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Post-Traumatic Growth in Cancer Survivors: Narrative Markers and Functions of The Experience's Transformation

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Abstract

The concept that a traumatic experience, such as a cancer, can lead to a positive change and transformation of self, life and relationships was named as post-traumatic growth (PTG). A large amount of research measured PTG in cancer survivors arguing an interpretation of the construct as an outcome. Recently, qualitative research shows different types of narrative of PTG, but the narrative markers and their functions of transformation remain still unclear. Within a mixed-method, we aim to highlight the narrative markers and their transformative functions, underlying the PTG, within 12 cancer survivors' narratives with medium/high and medium/low level of PTG. A redemptive sequence analysis was carried out. In the narratives with high/medium PTG we find a specific transformative function on-thinking focused transformation founded on the change/expansion of the own internal criteria to interpret the relationship with the world centralizing the self in the present and future; in the narratives with medium/low PTG we find an on-acting focused transformation, founded on the change of the operational procedures aimed to live centered on the present and on its moments.

Keywords

Cancer Survivors, Trauma Experience, Post-Traumatic Growth, Narrative Markers, Transformative Functions, Meaning-Making, Clinical Implications

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Post-Traumatic Growth in Cancer Survivors: Narrative Markers and Functions of the Experience's Transformation

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The concept that a traumatic experience, such as a cancer, can lead to a positive change and transformation of self, life and relationships was named as post-traumatic growth (PTG). A large amount of research measured PTG in cancer survivors arguing an interpretation of the construct as an outcome. Recently, qualitative research shows different types of narrative of PTG, but the narrative markers and their functions of transformation remain still unclear. Within a mixed-method, we aim to highlight the narrative markers and their transformative functions, underlying the PTG, within 12 cancer survivors' narratives with medium/high and medium/low level of PTG. A redemptive sequence analysis was carried out. In the narratives with high/medium PTG we find a specific transformative function on-thinking focused transformation founded on the change/expansion of the own internal criteria to interpret the relationship with the world centralizing the self in the present and future; in the narratives with medium/low PTG we find an on-acting focused transformation, founded on the change of the operational procedures aimed to live centered on the present and on its moments. Keywords: Cancer Survivors, Trauma Experience, Post-Traumatic Growth, Narrative Markers, Transformative Functions, Meaning-Making, Clinical Implications

Nowadays it is a general opinion that oncological illness leads to a traumatic experience (Burke & Sabiston, 2012; Cordova et al., 2007; Sumalla, Ochoa, & Blanco, 2009; Freda & Martino, 2015). The onset of an oncological illness forces the patient to face a strenuous therapeutic process, which according to the cancer staging and location may require local surgery (operation and radiotherapy) or systemic treatment (chemo and hormone therapy). Cancer is a traumatic experience of specific and peculiar nature, owing to the difficulty of recognizing: a unique stressful event, the internal triggering process, its temporal continuity (hereditary or possible relapse) (Mehnert & Koch, 2007).

The psychological trauma, which may occur as a result of such a severely distressing event, in this case the communication of diagnosis (De Luca Picione, Dicè, & Freda, 2015), within a socio-constructivist and semiotic perspective (Salvatore & Freda, 2011), is due to: the sudden and unexpected alteration of the basic elements governing the relation between the patient and the external world (Freda, De Luca Picione, & Martino, 2015; Janoff-Bulman, 2004; Joseph & Linley, 2005) and the interruption of the temporal continuity resulting in a crisis of meaning processes that support the personal self-narrative of life (Bonomi, 2003; Brockmeier, 2000; Frank, 1998; Martino, Onorato, & Freda, 2015; Margherita, Troisi, & Nunziante Cesaro, 2014; Neimeyer, 2004, 2006). During the last fifty years, the research activity has had its focus on the pathological outcomes which this traumatic event generates (Joseph & Linley, 2005; Lindstrom & Triplet, 2010; Norris & Sloane, 2007). Only recently, the research moved away from analysing the negative changes placing emphasis on the need of a better understanding of the positive ones. It was realized that such a traumatic experience could also deliver the possibility of improving life, relationships, health and well-being. The

possibility that traumatic events may lead to a positive change/transformation has been named “post traumatic growth” (PTG; Calhoun & Tedeschi, 2004, 2006).

