
Transforming From Cocoon to Butterfly: The Potential Role of the Body in the Process of Posttraumatic Growth

Journal of Humanistic Psychology
50(2) 224–247
© The Author(s) 2010
Reprints and permission: <http://www.sagepub.com/journalsPermissions.nav>
DOI: 10.1177/0022167809341996
<http://jhp.sagepub.com>



Kate Hefferon,¹ Madeleine Grealy,²
and Nanette Mutrie²

Abstract

The diagnosis of cancer has the potential to elicit positive change (post-traumatic growth [PTG]) through the experience of trauma and adversity. However, psychology and clinical practices and most recently positive psychology have been criticized for their indifference toward the influence of the body on positive psychological functioning. The aim of this study was to broaden the understanding of PTG, including its process and outcomes, using interpretive phenomenological analysis. Ten female breast cancer survivors, from an already existing study, participated in an individual, open-ended interview. These were transcribed verbatim and analyzed for themes that reflected the women's experience of growing from adversity. The role of the body was found to be a vital component to the process and outcomes of PTG and was deconstructed into three smaller themes: fear of new body, negative effects of chemotherapy on the body (fatigue, loss of desire), and reconnection with body (cocoon to butterfly, listening to body, body as a barometer/monitoring). In addition, the analysis revealed how these 10 women perceived the body as an integral component to their self-identity and how this affected their achievement of PTG. Future research should begin to acknowledge and conduct further study into the neglected role of the body as a contributor or determinant of the PTG process.

¹University of East London, London, UK

²University of Strathclyde, Glasgow, Scotland, UK

Corresponding Author:

Kate Hefferon, Department of Psychology, University of East London, Romford Road, London, E15 4LZ, UK

Email: k.hefferon@uel.ac.uk

Keywords

posttraumatic growth, the body, mortality salience

Following the diagnosis of cancer, posttraumatic stress disorder has been found to occur in 5% to 35% of the population as a result of the imbalance between threat and resources to cope with the disease (Cordova, 2008; Kangas, Henry, & Bryant, 2002). However, succumbing to trauma (posttraumatic stress disorder) is not nearly as common as resilience/recovery and growth (Cordova, 2008; Lepore & Revenson, 2006; Rothschild, 2000). Indeed, the positive changes reported, following trauma, have consisted of Tedeschi and Calhoun's (1995, 2006) five main areas of growth: a greater appreciation of life, a changed sense of priorities, warmer more intimate relationships with others, a greater sense of personal strength, and recognition of new possibilities or paths for one's life and enhanced spiritual development.¹ Nevertheless, psychological research maintains a pathological, disease model focus on treatment types for trauma recovery (Frank, 1998; Resnick, Warmoth, & Serlin, 2001; Rothschild, 2000; Serlin, 1996; Wennerstrand, 2008) and has neglected the integral influence of the body as a facilitator of the posttraumatic growth (PTG) process. This article will review the perceived role of the body in the growth process following bodily trauma.

Physical trauma (cancer, burns, etc.) to the body, inside and out, can create an entirely different framework with which to adjust to because of its devastating effect on self-identity (Gilboa, 2001). The systematic decline of bodily functioning following cancer diagnosis (e.g., increased fatigue, weight gain, hair loss, steady attack on the body by the body) should therefore have a tremendously unique and different impact on a person's ability to cope, make sense of, and eventually grow from the trauma. For example, a terrorist attack survivor has the relief of knowing that his or her trauma was indeed time limited and will most likely never occur again. However, cancer patients, and those with other traumatic and life-threatening physical illness diagnoses, are never entirely "posttrauma" (Cordova, 2008).

Frank (1998) reviewed the phenomenological/physiological literature of the body and its association with illness and proposed five main areas of body research, three of which are relevant when explaining the body's potential influence on the PTG process. The first area of research focuses on the ability of illness to disrupt our consciousness and call attention to the body. Evolution has enabled humans to become aware or conscious of their own mortality, which in turn creates great discomfort toward the body from the awareness that "the physical body is a vehicle which life passes unto death" (Goldenberg, 2005, p. 224). Terror management theory (TMT)

suggests that there is an innate, biological need to survive, leading people to experience existential fears and paralyzing terror with the realization of inescapable death (Pyszczynski, Greenberg, & Goldenberg, 2002). To counteract this paralysis, a person conforms to a cultural world view and utilizes self-esteem to buffer against the anxiety of death (Pyszczynski et al., 2002). TMT and PTG have traditionally been regarded as two opposing theories on the psychological adjustment of this realization. PTG focuses on the positive changes that can occur when faced with mortality, whereas TMT states that our behavior is focused into finding meaning in life and value in ourselves, to combat the sheer terror of the inevitability of physical death, "How can one exist on a symbolic plane when ones physical body provides a constant reminder that we are made up of corporeal matter, prone to deterioration and death?" (Goldenberg, Arndt, Hart, & Routledge, 2008, p. 1058).

TMT theorists have criticized PTG theory for neglecting the role in which mortality salient environments (e.g., death threats, reminders of mortality) could play in the facilitation of PTG (Lykins, Segerstrom, Averill, Evans, & Kemeny, 2007). Mortality salience hypothesis suggests that when a person is reminded of the inevitability of death, their world view defense strengthens and individuals seek to conform to the accepted beliefs and behaviors of their culture (Harmon-Jones et al., 1997). Using the mortality salience hypothesis on a woman who has just undergone a bilateral prophylactic mastectomy, her body would become a long-term, inescapable reminder of the inevitability of death. Thus, unlike other trauma victims (e.g., a bereaved parent) whose bodies are still in tact, and were never threatened via the trauma, they are immersed in a mortality salient environment and forced to acknowledge and adjust to their experience with this transient reminder.

Although PTG accepts that survivors will indeed confront the idea of death after trauma (Tedeschi & Calhoun, 2006), PTG theory does not consider the lasting effects of the damaged body on adjustment to trauma and achievement of PTG. Cozzolino, Staples, Meyers, and Samboceti (2004) believe that to understand the PTG process further, research should concentrate on how specific traumas can increase a person's salience of his or her own mortality and how this then affects the process of growth.

