTG is not associated systematically and solely with adaptive coping strategies. PTG has been predicted by both adaptive and maladaptive coping (Kalaitzaki et al., 2023; Kunt Isguder et al., 2018); positive reappraisal, self-control, and distancing (Bayraktar & Ozkan, 2023); approach or problem-focused coping and avoidance coping (Dominick, 2022; Kunz et al., 2018; Zhang et al., 2021); proactive coping, emotional support-seeking, and avoidance (Fujimoto & Okamura, 2021); engagement coping and self-distraction (Schwartz et al., 2022); adaptive coping, denial, and downward comparison (Arandia et al., 2018). PTG has been associated with supporting aggressive behavior (Hobfoll et al., 2007) and with dysfunctional attitudes (Liébana et al., 2022). Zoellner and Maercker (2006) therefore assume that adaptive and maladaptive processes in PTG coexist, representing two components of perceived PTG described below.

3. Integration of conceptualizations

3.1. The Janus-face model

The Janus-Face model of self-perceived PTG (Maercker & Zoellner, 2004) is a cognitive model integrating two components of perceived PTG. The functional, self-transcending, or constructive component, theorized by Tedeschi and Calhoun (2004), represents “a positive state resulting from real changes in cognitive schemas” (Goutaudier et al., 2020, p. 152). It is correlated with healthy coping and reduced long-term distress. The dysfunctional, self-deceptive, or illusory component corresponds in part to distorted positive illusions helping to counter-balance emotional distress. It is associated with self-consolidation or denial and possibly cognitive avoidance strategies (Zoellner & Maercker, 2006). It is said to have short-term benefits as a palliative coping strategy, while in the long term it reinforces avoidance strategies, denial, and increases distress. These two components coexist, depending on the timing of the coping process, the level of psychological distress, and habitual coping styles (e.g., openness to experience, optimism) (Maercker & Zoellner, 2004). If coping is successful, the constructive component develops and the illusory component diminishes over time (Zoellner & Maercker, 2006).

Within the PTG dimensions, “appreciation of life” and “spiritual development” positively associated with PTSD could constitute an illusory component, whereas “personal strength”, “relationships with others”, and “new possibilities” linked to a sense of coherence would represent a constructive component (Nishi et al., 2010). Appreciation of life had a negative impact on new possibilities (Gou & Ma, 2023).

3.2. Other theoretical perspectives on perceived PTG

Similarly, Sumalla et al. (2009) distinguish between two types of PTG. PTG as a reality is defined as the result of accommodation of core beliefs, challenged by the TE, leading to a positive change in identity. PTG as an illusion, conversely, is characterized by the assimilation of the

TE, involving a distortion of self-enhancing appraisal to compensate for, or defend against, the distress caused by identity questioning. To distinguish between real and illusory PTG, [Aspinwall and Tedeschi \(2010\)](#) recommend assessing the degree to which core beliefs are called into question, or how one adapts to trauma.

[Boals \(2023\)](#) describes three forms of PTG: perceived, genuine, and illusory. Perceived PTG refers to genuine PTG (cf. [Tedeschi & Calhoun's](#) model), illusory PTG (most frequently used as a coping mechanism), or a mix of both (genuine growth and exaggerated beliefs about one's growth). According to [Boals, Jayawickreme, and Park \(2023b\)](#), this would reflect adherence to a cultural script about the outcomes of exposure to a TE, reappraisal coping through secondary control or self-enhancement (benefit-finding making the event less threatening or maintaining a positive view of self), changes in narrative identity (maintaining thematic coherence), and violation of post-recovery expectations (giving an explanation of their personality or lack of depreciation after the TE).