This construct offers a better comprehension of the consequences of a severely traumatic event, pointing out the positive possible changes, although it is well known that the negative changes must be also taken into account (Hussain & Bhushan, 2013; Janoff-Bulman & Yopyk, 2004; Lindstrom & Triplett, 2010). The positive changes, to which this construct refers, are meant to deal with the three main domains of life: improvements in self, improvements in interpersonal relationships, and enhanced spiritual or religious experiences (Tedeschi & Calhoun, 2004). Until recently, much research has been undertaken by using quantitative methods (Barakat, Alderfer, & Kazak, 2006). A comparison between cancer survivors with a selected sample of healthy people highlights that the former show a general growth against the latter in many aspects (Tomich, Helgeson, & Nowak Vache, 2005).

The PTG-process cannot be seen as a natural psychological development. That can only happen in the aftermath of a traumatic event, although it could still fail in case that this traumatic event would not be felt as a traumatic experience (Margherita & Troisi, 2013; Martins da Silva, Moreira, & Canavarro, 2011). The positive changes experienced by the cancer survivors are mainly due to more specific goals in appreciation of life and its priorities, the reevaluation of oneself, a new awareness and relationship with the body, and a new spirituality. These changes are: a greater sense of self-efficacy and mastery in difficult situations, a greater appreciation of interpersonal relationships, a new sense of altruism and empathy with people in difficulty, and a reorganization of the time line (Barakat, Alderfer, & Kazak, 2006; Hefferson, Greal, & Mutrie, 2009; Lindstrom & Triplett, 2010). The evidence shows that the benefits of trauma can only be realized when the mind is free from the anxiety of death, at a distance of at least two years after the end of treatment (Weiss, 2002).

Recently, research with qualitative methods show the presence of cultural differences (Shakespeare-Finch & Copping, 2006) and different narrative types growth, e.g., different ways to connect and to give meaning to traumatic experiences (Salick & Auerbach, 2006; Sumalla, Ochoa, & Blanco, 2009) and emphasize how subjectively the patient connects and gives meaning to his life narrative within specific illness and contextual conditions (Chun & Lee, 2008; Hefferson, Greal, & Mutrie 2009). PTG represents both the process and its outcome, showing how to go through the trauma, that is meaning-processing and transformation, and in the same time the outcome of this process (Barakat, Alderfer, & Kazak, 2006); therefore, PTG is the result of two psychological processes: recognition of the negative effect of the event, and the analysis of its meaning and the possible changes of the self; the construction of a transformation for the personal life story as a positive resolution of the experience (Pals & McAdams, 2004).

During the last five years our research interest focalized in the field of clinical health psychology; it was about the study of oncological illness experience intended as a traumatic experience. In particular, we studied and evaluated different narrative devices to promote well-being and processing of traumatic experience. During our studies, we have focalized a more in-depth interest to the processes of meaning-making, as a process of transformation of the experience, mediated and supported by different narrative devices in different critical conditions (e.g., Esposito & Freda, 2015; Margherita, Gargiulo, & Martino, 2015; Martino, Onorato, D’Oriano, & Freda, 2013).

In line with our studies, it is our opinion that PTG is a transformation process ending in a successful integration of traumatic events based on new meaning-construction processes in order to be able to cope with the traumatic discontinuity of the own life narrative opening to a new life continuity (Angus & McLeod, 2004; Freda & Martino, 2015; Hermans, 2003; Neimeyer, 2004, 2006). In one of our previous articles, we have considered the meaning-making process as a result of a subjective inter-subjective process that promotes, following