Mortality salience and the body directly link to Frank's (1998) second and third area of research, which posits that we can only know the world through our bodies, and therefore, our self-identity is a direct result of all worldly experiences via the body (Frank, 1998). Frank's theory therefore suggests that the experience of psychological growth may only be achievable through our physical self and state of being. This is especially accurate when dealing

with female breast cancer survivors who must endure the demise of their perceived femininity via loss of hair/breasts, which, until the point of diagnosis, they believe has defined them (Fatone, Moadel, Foley, Fleming, & Jandorf, 2007; McGaughey, 2006; Taleghani, Yekta, & Nasrabadi, 2006; Welch, 1999). McGaughey (2006) conducted an integrative review of body image after bilateral prophylactic mastectomy. Overall the surgery was perceived as a threat to their "sense of womanliness" (p. 46) and feelings of reduced femininity (Welch, 1999). Negative physical changes to the female body included reduced sensitivity, scaring, grieving for the breast, and dislike of intimacy surrounding the breast (Hopwood et al., 2000; Lodder et al., 2002).

A negative body image can have a devastating effect on a person's development of self-concept (Goldenberg, 2005). In addition, lowered physical self-esteem has been found to induce higher rates of depression and anxiety as well as decrease overall well-being (Robert et al., 1999). Emslie et al. (2007) reported a decline in body image stemming from hair loss, as did Lemieux, Maunsell, and Provencher (2008), who conducted a review of the effects of hair loss on female cancer survivors and found it to be one of the most upsetting side effects of chemotherapy. By enduring and overcoming the negative physical experiences of chemotherapy, survivors have been found to achieve new strength and appreciation for their physical functioning (PTG), leading to an increased awareness of their physical self and a positive reconnection with the same body that frightened them only a few months earlier (Cella & Tross, 1986; Dahan & Auerbach, 2006; Daiter, Larson, Weddington, & Ulmann, 1988; Hefferon, Grealy, & Mutrie, 2008; Hefferon, Grealy, & Mutrie, 2009; Salick & Auerbach, 2006).

The aim of this study was to broaden the understanding of PTG (its process, outcomes, and determinants) and to acknowledge positive changes that are not currently addressed by the existing scales of assessment. In particular, the current literature and main models of PTG have not yet considered the body's role as a determinant of PTG and the health benefits following physical trauma, "none of the current scales of growth assess the dimension of positive health habits and lifestyle change" (Park & Lechner, 2006, p. 53; Tedeschi & Calhoun, 2006). The participants in the present study had all taken an exercise program as part of a randomized control trial (RCT) study by Mutrie et al. (2007). The RCT study reported enhanced functional and psychological well-being at the end of a 12-week exercise intervention and at the 6-month follow-up. Women who had undertaken the exercise program and also experienced PTG were identified and asked to talk about their experience. Interpretive phenomenological analysis (IPA) was used because this approach offered a naturalistic method of assessing

the impact and experience of a desired phenomenon. The degree to which the body contributed to the known and previously unknown determinants of PTG was then assessed.

Method

Methodological Paradigm

IPA is focused on discovering the participant's individual experience of PTG through the occurrence of recurring themes. It is a phenomenological account of an experience through the person's own perception (Smith, Jarman, & Osborn, 1999). It is an inductive, nonhypothesis testing approach with the focus on the individual as the "expert" in the experience. IPA differs from standard thematic analysis in that it is tied to phenomenological epistemology and has a far more structured method of application than standard analysis (Braun & Clarke, 2006). Throughout the interview session and the analysis, the researcher acknowledges their inevitable influence on the process and outcome of the data, moving away from the traditional scientific theoretical stance of realism toward a more contextualist view of reality (Madill, Jordan, & Shirley, 2000).

IPA has not yet been used to understand the phenomenon of PTG and has the unique opportunity to go beyond quantification of existential phenomena and delve into new areas of research with no preconceived hypotheses, thus enabling new and undiscovered elements of the phenomenon to be identified (Mayers, Naples, & Nilsen, 2005).

Participants

The participants were 10 female breast cancer survivors from the west of Scotland. They were part of a study on the benefits of physical activity as a rehabilitation strategy for women receiving treatment for breast cancer (Mutrie et al., 2007). The women's demographic variables are shown in Table 1, and the women's baseline and postintervention statistics for the walk test, shoulder range of motion, and Beck Depression Inventory scores (collected as part of the larger RCT) are shown in Table 2. When converted into percentiles, the range of scores shown by this group of 10 did not show any trends at baseline and postintervention. This indicated that in terms of fitness levels, depression, and shoulder mobility they were not a unique subpopulation within the Mutrie et al. (2007) study.

Table 1. Characteristics of Participants

Characteristic	Number of Participants
Age group (years)	
43-53	5
53-63	5
Marital status	
Married	10
Education status	
A level	6
Degree	2
Professional	1
Missing	1
Treatment type	
Mastectomy	2
Lumpectomy	8
Treatment plan	
Chemotherapy	1
Radiotherapy	1
Combination	8
Activity levels prior to diagnosis	
Some activity but not enough to meet description of regular activity	1
Regularly active but only began 6 months prior to diagnosis	2
Regularly active and was so for longer than 6 months prior to diagnosis	7

Sample Selection Procedure

Following National Health Services ethics approval, participants were recruited using purposeful sampling from the Mutrie et al. (2007) study. An information sheet was mailed to each participant in the exercise group ($n = 100$), via the original researchers, close to the time of the 1-year follow-up. The information sheet described PTG and positive benefits as defined by Tedeschi and Calhoun's (2006) examples of growth. Women who believed they had experienced the PTG phenomenon were invited to describe their experiences in an interview. Once the number of participants reached 10, the recruitment was stopped.

Table 2. Percentile Scores for the 10 Women, Part of a Sample of 100 Women, in the Intervention Group on Three of the Seven Representative Measures

Participant Study ID Number	12-Minute Walk Test		Shoulder Mobility Range		Beck's Depression Inventory	
	Baseline	3 Months	Baseline	3 Months	Baseline	9 Months
33	69	66	52	50	88	45
62	95	84	96	95	NA	37
133	97	88	23	38	49	NA
136	47	67	71	89	51	40
167	70	95	46	58	91	90
197	50	75	52	66	23	37
210	83	NA	78	78	49	67
234	91	NA	23	66	13	29
235	9	NA	12	26	64	31
281	62	NA	66	84	32	40

Note: NA = not available.