[Lahav et al. \(2016\)](#) propose a theoretical perspective considering PTG with regard to dissociation that would model the nature of PTG reports and their long-term impacts. Two types of PTG are distinguished: one representing genuine positive transformation, and the other, entitled dissociative subtype of PTG, reflecting dissociative mechanisms. The first type of PTG reports may occur after a process of reconstruction of schemas and belief systems in people relying weakly on dissociation and actively engaging in trauma processing. It reflects genuine changes that have a neutral or positive effect on psychological adjustment. The second type can be reported when individuals rely heavily on dissociative to block traumatic material. A reversed or distorted version of schema reconstruction appears, resulting in fragmented and disintegrated belief systems. Dissociative narratives then coexist in a disconnected way with negative narratives about self, others, and the world following the trauma. This dissociative subtype of PTG may be maladaptive in the long term, associated with negative outcomes such as intrusion, avoidance, and hyperarousal symptoms ([Hamam et al., 2021](#)). This model is supported by studies showing that PTG is linked to dissociation ([Lahav et al., 2016](#); [Sultana Eliav & Lahav, 2023](#)), and that dissociation mediates the correlation between negative core beliefs and PTG ([Lahav et al., 2016](#)). Also, PTG would reflect pathological attachments to aggressors, being positively associated with identification with aggressors ([Sultana Eliav & Lahav, 2023](#)). The dissociative subtype of PTG may place abuse survivors at increased risk for further sexual violence ([Lahav et al., 2020](#)), as evidenced by elevated rates of sexual revictimization among individuals reporting high levels of both PTG and dissociation. At the relational level, PTG perceived by veterans or their wives indirectly predicts lower dyadic adjustment over time via their PTSD levels at T1 and T2 ([Lahav, Kanat-Maymon, & Solomon, 2017a](#)).

3.3. Clinical heterogeneity of PTG: Plural trajectories

According to these perspectives, the existence of several models of PTG was investigated based on person-centered analyses, taking into account the heterogeneity of post-traumatic responses. A systematic review ([Gendre et al., 2025](#)) highlighted various trajectories identified through person-centered longitudinal analyses, such as stable, increasing, decreasing, constructive, illusory, distressed, struggling, or resistant PTG. Factors such as coping strategies, perceived distress, psychosocial resources, and socio-demographic variables determined trajectory membership. The types of trajectories and their proportions varied by event type (e.g., serious illness versus earthquake), sample and study design. Consistent with [Zoellner and Maercker's](#) model, transitions between trajectories were observed over time, suggesting that growth can become authentic.

4. Conclusions

This review highlights that the real or illusory nature of growth is

controversial in the literature. Perceived PTG would not reflect true PTG. A central concern is the ambiguity of its definition, particularly the lack of clarity regarding the nature of the changes it implies. Its "confusing" definition not only complicates questionnaire completion and data interpretation, but also reflects more general limitations in the theoretical framework of PTG. In particular, PTG research has been criticized for its disembodied approach, as the role of the body in posttraumatic growth has been largely neglected. Recent work has highlighted the emergence of a new body awareness in individuals with physical illnesses, a phenomenon referred to as physical PTG and which can be assessed using the P-PTGI ([Walsh et al., 2018](#)).

Additionally, some authors suggest that rates of perceived PTG may be overestimated, notably due to the use of retrospective tools such as the PTGI, whose positively worded items assessed on a one-way scale may inflate scores. To partly overcome these limitations, new instruments have been developed, such as the PTGI-42 ([Baker et al., 2008](#)), which includes both positive and negative items assessing PTG and PTG, or the SRGS-R, a bidirectional scale with neutral items ([Boals & Schuler, 2019](#)). The use of these two-way scales tends to reveal a lower prevalence of perceived PTG ([Boals & Glidewell, 2023](#); [Boals & Schuler, 2019](#)), underscoring their interest in a more nuanced assessment of growth. The interpretation of perceived changes after trauma must also take into account individual biases (e.g., downward comparison bias, positive attention bias) ([Gower et al., 2022](#)) as well as cultural biases, linked to dominant cultural narratives valuing growth in adversity ([Jayawickreme & Blackie, 2014](#)). As such, transnational comparative studies of PTG patterns appear relevant to better identify the true prevalence of PTG, distinguishing its universal dimensions from its culturally shaped expressions.

Finally, empirical evidence questions the genuine nature of PTG, such as the weak or non-existent correlations between perceived PTG and domains of change, as well as the positive associations between PTG and distress and various types of coping. However, PTG may initially be a coping mechanism to manage distress, and then represent real positive change as a result of the struggle with trauma (thereby reducing distress).