interdependent paths, the connection and transformation of many aspects of the experience of self, which have become shattered after the traumatic event, like emotion and cognition, past and present, present and future, loss and gain, homeostasis and change, continuity and discontinuity (Freda & Martino, 2015). The narrative becomes a space for meaning-making process on the traumatic experience, after which the subject is able to reconstruct his own life narrative, broken after the traumatic experience. The narrative plays a role of a semiotic device whereby the traumatic experience is reactualized in the here and now of the narrative setting. The narrator sets up processes of semiotic connection that can promote change, because he or she strives to find a configuration for events in the discourse that can make sense of the experience, even if temporarily, and thus promote integration of the trauma (Greenberg & Paivio, 2003; Neimeyer, 2004, 2006; Robert & Shenhav, 2014). The narrative, therefore, allows us to understand these changes and the subjective way by which people understand and connect these transformations beyond the limitations dictated by the areas of the domain and observing how these transformations are constructed and emerge in the stories of the subjects (Pals & McAdams, 2004).

Nowadays the real nature of the PTG narrative markers and of their transformative functions is still partly unknown. McAdams has shown that the redemptive sequence, a narrative transformation from a negative condition to a positive one, is connected to the construction of well-being and finding-benefit (Freda & Martino, 2015; McAdams & Bowman, 2001). Starting from the redemptive sequences and using a mixed method of analysis following our research background, our interest in this study is to explore and analyze the narrative markers and the quality and the function of the transformation process that the narrative markers have generated, underlying the post-traumatic growth, within narratives of cancer survivors with different levels of PTG.

Method

Participants and Tools

The research took place at an association in Naples, a structure for cancer survivors coming from major cancer centers of the area. It was approved by the ethical committee of the structure. The participation of the subjects was voluntary, previous signing informed consent. The research was conducted in the year 2013 and 12 patients have participated. After controls of medical records, the eligibility subjects (i.e., those who had survived an oncological illness for at least two years) have been contacted by phone and informed about the aim of the research. They were invited to participate following an appointment in the association in an ad hoc private room. The interviews have been conducted by the first author. We have invited 16 subjects to participate and 4 of them refused because of lack of time or interest. All participants had been cancer survivors for an average of three years. This group is made of: 9 women (8 breast cancer, 1 cervical cancer), and 3 men (1 Hodgkin lymphoma, 1 seminoma, 1 acute myeloid leukaemia; see Table 1).

We have used the Life Story Interview (McAdams, 2001, 2008; McAdams & Bowman, 2001; McAdams & Olson, 2010; McAdams, Reynolds, Lewis, Patten, & Bowman, 2001), within an idiographic framework (De Luca Picione, 2015), as a suitable way to recognize the main transformative points of the past, present and future of the subject life story in the narrative reconstruction. Particularly, this interview helps the subjects to recall clear life scenes with specific time and places, from which the self-narrative starts (McAdams, 2008). These significant events are organized into schemes/scripts of their own life stories that support the beginning of a process of meaning-construction (McAdams & Bowman, 2001; McAdams & Pals, 2006). The life story is an internalized and evolving self-story that selectively reconstructs

the past, and anticipates the future, a narrative that offers life unity and continuity (McAdams & Bowman, 2001).

Table I. Characteristics of Participants and Narrative Corpus Organization

Narrative Post-Traumatic Growth Inventory level	PTG score	Age	Pathology	Sex
Medium/high n 6	82	51	Breast Cancer	F
	84	64	Uterine Cancer	F
	86	32	Hodgkin Lymphoma	M
	86	48	Breast Cancer	F
	87	70	Breast Cancer	F
	81	48	Breast Cancer	F
Medium/low n 6	55	47	Breast Cancer	F
	70	53	Breast Cancer	F
	70	31	Acute Myeloid Leukemia	M
	75	51	Breast Cancer	F
	79	25	Seminoma	M
	80	65	Breast Cancer	F

The interview started with the request to tell about the “high point,” which is a happy and positive life event; then we asked to tell us about the “low point,” which is a particularly negative life event, and after that we let them talk about a “turning point,” which is a noteworthy event to be considered a very important turning point of the life story. Finally, we asked them to let us know their plans and the changes which have taken place after the illness. We audio-recorded the interviews and we transcribed them verbatim. Each interview lasted approximately 1 hour.