Procedure

Each participant was briefed on ethics and confidentiality issues and asked to complete a consent form. The interviews were open-ended, concentrating on one key question: "What does finding positive benefits from your trauma mean to you?" The term *positive benefits* was used interchangeably with PTG because of potential confusion and negative connotations between the psychological terminology posttraumatic "growth" and the medical terminology of "growth" meaning tumor. All subsequent questions followed from the participants' comments. The interviewer used minimal probes such as "Can you tell me more about . . .?" "How did that make you feel?" and "Can you explain further?" to fully understand the participants' comments. In addition, the interviewer kept a brief list of topic areas that could be accessed if the interview became stilted. Once finished, the participants were debriefed. The interviews were taped using a Sony audio-cassette and lasted between 40 minutes and 2 hours.

A reflective diary was employed by the researcher throughout. This qualitative tool is used after the session to record initial thoughts on the session (e.g., how it went, length, depth, and quality), interviewee (e.g., what she wore, hair color, personality, and humor), interesting quotes, and the interaction between the participant and researcher (e.g., rapport, personality clashes). This tool enhances the quality of the study and the data because it improves mental re-creation of the interview long after it has taken place.

Analysis

To commence the interpretation process, the first transcript was read a number of times. The text was then analyzed using exploratory coding, the process of line-by-line review focusing on description and content followed by language use and finally questioning the underlying meaning behind phrases and accounts of experiences (Flowers, 2006). Next, the exploratory coding was analyzed for emergent themes, which are the most important/salient themes for the participant throughout the entire transcript. Each individual transcript was subjected to the same rigorous analytic procedure. Once all emergent themes had been identified, the themes were collapsed across the group to create a master list and subsequently entered into Nvivo (a qualitative software program) for storage purposes.

Validity of IPA cannot be attained through traditional quantitative methods (Vignoles, Chrysochoou, & Breakwell, 2004), and steps to ascertain validity (independent auditing, member checking, etc.) are usually taken for “completeness not convergence” (Madill et al., 2000, p. 10). Therefore, for enrichment purposes, two independent auditors (who were experts in IPA) were enlisted to review the data to enhance the overall coding process. They were asked to match the quotes with the themes listed and comment on the appropriateness of the themes and/or suggest alternative titles or matches. Results for each independent auditor included matched (60% and 69%), unmatched (37% and 31%), and does not fit (3%). The auditors’ suggestions were acknowledged, and the unmatched themes were reviewed and concluded to be identical in concept (but they were titled differently) to the original themes. Those that “did not fit” were revised until an agreement was achieved.

The original analyzes yielded eight main themes of the experience of PTG that were expressed across the group. These themes included, in no particular order, the body, exercise class, existential reevaluation, self-identity, philosophy change, society, lack of rumination, and impact of trauma. The results presented below focus on one main and frequently reported theme, the “new body,” and how and why these 10 women perceived their “new body” to be a powerful influence on their experience of PTG. The remaining themes will be reported in future publications.

Discussion of Findings

Analyses of the data showed that the phenomenon of PTG was indeed experienced by these 10 women from their breast cancer diagnosis.

There was a general consensus in the improvement of their quality of life and a heightened appreciation for things that were previously taken for granted. Evidence of growth is shown here by Brenda² and Isabelle as they discuss how cancer has made their life better and are even grateful for their diagnosis.

And it's . . . and I feel my life's better! I know it sounds crazy (laughs), but I feel the quality of my life is better because (sniffles) I've prioritized (sniffles) and I know what matters. (Brenda)

It (cancer) made . . . life very precious . . . and I stopped taking things for granted . . . Em . . . so . . . I'm grateful in that it has brought all these positive aspects into my life, its made me mentally aware of the positive side of my life. (Isabelle)

For the purpose of this article, the theme of a “new body” and its influence on the process of PTG will be discussed. This subtheme was further deconstructed into 3 smaller themes: fear of new body, negative effects of chemotherapy on the body (fatigue, loss of desire), and reconnection with body (cocoon to butterfly, listening to new body, body as a barometer/monitoring). In addition, the article will review how these 10 women perceived the body as an integral component to their self-identity and how this affected their achievement of PTG.

New Body

There was a clear notion of a sequential process within the women's experience of PTG, thus within the themes there is a kind of timeline of negative to positive relationship with their bodies. This ultimately would suggest that it is not necessarily having cancer that promotes PTG but the subsequent physical and psychological responses and processes by which they endure following trauma.

Fear of New Body. The women frequently described a new found fear of their new body following cancer stemming from the threat of reoccurrence, hair loss, breast loss, sickness, and so on. There was a definite feeling of loss of control over their body, which ultimately was perceived to affect their growth process. Florence recalls a “cloud of reoccurrence” that seems to follow her into every doctor's appointment. In addition to this, any aches or pains that would have been disregarded before the cancer have now become signs of something perhaps more sinister. Florence's new body is a minefield of potential

harm in which she struggles to claim control over while also battling with her own embarrassment of bringing attention to this new body.

And even every time you go for a check up, it's still you know, "God, are they going to find something this time . . ." I think its just a constant, that it will come back . . . Em and that you constantly, em, you know, sort of, you know feeling for lumps or bumps or you know, em, any aches or pains and things like that, you know? [Uh huh] Em, so in some ways I think maybe, em, I can be over, you know, I think "oh God, I've got an ache" and I'll go to the doctors. Em, and then sometimes you sit, you feel a bit that I'm being silly, so I don't do anything about it. And then I worry about it "cause then I think, well maybe no, I should be doing something you know, so . . ." (Florence)

Florence's body has become a transient reminder of her mortality (morality salient environment), and the fear of reoccurrence supports Cordova's (2008) suggestion that cancer is not a time-limited trauma; its effects are long-lasting, inhibiting these women to ever truly be "posttrauma."

Day-to-day activities carried out via the body have become a thing of terror for Justine as she tries to get to grips with the altered physical form. Justine experienced paralyzing fear of further damaging the body after surgery, which reinforces the unique physical challenges and psychological processes these women endured to eventually attain PTG.

And, of course, you have . . . the surgery and you are so and, it's like "what can I do?" and you like absolutely terrified to do anything . . . I thought I don't want to damage my arm, or you know, you've got you've had surgery on your breast and all the rest of it and your not sure what you can or can't do. (Justine)

Again, Claire recalls how she was scared of her new body's vulnerability to infections and the restrictions this put on her. Simply venturing into town became a potential disaster for her new body's susceptibility of infections and illness.