The Janus-Face model ([Zoellner & Maercker, 2006](#)) postulates that adaptive and maladaptive processes coexist, representing two "faces" of perceived PTG, one functional, constructive PTG, and the other long-term dysfunctional, illusory PTG. [Boals \(2023\)](#) also assumes that perceived PTG is a mix of genuine and illusory PTG. Other theoretical perspectives describe two similar forms of perceived PTG, some distinguishing them according to accommodation or assimilation of core beliefs ([Sumalla et al., 2009](#)), or level of dissociation ([Lahav et al., 2016](#)). Following the postulate of several growth patterns, research using person-centered longitudinal approaches has shown various PTG trajectories: stable, increasing, decreasing, real, illusory, struggling, etc. Indirect assessment of illusory PTG needs to be harmonized in research ([Gendre et al., 2025](#)).

The identification of two forms of perceived growth and plural trajectories of PTG have major theoretical and clinical implications. At a theoretical level, it is essential to recognize more fully the issues associated with PTG and to be more cautious in drawing conclusions from the results, notably by using the term "perceived growth" for growth retrospectively measured. According to one review ([Boals, Jayawickreme, & Park, 2023b](#)), only 9 % of articles mentioned the controversy about PTG measurement more than once, and 10 % used the term "perceived growth" more than three times. At a clinical level, because of the possibility of illusory growth, growth assessment needs to be deepened by considering associated processes such as dissociation ([Lahav et al., 2020](#)) and professionals need to consider whether the aim is to challenge growth illusions or modify them to eventually generate true PTG ([Boals, 2023](#); [Sumalla et al., 2009](#)). For [Cheng et al. \(2020\)](#), PTG of any kind should not be invalidated at the risk of reducing adaptation or increasing distress, but premature interventions leading artificially to possibly illusory growth are not recommended.

Therapists' reactions to PTG would therefore interact with patients' growth processes. According to Lahav, Seligman, and Solomon (2017b), these reactions should be considered as reenactments of dissociated self-states and traumatic relational dynamics. In adult survivors of childhood sexual abuse, five positions of countertransference have been identified: dissociated therapist (relying excessively on the perceived PTG associated with the "dissociated child" state), therapist as perpetrator (embodying the patient's representation of the abuser), therapist as neglectful parent (identifying with the patient's representation of the neglectful parent), therapist as rescuer (adopting an omnipotent rescuer role), mourning therapist (identifying with the patient's experience of loss). The first three positions would reinforce PTG reports, while the last two would help to minimize them. Recognition and elaboration of these countertransference positions in psychotherapy therefore represent an important lever for promoting trauma integration and patient healing.

Several therapeutic approaches can promote PTG. Roepke's (2015) meta-analysis showed that cognitive-behavioral therapy (CBT), written or spoken self-expression/disclosure, and some innovative psychosocial interventions are associated with a moderate increase in PTG. CBT enables the modification of schemas related to oneself and the world, a process central to the development of growth. Self-expression, and more broadly narrative and disclosure-based interventions, facilitate the integration of the event into the life story and contribute to the construction of meaning. Additionally, mindfulness-based interventions support the meaning-making process, by encouraging attention to the present moment, free from judgment. Trauma-focused therapies also appear to promote growth (Roepke et al., 2021). However, these authors point out that studies rely predominantly on retrospective self-report measures of PTG, limiting the ability to determine whether interventions impact only subjective perceptions of growth or enable observable changes in personality and behavior.

Further research into the different forms of PTG is needed, in particular by assessing growth more comprehensively, beyond self-reporting (e.g., informant reports, behavioral indicators, neurobiological correlates of real PTG), and by using approaches considering heterogeneity in growth responses and the processes that can differentiate them (e.g., dissociation, positive illusions, core beliefs).

CRedit authorship contribution statement

Emma Gendre: Writing – original draft, Methodology, Investigation, Conceptualization. **Andrea Soubelet:** Writing – review & editing, Supervision, Conceptualization. **Stacey Callahan:** Writing – review & editing, Supervision, Conceptualization.

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Declaration of competing interest

The authors declare that they have no competing interest.

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No data was used for the research described in the article.

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