The Post-Traumatic Growth Inventory (PTGI; Shakespeare-Finch & Copping, 2006; Shakespeare-Finch, Martinek, Tedeschi, & Calhoun, 2013; Tedeschi & Calhoun, 1996), adapted and translated into Italian by Prati and Pietrantonio (2014) was administered before the interview. PTGI’s aim is to measure the positive change two years after acute cancer stage and consisted of 21 items, to which the respondent had to answer on a scale of 0 (no change) to 5 (noteworthy changes; see Table 1).

This scale analyses 5 specific domains: spiritual change/change in the philosophy of life, conception of self/change in relationships/new possibilities, and appreciation for life/personal power. The total score is the sum of the scores obtained by the respondents for every scale; the range goes from 0 to 105. The higher the score is, the better the PTG is. On the contrary, a low score shows a poor PTG. This tool has shown a good internal coherence and construct validity in studies with cancer patients (Cordova, Cunningham, Carlson, & Andrykowski, 2001; Weiss, 2002; see Table 1).

Organization of the Narrative Corpus

In order to achieve our aim, we have used a mixed method of analysis. We have divided the participants' narratives (N = 12) into two different groups according to the total scores obtained through the PTGI. Because of a lack of extreme score values, we have calculated the average score value, 80.5, and have organized the narrative corpus in 6 narratives with high/medium PTG, from 80.5 to 87 (Mage = 52.16; SD = 13.42) and 6 narratives with medium/low PTG, from 55 to 80.5 (Mage = 45.33; DS = 14.82).

Data Analysis Method

The whole narrative corpus has been analysed according to McAdams' method (analysis of redemptive sequences) because we find it particularly suitable to find markers on the way of the experience transformation (from a negative situation to a positive one) as an organizer of the process of meaning-construction that supports the narrative articulation of post-traumatic growth (McAdams & Bowman, 2001; Pals & McAdams, 2004).

We analyzed each narrative with a blind design. Following that, we have taken into account to which group it belonged: high/medium or medium/low. These analyses have been conducted with the help of three independent judges. The three judges were three researchers of our department selected, in a voluntary way, in reason of their experience in the field of qualitative method of analysis.

As to the narrative redemptive sequences with the highest score, we have conducted an in-depth analysis for a better comprehension of the functions and of the characteristic of the transformation process of semiotic connection of the experience underlying the meaning-construction process supported by the narrative (Freda & Martino, 2015).

The redemptive sequence (McAdams & Bowman, 2001) is a particular narrative form that appears in some stories of significant scenes in the story of a person's life. We have a redemptive sequence when a bad or emotionally negative situation turns into a good or positive one. The negative narrative passage becomes positive: An emotional negative event changes into an emotionally positive result. The base measuring unit used in the analysis of these sequences is the redemptive story told by the subject in relation to each life event (high point/turning point), so encoding every event according to the criteria of McAdams (high point/turning point), setting 1 point to each redemptive sequence and 0 in case of a non-redemption sequence. Each life event may have more redemptive sequences.

As to the presence of further positive effects (enhancements) and improvements following negative events, earning 1 further point for the presence and no points in case of lack, McAdams has three subcategories: *Agency*, if the transformation from negative to positive led to personal growth, self-confidence or the strengthening of the personal will; *Communion*, if the transition from a negative state to a positive one led growth and more attention to interpersonal relationships; and *Ultimate Concern* if the transition from negative to positive entailed a comparison with the spiritual aspects of life and led to an existential enrichment. The enhancements can accompany each type of redemptive sequence; each redemptive sequence may also contain more than one enhancement. McAdams sees in the redemption sequences some main groups (themes). *Sacrifice*: The subject accepts voluntarily or suffers an extremely negative sacrifice for the benefit of someone else; *Recovery*: The subject is experiencing a positive state after a loss, such as good health, surviving, recovery; *Growth*: a negative experience leads to psychological or interpersonal growth, new horizons and self-improvements; *Learning*: The subject gains new knowledge, better know-how; *Improvements/Other*: This category regards cases that can't be included in the aforementioned categories. The three judges and the authors interpreted the themes of the narratives in a blinded

way. At the end of the interpretation process, the judges and the authors have compared the results obtained and in case of disagreement, we attributed the theme that has reached more than half of the agreement.