You know, you don't want to be in too many crowds of people 'cause your scared of picking, your . . . your immune system's quite low, and you're scared of picking up too many other, you know whatever any other problems are about. (Claire)

Fear of the new body via loss of control has been frequently reported following physical trauma (Milne, Guilfoyle, Gordon, Wallman, & Courneya, 2007; Sabiston & Crocker, 2008; Salick & Auerbach, 2006). Sabiston, McDonough, and Crocker (2007) interviewed female breast cancer survivors who reported feelings of betrayal by their own body, "You sort of think your body is giving up on you, like you're not in control; you have the right to be in control of your body and then this happens" (p. 430). Salick and Auerbach (2006) repeated these findings with amputees who reported a devastating blow to their physical self on losing control over their own body. Milne et al. (2007) also found similar reports of the distressing effects of loss of control by breast cancer survivors, "One of the worst things about cancer treatment is that you are no longer in control of your own body" (p. 1477).

Negative Effects of Chemotherapy. The negative effects of chemotherapy are imperative for understanding the potential impact the body had on these 10 women's process of growth from cancer. Declining physical fitness, increased and unstoppable weight gain, debilitating fatigue, changes in taste, loss of sexual drive, and all-consuming sickness were experienced by the majority of these 10 women. A new appreciation for their health (a PTG outcome) and their bodies (past, present, and future) was ignited, and the negative effects were viewed as reminders of how much they value their health.

Weight gain. Unfortunately, chemotherapy is well known to induce unprecedented rapid weight gain (Courneya, 2003). Overall, all the women reported weight gain after chemotherapy treatment. For most, they had never been heavy and thus seemed to feel as if they were living in a body that was alien to them. The following are comments on the negative effects of weight gain on the women, which, by eventually overcoming the weight, led to an increased appreciation and awareness of their health and their bodies. Brenda described how she had never been overweight, with it negatively affecting her perception of self, whereas Gloria describes the practical inconvenience of a heavier body.

Och it made me feel kinda, och, self-conscious, 'cause I had never, ever been overweight . . . I really didn't like it at all, em, and when I looked in the mirror, I thought, oh God . . . don't look very nice (laughs), you know? (Brenda)

Well, it's uncomfortable! I don't like it! Um, I don't want to have to go out and buy more clothes because the ones I've got don't fit me. (Gloria)

Overall, these women had to accept, adjust, and appreciate their new, heavier, and uncomfortable body that was ultimately foreign to them.

Fatigue. Claire speaks about her loss of energy and how this led to feeling down and depressed. All 10 women experienced episodes of fatigue and lethargy from the chemotherapy, again finding it difficult to recognize their new tired, heavy bodies.

I mean, you're not that great. You are feeling pretty down, you know, em, you lose a lot of energy, you're very tired, you know, you can't just bounce around. (Claire)

Taste. Such a simple thing as taste was negatively affected via chemotherapy and contributed to a new physical state of being. Kirsty became "terribly" thirsty, needing to replenish her new body frequently throughout her interview and over the day. Claire recalled the "rotteness" of her mouth and how this affected her ability to enjoy food, drink, and general daily life, "I always had a rotten taste in my mouth." Living with this permanent revolting taste created a heightened appreciation for her health with the return of her body's proper functioning.

Sexual drive. A few of the women reported changes in their body with regard to sexual functioning and drive. Following chemotherapy, their new bodies seemed devoid of sexual urges, and they reported a loss of the sexual self. Isabelle recounts how the treatment with tamoxifen left her barren of sexual feelings.

By the time they had (laughs) they had given me a few doses of tamoxifen, eh, sex just totally went out—I do—I do not have any sexual feelings left in my body. (Isabelle)

Sickness. One incredibly common negative physical side effect of cancer treatment is nausea or sickness. These women experienced gut wrenching periods of sickness, which they had never encountered before. Suddenly, their old body had departed and a new, vengeful body had taken its place. The following is a candid account from Helen about how all-consuming and out of control the physical sickness had become.

This isn't a particularly very nice story, but em . . . I got up, had a shower and got dressed—and this was only my second chemo—and eh . . . I started to feel sick. And, I knew I wasn't going to make the bathroom and went into the utility room off the kitchen and I was so sick,

seriously sick, I lost control of my bladder. And I found that . . . humiliating, you know? I was so sick, I couldn't control . . . I had no control over my bladder. Apparently I didn't realize this can happen, in severe forms of sickness. In fact the oncologist said I was really lucky it was only my bladder. And, I find it very, oh I don't know, degrading? You know, you're so sick, and you can just feel urine trickling down your leg . . . I just, I felt so weak, because this sickness—I'm speaking, now maybe I had been standing being sick in these sort of wet trousers and that . . . probably for 20 to 25 minutes [gosh] So it wasn't like, a five minute slot. (Helen)

Toombs (1992) suggests that the embarrassment and shame stemming from the loss of certain physiological functioning can cause severe alienation of the body from the self. Helen's loss of bladder control created a deep sense of humiliation, or degradation as she described it, which in turn caused the disconnection or alienation of her own body from the self. Helen's portrayal of her body as no longer controllable gives insight into what these women had to physically go through to come to terms with their new body and eventually grow from their trauma.

The negative effects of chemotherapy on the body were a wake-up call or catalyst for a new appreciation of these women's previous good health and wellness. Claire described a state of ignorance from people who have never been sick and how lucky she was to now know what it is like to be sick and what it is like to feel well.

When you go out of the house in the morning now, you appreciate, "I feel, ya, I feel well!" And it's a lovely feeling. [uh huh]. You know? Em, so, you know, that's a positive feeling as well [. . .] It's just, you don't, you do not realize how nice it is to feel . . . feel well. (Claire)

Brenda discussed how the loss of her health made her realize its importance above all else and how she would no longer take her physical self for granted again.