Findings and Discussion

Table 2 shows the scores obtained in all the narrative corpus (whole; high/medium PTG; medium/low PTG) starting from the analysis of redemptive sequences. The whole narrative corpus is made up of 48 life scenes (24 with high/medium PTG and 24 with medium/low PTG) with a total score of 43: 27 with high/medium-PTG narratives and 16 with medium/low-PTG narratives. The total score is the sum of the presence of redemptive sequences for each life scene, divided into different themes with the addition of the score of enhancement where it was present.

Table II. Results from Redemptive Sequences Analysis

Articulation of Redemptive Sequences						
Entire Narrative Corpus						
<i>Themes</i>	Sacrifices	Recovery	Growth	Learning	Improvement/other s	TOTAL
<i>Task</i>						
High Point		1	2 <i>Agency* 1</i> <i>Communion 1</i>		2	7
Low Point	3	5		1	1	10
Turning Point	1	1	3 <i>Communion 1</i>		1	7
Future Plans and changes			6 <i>Communion 2</i> <i>Agency 3</i> <i>Ultimate Concern 2</i>	2	2 <i>Agency 1</i> <i>Ultimate Concern 1</i>	19
TOTAL	4	7	21	3	8	43
Articulation of Redemptive Sequences						
Narratives with High/Medium PTG						
<i>Themes</i>	Sacrifices	Recovery	Growth	Learning	Improvement/other s	TOTAL
<i>Task</i>						
High Point		1	1 <i>Agency 1</i>		2	5
Low Point	3	1		1	1	6
Turning Point	1		2		1	4

Future Plans and changes			4 <i>Agency 2</i> <i>Communion 2</i> <i>Ultimate Concern 1</i>	1	1 <i>Agency 1</i>	12
TOTAL	4	2	13	2	6	27
Articulation of Redemptive Sequences						
Narratives with Medium/Low PTG						
<u>Themes</u>	Sacrifices	Recovery	Growth	Learning	Improvement/other s	TOTAL
<u>Task</u>						
High Point			1 <i>Communion 1</i>			2
Low Point		4				4
Turning Point		1	1 <i>Communion 1</i>			3
Future Plans and changes			2 <i>Agency 1</i> <i>Ultimate concern 1</i>	1	1 <i>Ultimate concern 1</i>	7
TOTAL	0	5	8	1	2	16

In order to show the narrative markers leading to transformation and health improvement, for both groups, we will show our results in three different perspectives: according to the narrative task (horizontal axis), according to the emerged themes (vertical axis), according to the junction of both axis, narrative task and emerged themes (junction). As to the whole corpus, we see that the horizontal axis, the tasks of the Low-Point and the Future, and the transformation that occurred after the illness, have produced a great narrative transformation, followed by the narratives of High-Point and Turning Point (Table 2).

Considering the emerged themes (vertical axis), we see that the narrative transformations deal mainly with the theme of Growth. Improvement/Recovery/Sacrifice, and others, are much less represented (Table 2). Comparing the high/medium-PTG narratives with the medium/low-PTG ones show that the former group achieved a total score higher than the one achieved by the latter (Table 2). Furthermore, the comparison shows that considering the horizontal axis, the narratives with greater transformations are those dealing with the Future and the changes after the cancer (12 with high/medium PTG and 7 with medium/low PTG), followed by the task of Low-Point (6 with high/medium PTG and 4 with medium/low PTG). Then, high/medium-PTG narratives and medium/low PTG narratives, both within different gradients, have a low incidence for the narrative transformation of the tasks of High-Point- or Turning-Point (Table 2).