Because if you don't have your health, you haven't got anything [. . .] But em . . . it's just that my health, I would never take (pauses), you know, never take it for granted . . . ever again. (Brenda)

Dysappearing is the term given to the phenomenon of the loss of the body's "taken-for-grantedness" following illness (Frank, 1998). This term implies

that all humans take their body and health for granted until something goes seriously wrong. Following illness, the body is thrust into the person consciousness and then “dysappears” (Leder, 1990). This “dysappearance of the body” can in turn induce a change in sense of self, creating awareness that the self is in fact dependent on the body (Kliever, 1995). Ultimately, the loss of hair or a breast can entrap a person within this taken for granted body and rapidly shove the body from the subconscious to her “experienced world” (Kliever, 1995, p. 60; Toombs, 1992). It appears, therefore, that these women’s illness pushed their bodies into their consciousness making them more aware of and appreciative of their physical self. However, this new appreciation for the physical self has not been adequately researched within PTG literature.

Reconnection With the Body. Following the traumatic diagnosis of cancer and the negative physical/psychological effects of chemotherapy, there seemed to be a positive stage of reconnection with the body that was deemed to be an important part of the women’s experience of PTG. Many of the women reported having a new awareness of their body and a more positive relationship with it than that existed before the trauma occurred. This, in itself, is a PTG outcome following physical trauma facilitated through the corporeal self.

Cocoon to butterfly. The physical body after trauma can provide two equally important states of mind: to remind us of our death and to remind us of our life, “mortality salience should either facilitate avoidance of the body because it can remind us of our inevitable death or approach of the body because the body can also be an exhilarating reminder that one is alive” (Goldenberg et al., 2006, p. 129). Evidence of this “exhilarating reminder” was found among these 10 women as their body became a vessel for hope when they began to see positive physical changes following chemotherapy.

Your eyes look flat, there’s no sparkle in them, and all the rest of it. When the chemotherapy stopped, and things started to grow back again, like my hair . . . Um (pauses) it was like spring . . . because everything was just, you know, bursting out! My hair! My face was really hairy at one point. It’s still a wee bit furry. But em, the hair on my head was so strong. My eyelashes were just . . . crazy and I really began to feel so much better. I suppose, once that stuff, filters out of your system. I just felt really great. (Elaine)

Elaine’s physical transformation from dull and “flat” to “like springtime” resembles the natural transformation of the butterfly. Where her body was once

dormant and hidden from the world (cocooned), on completion of chemotherapy she began to emerge as the butterfly, alive and full of life (hair, energy).

Elaine also describes her chemotherapy experience as a therapeutic and detoxifying phenomenon.

Another positive thing was I felt, through all of it, although the treatments horrible, when I finished my chemotherapy (pauses) looking back, no not looking back, at the time even, I felt as though it was almost like a cleansing . . . experience. (Elaine)

Elaine perceived the experience to be like shedding her skin (cocoon) or her old life and becoming a new and enhanced person at the end of it (butterfly). This is an interesting PTG outcome that was achieved via a physical stripping of the body of hair, sickness, fatigue, and so on, and then a rejuvenation of a new self. This type of rejuvenation process or PTG could only have been facilitated via the body.

Claire emphasizes the rejuvenation process following chemotherapy, likening the regrowth of hair to “spring time.” Her analogy of a plant starting to grow is similar to that of the butterfly emerging from the cocoon; a new rebirth of something beautiful. Interestingly, her hair has now become a symbol of health and renewal rather than sickness and disease.

You know I can only speak for myself, em, but, you know, when your hair’s coming backing, you know it feels like spring time [. . .] But I found, when you hair started to come back in, it was wonderful. That was, that was like springtime! That was like, you know, it was like seeing a plant starting to grow. You feel as if, oh well that’s . . . you know, it must be getting better, something’s coming in, it, it—That was great! And then just ever look back from that, you know? (Claire)

Dahan and Auerbach (2006) found the rejuvenating experience of “physical rebirth” to be a strong component to their participants’ process of psychologically growing from myeloma. One male participant described a similar “cocoon to butterfly” process, “as soon as I got back (strength) all these passions returned . . . so I think when all the hair returned and all these other things returned, everything returned. You know, you become your self again, which is the strength (p. 377). The perception of becoming stronger in the self is a very well documented PTG outcome (Tedeschi & Calhoun,

1995). What seems to be happening among these patients (inclusive of the 10 women) is that by becoming physically stronger, the person then becomes mentally stronger, which is a unique process of growth exclusive to physical trauma and recovery.

Listen to body/body as a barometer. This new awareness of the body led to a novel ability to listen to their body in an innovative way. Not only were the women able to listen to their body, they were also able to use it a tool for monitoring their own health, implying that they had become so reconnected and aware of their physical self that they were able to deduce their overall internal health from their external physical functioning levels. Gloria describes how a daily walking routine kept her body informed on its internal health.

It's a useful guide to me for how my physical health is. How long I can walk, and how far I can walk and, and how long it takes me . . . It's useful really . . . It's just useful, 'cause then I'll say, ok, what I don't try to do, when my I, when my energy levels are low, I don't push myself [ok]. I just do what I can do and that's it. (Gloria)

Gloria's ability to use her body as a barometer, or a tool, to monitor her overall health is a highly beneficial result of her reconnection with her body and ultimately a positive effect of the cancer. Heightened awareness of the body has been reported as an outcome of physical illness (Fatone et al., 2007). Pakenham (2005) reported an increase in listening to and acknowledging the body after the diagnosis of multiple sclerosis. In addition to this, participants became more aware and took more control of their health while also reevaluating their lifestyle (diet and exercise).

Self and vicarious monitoring. Reconnecting with their new physical selves increased the probability of self breast examinations for these 10 women as well as extending to vicarious self-monitoring among family, friends, acquaintances, and colleagues. Brenda recounts how her experience has educated and forced people around her to self-monitor and reconnect with their own bodies—to learn what is normal and what is not normal for their physical self. Therefore, the diagnosis and survival of cancer has the ability to reconnect nondiagnosed people with their own bodies and potentially prevent future health illness.

And I'm the same with my family and friends . . . making sure there ok, they're looking after themselves and they are keeping well . . . oh and another really good thing that's come out of this is loads of people have said to me, as a result of me, they're all checking their breasts all the time. (Brenda)

This is extremely important health benefit as research has reported contrasting theories on incidence levels of breast self-examination. Goldenberg, Heflick, and Cooper (2008) examined existential barriers to breast self-exam behaviors. They concluded that self-examination and monitoring is directly influenced by the women's concerns about their mortal self; thus, perceived risk–death links can reduce breast self-exams. Yet, from this study, we can clearly see an increase in self and vicarious physical monitoring and breast examinations following the trauma of cancer.