It is interesting to see that the vertical axis shows that there is a variation of themes produced by both groups. From the theme perspective, we see that the high/medium-PTG narratives show a high Growth and much less Improvement, Sacrifice and Learning (Table 2). On the contrary, in the medium/low PTG narratives, all the themes seem to be equally

represented (scores differ very little from each other). Anyway, also in this group we see the same trend of the previous ones: Growth is a little more represented followed by Recovery, Improvement and Learning. The Sacrifice theme seems to be completely absent in this narrative group. For both groups, but with higher incidence for the group of narratives with medium/high PTG, we observe the theme of Growth accompanied by, more than the other themes, additional positive effects such as agency, communion, and ultimate concern.

Considering the junction between themes and narrative tasks (the ones with higher scores), we see that in both narrative groups the junction between the narrative task of the Future and the Growth-theme is the main point which represents the substantial nature of the PTG.

Transformative Functions and Qualities of Narrative's Process of Transformation

Regarding the horizontal axis of our research, we see that the narrative tasks for both groups tend to conform to each other with slightly different tones. The narrative tasks show great transformation are the ones that refer to the Future and to the Low Point. Although the transformation process is similar for both groups, the tasks have oriented and activated, in a different way, the narrative productions and transformative processes. The task of Low Point of the high/medium-PTG narratives lies with the narrative of the illness experience which has helped to strengthen life continuity toward recovery. This is just what helped the participants to deal with painful moments of their life, such as the traumatic event due to the onset of the illness, and to the beginning of the therapeutic treatment which have caused particular emotions. The narrative task has been used to begin a transformation process connecting themselves with the (family or friendship) environment, achieving a positive ending.

The onset of the illness was devastating. I felt that the end was near. Also during the therapeutic treatment I felt very bad, weak... Then I realized that being ill can also be useful, especially when you have a child. I don't know what I would have done, if I didn't have my son. I did it for him. He gave me the necessary strength. He is the reason why I came here. (S., 48 years, breast-cancer survivor)

The task of Low Point of the medium/low-PTG narratives leads to a liminal transformation (Blows, Bird, Seymour, & Cox, 2012). This narrative task reconstructs the story of the illness by considering body and recovery as the core of the question. The body recovery process is the result of the reviewed narrative sequences leading to evolution and then to recovery. A concrete body, subject to therapy--diseased first, and then permanently scarred. The review of their story aims at body and recovery.

I have had to fight for almost a whole year, then finally the enemy was defeated and the most strenuous therapies came to an end. The reaction of my body has been positive. What still remains is just a scar, which at times I look at, and a tablet to take daily. I undergo regular check-ups ... I must confess that each time I am afraid to find something wrong, but luckily all my fears are ungrounded. (M., 53 years, breast cancer survivor)

As to the high/medium-PTG group, the narrative task of the Future and the changes after the illness have created a trait d'union connecting directly the time before and after the illness. The life continuity was not interrupted, and introduced new plans that paved the way for the change to integration. This is how a process is activated, which facilitates the recognition of the differences between before and after, good health and illness, and

simultaneously shows the connection among the various dimensions of an open-ended story (Brockmeier, 2000; Freda, De Luca Picione, & Martino, 2015; Freda & Martino, 2015).

It may sound ridiculous, but I must be grateful to the cancer that opened my eyes! After the disease I left my husband. I never had the courage to do it before. I never understood where my life was heading and the people around me. What he did. I don't know how to explain it. Before I was ill and my husband should have been here ... He was not here ... Anyway, while I was ill I realized that should I not have been ill I wouldn't have understood so many things. So I decided to plan my future differently (G., 51 years, breast cancer survivor).

This task anyway, in the case of medium/low-PTG narratives, activates a transformation mostly based on a meaning-making process connecting in harmony the present with the past, before the illness, while the future is just beginning.

After all that I have gone through, I feel good now, I recovered and now I am enjoying, yes ... I think to do things of now, I am living things day after day, luckily I have now a future (F., 47 years, breast cancer survivor).