Body and Identity

The influence of the body on identity is essential in understanding the PTG process in the aftermath of physical trauma. Research has suggested that self-identity is affected by and learned via the body (Dahan & Auerbach, 2006; Frank, 1998; Paterson, Thorne, Crawford, & Tarko, 1999). The physical self is defined as “the collaboration of perceptions of strength, fitness, endurance, competence, health, appearance and body composition” (March, 1998, as cited in Sabiston et al., 2007) and has been lauded as accounting for a large component of overall well-being. Dahan and Auerbach (2006) reported that patients with myeloma were only able to rediscover their self via the “restoration of the physical self” (p. 377). Therefore, the body was imperative in destroying and then reestablishing these 10 women's sense of physical, gender, and self-identity (beyond a “cancer patient”).

The loss of a breast, hair, gained weight, and changed appearance was found to impair some of the women's sense of identity. Diane and Kirsty explain how losing their hair negatively affected their sense of femininity, insinuating a loss of gender identity.

Em, it was very traumatic. For me, and I heard a lot of people in the manual saying this, it was worse that losing the breast . . . Em, but it is a terrible experience to lose all your hair. And I, I know it's stupid cause its to make you all better, but it's one of the side effects of the . . . you just want your femininity. (Diane)

Kirsty even likens the experience of hair loss for her, as a female, as the “end,” insinuating that negative physical changes in appearances are equal to a sort of death or end of the self.

I think because, I think . . . em . . . I think, for a female to lose her hair is the absolute end! (Kirsty)

Fatone et al.'s (2007) study on African American/Hispanic women with breast cancer revealed the same defeminizing trends following the loss of hair and breasts, "my breasts were my pride and joy . . . I don't feel like a woman anymore . . . I feel like less than a woman" (pp. 120-122). As did Taleghani et al.'s (2006) research on female breast cancer survivors, which found that femininity and self-identity were bound in external appearance. Therefore, as expressed in the previous theme, the experience of and victory over negative physical and gender identity changes (cocoon to butterfly) was a part of the experience of PTG for these 10 women.

Conclusion

The aim of this study was for the exploratory documentation of the experience of PTG among breast cancer patients the potential impact of the body on the women's process and outcomes of PTG. In summary, there was a clear notion of a timeline of negative to positive physical and psychological transformation that contributed to the process of PTG. The fear of their new body stemmed from the negative physical effects of chemotherapy. The apparent truce of the body (alleviation of physical ailments) led to an existential/phenomenological reconnection with body spurring a transformation of their physical and emotional self or "cocoon to butterfly." The women began to start listening to their new body and using their body as a tool (barometer) to monitor their overall health. In addition, the article reviewed how these women perceived the body as an integral component to their self-identity and highlights how the shattering and rebuilding of their identity contributed to process of PTG.

Ultimately, this study highlights the unique perceived influence of the body on the process and outcomes of PTG. Thus, with regard to the bigger picture in PTG research, there seems to a place for the body and issues relating to the body (e.g., mortality salience, TMT, physical identity; Cozzolino et al., 2004; Goldenberg, Heflick, & Cooper, 2008; Lykins et al., 2007) in the facilitation and as direct outcomes of PTG, especially when the trauma is directly related to the body as in examples of cancer or illness. Sabiston et al. (2007) adapted the main model of PTG (Tedeschi & Calhoun, 2006) after their study revealed a unique relationship between women's physical self-perceptions and overall self-worth on the growth process. Their revised version included a focus on more proximal stages of PTG (physical activity and personal control) as well as a shift in physical self-perceptions (athletic identity, competitiveness, more aerobically fit, stronger, and more physically competent). This emphasizes the need for continued research and the

potential restructuring of the main model of growth (Tedeschi & Calhoun, 2006), which thus far neglects the role of the body in the processes of growth.

The use of IPA was beneficial in extracting novel emergent themes from these women's experience of PTG. The strength of this study lies in the in-depth and personable accounts of 10 women's experience of PTG. IPA uses homogenous, self-selected (expert) sample to understand a specific group of people at an idiographic level. Using a homogeneous subset does not "confound" the results (which implies a positivist, quantitative ontology) yet merely gives insight into a specific group of people and raises questions for further research to determine the possibility of PTG via the body. The results of the study therefore allow us to say something about this certain group in detail rather than all groups in general but points to issues that warrant further study.

It must be acknowledged that the study was composed of a homogenous subset that creates limitations to the classic form of generalization. The participants were all White females, 1-year postcompletion of an exercise intervention. However, the influence of gender and time since diagnosis on the ability to experience PTG has produced nonsignificant results (Collins, Taylor, & Skokan, 1990; Fromm, Andrykowski, & Hunt, 1996; Stanton, Bower, & Low, 2006). Also, these women were part of a group that willingly signed up for the original intervention and were then subsequently chosen for the exercise arm of the study and not the control group arm. There is a definite possibility that the women had become more aware of their physical selves due to the participation in an exercise intervention, which required an element of sporadic monitoring by professionals and could have therefore affected their perceptions of the body in the process of PTG.

However, the authors suggest that the results offer a form of naturalistic generalization, "intuitive and empirically based on personal direct and vicarious experience" (Lincoln & Guba, 1985, p. 120). Thus, through the researcher narrative, we have been able to "parallel actual experiences" thus "feeding into the most fundamental processes of awareness and understanding" (Stake, 2005, p. 454). Here, the body was perceived to be one of eight main themes heavily influential on the process of growth as well as a portal for PTG outcomes. Future research could extend the rich explorative data reported within this study to participants within the general population (male and female), differing illnesses and physical traumas to determine possible links between the experience of PTG and the body outside of an organized exercise intervention. In addition, future research should concentrate on the

potential influence of the body and health-related constructs on PTG and perhaps include newer versions of scales because “none of the current scales of growth assess the dimension of positive health habits and lifestyle change” (Park & Lechner, 2006, p. 53; see also Park & Helgeson, 2006).

Notes

1. It must be noted that the aim of this review is not to advocate suffering as a situation worth striving for but rather to examine the phenomenon in which suffering and grief can coexist with enlightenment and growth.
2. For confidentiality purposes, the participants' names have been changed.

Declaration of Conflict of Interest

The authors declared that they had no conflicts of interests with respect to their authorship or the publication of this article.