As to the vertical axis, we see that the Growth theme, in different gradients, covers the narrative themes of both groups. In the case of high/medium-PTG narratives, the Growth theme acts as an integration process of elements opposing each other, while the illness turns into opportunity and becomes a resource. We can see that the Growth theme in group shows a relevant presence of enhancements unlike the medium/low-PTG narratives as: Communion:

In interpersonal relationship I was hopeless. I didn't want to know anything about anyone. May be in that age it could be normal, but I changed radically ... I don't get angry about futile things and I try to stay with people, facing people, to share with others. Before I never did that. This thing has improved my interpersonal relationship. (M., 32 years, Hodgkin's illness survivor)

Ultimate Concern

I realize that luckily I recovered from cancer. Not everybody manages that, I thank God and myself. I thank myself because it is the inner strength that rescued me. (A., 64 years, cervical cancer survivor)

Agency

Now, if there is anything wrong or that I don't like first I talk about it and then I act, I know what I want. (G., 51 years, breast cancer survivor)

In the case of medium/low-PTG narratives, the Growth theme finds its expression as recovery process which brings back what the illness has taken away, where the growth applies to what has not been done before and can be done after. The illness is interpreted as an engine to make choices on the basis of a re-compensation.

Well, I am doing things which I couldn't do during the illness, I do not think too much, I also do many things that I didn't do before the illness, owing to laziness or shyness. (V., 31 years, acute myeloid leukaemia survivor)

Finally, the intersection for both groups, between the tasks and the emerging theme underlying the meaning-transformation process is the tasks related to the Future and the Growth theme. It is the junction containing the essence of the PTG. Particularly, in the case of high/medium-PTG narratives, we see that the task related to the Future promotes Growth themes founded on change/extension of their inner criteria in order to be able to define their relationship with the world (Janoff-Bullman, 2004; Thombre, Sherman & Simonton, 2010), considering the self-concept, subject to transformation process in the past, present, and especially in the future. This task activates the Growth theme based on an *on-thinking-focused transformation*, as we can read in the three excerpts of different cancer survivors below, that have in common a meta-reflection look and a new meaning about being in the world and in the future.

[The illness] has changed my perspective on how to consider my priorities, I see the future in a different way. I was another person, now I have changed. The years have passed and now this positiveness enables me to consider life in a different way, to do what I am able to do, I know what I am aiming at for the future. I don't take anything at face value. It is something that lives inside me still today. (M., 32 years, Hodgkin's Lymphoma survivor)

In my thoughts and actions I am much more tolerant than before. (S., 48 years, breast cancer survivor)

Each morning I give a kiss to my son. I think that all the mothers do it, but I give it, I like it much more than before, and I will keep doing it. My attitude toward life has changed and this is for me a wonderful thing. (S., 48 years, breast cancer survivor)

On the contrary, in the case of medium/low-PTG narratives, we see that this task promotes Growth themes founded on changed operational procedures. These themes act on the present, trying to choose and do in an active way in favour of the self. The change seems to be largely produced through action, so it can be referred to as an *on-acting focused transformation*. What the action achieves is bringing back to the patient what the illness took away from him. Thinking seems to be replaced by action and this transformation is the result.

But he (husband) every now and then still plays football with his friends, so that he just does what he likes. If it is so he told me why I couldn't go all alone, and I have quickly understood that I could do many things, today I want and can do, I do it without thinking too much about it. (F., 47 years, breast cancer survivor)

Conclusions and Implications

In this research, we have emphasized the narrative-transformative markers and their quality/functions which are the base of PTG, by using a mixed-method of analysis, leading to the achievements of the best result with qualitative and quantitative method. The possibility to integrate both methods, as in our research, appears to be a precious key for a better understanding of PTG connecting process and results.

We place great emphasis on human ability to cope with the traumatic events of life, like the ability to exploit the cancer traumatic event by using it as an opportunity to construct a meaning transformation process and integrate it in actual life (Bonanno, 2004). Through our achieved results, we are able to confirm that the narrative is able to set a meaning

transformation process of the traumatic event supporting the PTG (Freda & Martino, 2015; Angus & McLeod, 2004; Frank, 1998; Hermans, 2003; McAdams, 2008; McAdams & Olson, 2010; Neimeyer, 2004, 2006).