Financial Disclosure/Funding

The authors declared that they received no financial support for their research and/or authorship of this article.

References

- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*, 77-101.
- Cella, D., & Tross, S. (1986). Psychological adjustment to survival from Hodgkin's disease. *Journal of Consulting and Clinical Psychology, 54*, 616-622.
- Collins, R. L., Taylor, S. E., & Skokan, L. A. (1990). A better world or a shattered vision? Changes in perspectives following victimization. *Social Cognition, 8*, 263-285.
- Cordova, M. (2008). Facilitating posttraumatic growth following cancer. In S. Joseph & A. Linley (Eds.), *Trauma, recovery and growth: Positive psychological perspectives on posttraumatic stress* (pp. 185-206). New York: John Wiley.
- Courneya, K. S. (2003). Exercise in cancer survivors: An overview of research. *Medicine & Science in Sports & Exercise, 35*, 1846-1852.
- Cozzolino, P. J., Staples, A. D., Meyers, L. S., & Samboceti, J. (2004). Greed, death, and values: From terror management to transcendence management theory. *Personality and Social Psychology Bulletin, 30*, 278-292.
- Dahan, J. F., & Auerbach, C. F. (2006). Qualitative study of the trauma and posttraumatic growth of multiple myeloma patients treated with peripheral blood stem cell transplant. *Palliative & Supportive Care, 4*, 365-387.
- Daiter, S., Larson, R. A., Weddington, W. W., & Ulmann, J. E. (1988). Psychosocial symptomatology, personal growth, and development among young-adult patients

- following the diagnosis of leukemia or lymphoma. *Journal of Clinical Oncology*, 6, 613-617.
- Emslie, C., Whyte, F., Campbell, A., Mutrie, N., Lee, L., Ritchie, D., et al. (2007). "I wouldn't have been interested in just sitting round a table talking about cancer": Exploring the experiences of women with breast cancer in a group exercise trial. *Health Education Research*, 22, 827-838.
- Fatone, A. M., Moadel, A. B., Foley, F. W., Fleming, M., & Jandorf, L. (2007). Urban voices: The quality-of-life experience among women of color with breast cancer. *Palliative & Supportive Care*, 5, 115-125.
- Flowers, P. (2006). *Interpretive phenomenological analysis, faculty seminar*. Paper presented at the Scotland Strathclyde University Seminars, Glasgow, UK.
- Frank, A. (1998). From disappearance to hyperappearance: Sliding boundaries of illness and bodies. In H. Stam (Ed.), *The body and psychology* (pp. 205-232). London: Sage.
- Fromm, K., Andrykowski, M., & Hunt, J. (1996). Positive and negative psychosocial sequelae of bone marrow transplantation: Implication for quality of life assessment. *Journal of Behavioral Medicine*, 19, 221-240.
- Gilboa, D. (2001). Long term psychosocial adjustment after burn injury. *Burns*, 27, 335-341.
- Goldenberg, J. (2005). The body stripped down: An existential account of the threat posed by the physical body. *Current Directions in Psychological Science*, 14, 224-228.
- Goldenberg, J., Arndt, J., Hart, J., & Routledge, C. (2008). Uncovering an existential barrier to breast self-exam behavior. *Journal of Experimental Psychology*, 44, 260-274.
- Goldenberg, J., Heflick, N., & Cooper, D. (2008). The thrust of the problem: Bodily inhibitions and guilt as a function of mortality salience and neuroticism. *Journal of Personality*, 76, 1055-1080.
- Goldenberg, J., Kosloff, S., & Greenberg, J. (2006). Existential underpinnings of approach and avoidance of the physical body. *Motivation and Emotion*, 30, 127-134.
- Harmon-Jones, E., Simon, L., Greenberg, J., Pyszczynski, T., Solomon, S., & McGregor, H. (1997). Terror management theory and self esteem: Evidence that increased self esteem reduces mortality salience effects. *Journal of Personality and Social Psychology*, 72, 24-36.
- Hefferon, K., Greal, M., & Mutrie, N. (2008). The perceived influence of an exercise class intervention on the process and outcomes of posttraumatic growth. *Journal of Mental Health and Physical Activity*, 1, 47-88.
- Hefferon, K., Greal, M., & Mutrie, N. (2009). Posttraumatic growth and life threatening physical illness: A systematic review of the qualitative literature. *British Journal of Health Psychology*, 14, 343-378.

- Hopwood, P., Lee, A., Shenton, A., Baidam, A., Brain, A., Lalloo, F., et al. (2000). Clinical follow-up after bilateral risk reducing ("prophylactic") mastectomy: Mental health and body image outcomes. *Psycho-Oncology*, *9*, 462-472.
- Kangas, M., Henry, J. L., & Bryant, R. A. (2002). Posttraumatic stress disorder following cancer: A conceptual and empirical review. *Clinical Psychology Review*, *22*, 499-524.
- Kliever, L. D. (1995). Rage and grief: Another look at Dax's case. In S. K. Toombs, D. Barnard, & R. A. Carson (Eds.), *Chronic illness: From experience to policy* (pp. 58-76). Bloomington: Indiana University Press.
- Leder, D. (1990). *The Absent Body*. Chicago: University of Chicago Press.
- Lemieux, J., Maunsell, E., & Provencher, L. (2008). Chemotherapy-induced alopecia and effects on quality of life among women with breast cancer: A literature review. *Psycho-Oncology*, *17*, 317-328.
- Lepore, S., & Revenson, T. (2006). Resilience and posttraumatic growth: Recovery, resistance and reconfiguration. In R. G. Tedeschi & L. G. Calhoun (Eds.), *Handbook of posttraumatic growth* (pp. 24-46). Mahwah, NJ: Lawrence Erlbaum.
- Lincoln, Y., & Guba, E. (1985). *Naturalistic inquiry*. London: Sage.
- Lodder, L. N., Frets, P. G., Trijsburg, R. W., Meijers-Heijboer, E. J., Klijn, J. G. M., Seynaeve, C., et al. (2002). One year follow-up of women opting for presymptomatic testing for BRCA1 and BRCA2: Emotional impact of the test outcome and decisions on risk management (surveillance or prophylactic surgery). *Breast Cancer Research and Treatment*, *73*, 97-112.
- Lykins, E. L. B., Segerstrom, S. C., Averill, A. J., Evans, D. R., & Kemeny, M. E. (2007). Goal shifts following reminders of mortality: Reconciling posttraumatic growth and terror management theory. *Personality and Social Psychology Bulletin*, *33*, 1088-1099.
- Madill, A., Jordan, A., & Shirley, C. (2000). Objectivity and reliability in qualitative analysis: Realist, contextualist and radical constructionist epistemologies. *British Journal of Psychology*, *91*, 1-20.
- Mayers, A., Naples, N., & Nilsen, R. (2005). Existential issues and coping: A qualitative study of low-income women with HIV. *Psychology & Health*, *51*, 45-49.
- McGaughey, A. (2006). Body image after bilateral prophylactic mastectomy: An integrative literature review. *Journal of Midwifery and Women's Health*, *51*, 45-49.
- Milne, H. M., Guilfoyle, A., Gordon, S., Wallman, K. E., & Courneya, K. S. (2007). Personal accounts of exercise and quality of life from the perspective of breast cancer survivors. *Quality of Life Research*, *16*, 1473-1481.
- Mutrie, N., Campbell, A. M., Whyte, F., McConnachie, A., Emslie, C., Lee, L., et al. (2007). Benefits of supervised group exercise programme for women being treated for early stage breast cancer: Pragmatic randomised controlled trial. *British Medical Journal*, *334*, 517B-520B.