Through this study, we have been able to recognize the narrative transformative markers of the experience which make PTG possible and, in line with the existing literature, our research shows that in the high/medium-PTG narratives there has been a higher frequency of redemptive sequences. This confirms that the narrative transformation of the experience is, in line with other studies, connected with the well-being-construction in the aftermath of a traumatic event (Freda & Martino, 2015; McAdams & Bowman, 2001).

From a narrative point of view, the PTG, within different degrees and qualities, is mainly seen as a process which derives from the efforts made to connect the events and their meanings, and then go through the onset of the illness and find the key to personal transformation in the actual time to build a vision of the future. We think that the most useful narrative-transformative marker to recognize the PTG from our analysis, which appears to be for both groups, the junction between the Growth theme and the task of the Future. We hope there will be further research that will confirm our results.

In the high/medium-PTG narratives, we have analysed this junction and we have recognized a specific semiotic-connection function which we have named *on-thinking focused transformation*, founded on change/extension of inner criteria, in order to be able to define the relationship with the world considering the self-concept subject to transformation process in the past, presence, and especially in the future, a meta-reflective thinking and a meaning about being in the world today and in the future (Morris, Campbell, Dwyer, Dunn, & Chambers, 2011).

In the medium/low-PTG narratives we have recognized another specific semiotic-connection function which we have named *on-acting focused transformation*, founded on changed operational procedures that tends to live at the actual time and in every moment, a change that originated mostly from actions with the intent to recover what had been lost on the onset of the illness. Thinking has been replaced by action.

Furthermore, together with the junction of the task of the future with the Growth theme, we see that the Low Point is a very important turning point (e.g., the recall of the onset of the illness and the course of the therapy) as PTG doesn't replace grief or traumatic experiences (Calhoun & Tedeschi, 2004), but implies/makes one relive and integrate these events to be able to join the future, which creates a third dimension with a particular time/subject relation (past-present-future; Brockmeier, 2000; Freda, De Luca Picione, & Martino, 2015).

Another particular marker of the high/medium-PTG narratives is evident in case of enhancements, for example a higher frequency of cross acquisitions shown in the narrative account of trauma. This presence seems to lead to the recognition of the benefits following the trauma where PTG seems to be a narrative transformation, according to the way of putting in relation self and context in a specific time interval: relation with the self, with one's own way of thinking, with other meanings, and with the future. These results allow us to recognize the different levels and ways of the development of PTG, as the quality and the specific narrative functions of semiotic connection (transformation and meaning; Salick & Auberbach, 2006; Sumalla, Ochoa, & Blanco, 2009), where the meanings perform a specific function in relation to the self, and the world in a specific period of life within a final stage; therefore PTG seems to be linked to a process which takes place along with life continuity, where within the different stages it is possible to acquire and create new meanings of one's own experience.

This way, the peculiarities shown in the narratives of both groups, may highlight that the PTG-process may go through different stages of experience whose transformation is not yet completed. The meaning-making activity should not be considered to be straightforward and aimed towards an ideal stage. It is our opinion that PTG cannot be planned, but it is a certain stage of transformation, which allows, within a specific life-interval, for us to benefit

from what has happened. Our results make us believe that PTG depends upon the emotional/cultural background first, and then upon the habit of interpreting the relation from the self and the world in a given time; therefore, what PTG is for one person may not be the same for another. We think, but we will deepen our knowledge about it, that PTG develops narratively as a transformation of the *way to put in relation*. If the experience of narrative integration consists in the possibility of a dialogue and in connecting Low Point, High Point, Turning Point and Future, according to the different themes of life, the clinical outcome of this study depends upon the ability to use the chosen method and the narrative markers as indicators which may show thematic lacks to be taken into consideration, conditions which may harden within a partial interpretation, and life scenes which may keep away from the central themes. It is important that future research deepen these themes.

We are aware of the limits of this study, of the lack of a wider group of narratives and of the consistency of score recording. To reach a saturation of data, we propose to expand the group of narratives in the future, and to work comparing the different cancer experiences and traumatic seriousness (Morris & Shakespeare-Finch, 2011), exploring also the response and the role of the institutional health contexts in the support of cancer survivors (Francescato, Arcidiacono, Albanesi, & Mannarini, 2007).

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