- Pakenham, K. I. (2005). Benefit finding in multiple sclerosis, and associations with positive and negative outcomes. *Health Psychology, 24*, 123-132.
- Park, C., & Helgeson, V. S. (2006). Introduction to the special section: Growth following highly stressful life events—Current status and future directions. *Journal of Consulting and Clinical Psychology, 74*, 791-796.
- Park, C., & Lechner, S. (2006). Measurement issues in assessing growth following stressful life experiences. In L. G. Calhoun & R. G. Tedeschi (Eds.), *Handbook of post-traumatic growth: Research and practice* (pp. 47-67). Mahwah, NJ: Lawrence Erlbaum.
- Paterson, B., Thorne, S., Crawford, J., & Tarko, M. (1999). Living with diabetes as a transformational experience. *Qualitative Health Research, 9*, 786-802.
- Pyszczynski, T., Greenberg, J., & Goldenberg, J. (2002). Freedom versus Fear: On the defence, growth, and expansion of the self. In M. Leary & J. Tangney (Eds.), *Handbook of self and identity* (pp. 314-343). New York: Guilford Press.
- Resnick, S., Warmoth, A., & Serlin, I. (2001). The humanistic psychology and positive psychology connection: Implications for psychotherapy. *Journal of Humanistic Psychology, 41*, 73-101.
- Robert, R., Meyer, W., Bishop, S., Rosenberg, L., Murphy, L., & Blakeney, P. (1999). Disfiguring burn scars and adolescent self-esteem. *Burns, 25*, 581-585.
- Rothschild, B. (2000). *The body remembers*. New York: W. W. Norton.
- Sabiston, C. M., & Crocker, P. R. E. (2008). Examining an integrative model of physical activity and healthy eating self-perceptions and behaviors among adolescents. *Journal of Adolescent Health, 42*, 64-72.
- Sabiston, C. M., McDonough, M. H., & Crocker, P. R. E. (2007). Psychosocial experiences of breast cancer survivors involved in a dragon boat program: Exploring links to positive psychological growth. *Journal of Sport & Exercise Psychology, 29*, 419-438.
- Salick, E. C., & Auerbach, C. F. (2006). From devastation to integration: Adjusting to and growing from medical trauma. *Qualitative Health Research, 16*, 1021-1037.
- Serlin, I. (1996). Body as text: A psychological and cultural reading. *Arts in Psychotherapy, 23*, 141-148.
- Smith, J., Jarman, M., & Osborn, M. (1999). *Doing interpretive phenomenological analysis*. London: Sage.
- Stake, R. (2005). Qualitative case studies. In D. Denzin & Y. Lincoln (Eds.), *The Sage handbook of qualitative research* (pp. 443-466). London: Sage.
- Stanton, A. L., Bower, J. E., & Low, C. A. (2006). Posttraumatic growth after cancer. In L. G. Calhoun & R. G. Tedeschi (Eds.), *Handbook of posttraumatic growth: Research and practice* (pp. 138-175). Mahwah, NJ: Lawrence Erlbaum.
- Taleghani, F., Yekta, Z. P., & Nasrabadi, A. N. (2006). Coping with breast cancer in newly diagnosed Iranian women. *Journal of Advanced Nursing, 54*, 265-272.

- Tedeschi, R. G., & Calhoun, L. G. (1995). *Trauma and transformation: Growing in the aftermath of suffering*. Thousand Oaks, CA: Sage.
- Tedeschi, R. G., & Calhoun, L. G. (2006). Foundations of posttraumatic growth. In R. G. Tedeschi & L. G. Calhoun (Eds.), *Handbook of posttraumatic growth* (pp. 3-23). Mahwah, NJ: Lawrence Erlbaum.
- Toombs, S. K. (1992). The body in multiple sclerosis: A patient's perspective. In D. E. Leder (Ed.), *The body in medical thought and practice* (pp. 127-137). Dordrecht, The Netherlands: Kluwer Academic.
- Vignoles, V., Chrysoschoou, X., & Breakwell, G. (2004). Combining individuality and relatedness: Representations of the person among the Anglican clergy. *British Journal of Social Psychology*, 43, 113-132.
- Welch, K. J. S. (1999). Emotional, physical and sexual responses in women who experience prophylactic mastectomy and breast reconstruction for the prevention of breast cancer. *Dissertation Abstracts International*, 60, 2244.
- Wennerstrand, A. (2008, October). Dance/movement therapy: Learning to use dance to help others. *Dance Magazine*, pp. 86-88.

Bios



Kate Hefferon is a lecturer in the Masters of Applied Positive Psychology program at the University of East London. Her research interests include posttraumatic growth, optimal experiences, flow, physical activity, and the body.



Madeleine Grealy is a lecturer at Strathclyde University, Glasgow, having previously worked in Edinburgh and London. Her main research interest is in understanding the neural mechanisms for timing.



Nanette Mutrie is a professor of exercise and sport psychology at Strathclyde University, Glasgow. She has researched ways of increasing active living both in clinical populations and in the community with a particular interest in mental health benefits.