

# Reliving a traumatic experience through emotional creativity: the bright side of cancer during the COVID-19 pandemic

Reliving a traumatic experience

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Received 20 November 2021  
Revised 31 August 2022  
Accepted 3 October 2022

## Abstract

**Purpose** – The COVID-19 outbreak has undoubtedly affected overall mental health. Thus, researching resilience is important, as it has been previously discussed as a means to protect people from mental health problems. This study aims to clarify whether survivors of a traumatic event (i.e. cancer survivors) are more resilient to living through another traumatic experience, such as COVID-19, compared to those who have never had such an experience. The study also examines the role of emotional creativity in this process.

**Design/methodology/approach** – A quantitative research design was adopted. The data collection was performed through a survey ( $N = 338$ ), which was conducted among two separate groups of participants. The first group ( $N = 152$ ) included the survivors of a traumatic event (i.e. cancer survivors), and the second group ( $N = 186$ ) included those who did not have such an experience.

**Findings** – The results demonstrate that living through a traumatic experience results in a higher level of resilience during another traumatic experience (i.e. COVID-19), which is the result of higher post-traumatic growth. Moreover, emotional creativity is discussed as an explanatory variable that explains a significantly higher level of post-traumatic growth among survivors of a traumatic event.

**Originality/value** – This research offers a better understanding of the effect of living through a traumatic event on post-traumatic growth and resilience in living through another traumatic experience. Moreover, post-traumatic growth is explained through emotional creativity improvement, which happens after experiencing a traumatic life event.

**Keywords** Cancer survivor, COVID-19, Pandemic, Emotional creativity, Resilience, Post-traumatic growth

**Paper type** Research paper

## 1. Introduction

In December 2019, the World Health Organization's China office reported a previously unknown virus named COVID-19. In the blink of an eye, in March 2020, the virus became global, and it was officially declared a pandemic. As a result, severe restrictions, including social distancing and quarantine, were imposed by the government as a tool to reduce virus transmission.



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Journal of Organizational Change  
Management  
Vol. 35 No. 7, 2022  
pp. 969-983  
Emerald Publishing Limited  
0953-4814  
DOI 10.1108/JOCM-11-2021-0348

Wide-ranging restrictions that lasted more than one year in some countries have impacted overall mental health. As a psychological consequence of lockdowns, a reduction in mental well-being has been shown all over the world (e.g. Brooks *et al.*, 2020; Ammar *et al.*, 2020). Therefore, researchers have further investigated the probable risk of mental health problems with respect to different variables, such as age (Terry *et al.*, 2020; Huang and Zhao, 2021), gender, education status (Terry *et al.*, 2020), occupations (Huang and Zhao, 2021) and health condition (Huang and Zhao, 2021). Studies have also reviewed the groups that are perceived to be more vulnerable to the mental health burden, such as survivors of chronic disease. They reported an increase in rates of depression and other mental illness among this group (Gallagher *et al.*, 2021; Pfefferbaum and North, 2020; Di Gessa and Price, 2021) compared to healthy individuals (Arrato *et al.*, 2022). However, despite existing concerns about survivors of chronic disease, evidence shows that people with combat-related experiences have developed resilience skills that have helped them cope with trauma (Seo and Lee, 2020). Hence, the question is: “are survivors of a traumatic event, such as a combat-related experience, more resilient when living through another traumatic experience, such as COVID-19, in comparison with those who have never had such a traumatic experience?”

Resilience is discussed in the literature as a means to protect individuals from mental health problems associated with COVID-19 (Barzilay *et al.*, 2020). Resilience is a dynamic process through which individuals have displayed positive adaptation to overcome traumatic shocks. Previous studies have considered resilience in terms of factors that “favor a path to recovery” (McFarlane and Yehuda, 1996, p. 158), which enable providers to promote positive psychosocial outcomes before, during and after the traumatic experience (Molina *et al.*, 2014). Resilience is conceptualized as maintaining psychological health despite exposure to violence. There is also another concept, post-traumatic growth (PTG) that has been introduced to the literature and includes positive changes in views of self, the world and/or relationships (Tedeschi and Calhoun, 1995) that occur as a result of experiencing a stressful event). PTG results in developing new skills to cope with an altered life situation (Tedeschi and Calhoun, 2004) that threatens one’s physical and psychological integrity (Harmon, 2019).

While resilience was found to be an adoption process that is linked to better coping strategies (Gotay *et al.*, 2004), it has also been proven that applying coping strategies that lead to adjustment to traumatic events is possible through PTG (Fallah *et al.*, 2012). Hence, it seems survivors of a traumatic event who have already experienced trauma should have developed functional adaptation through a higher level of PTG (Seo and Lee, 2020). This allows them to better cope with new traumatic events and be more resilient to the mental health challenges imposed by the COVID-19 pandemic. Therefore, this study is an effort to answer the following questions: (1) Are survivors of a traumatic event (compared to those who have never had such experience) more resilient in living through another traumatic experience? (2) Could PTG be an explanatory variable for a higher level of resilience among survivors of a traumatic event? and (3) Can higher PTG capacity be explained through emotional creativity?

Through addressing the above-mentioned areas, this study compares and contrasts the capacity of resilience in facing a traumatic event between survivors of a previous traumatic event (i.e. cancer survivors) and those who have never had such an experience. This phenomenon is explained through PTG and emotional creativity. The paper contributes to the resilience and PTG literature by focusing on the consequences of living through trauma on developing strategies to cope with other traumatic events. Moreover, improved PTG among chronic disease survivors is explained through emotional creativity. This research also contributes to the oncology literature by clarifying the bright side of cancer and the consequences of living through a traumatic experience.

The remainder of this paper is structured into three sections: the second section presents the conceptual background, the third section focuses on the quantitative methodology and the fourth section presents the main findings and the discussion. The

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conclusion provides an overview of the findings, managerial implications, limitations and future research.

## 2. Conceptual background

The ability of individuals to successfully maintain or restore their mental well-being while facing stressful life events (Bonanno *et al.*, 2011; Carver, 1998) or serious trauma (Southwick and Charney, 2018) is defined as resilience. Resilience is a pre- and post-event trajectory (Bonanno *et al.*, 2004) and a particular mechanism that protects people against psychological distress (Mancini and Bonanno, 2009). It is developed as a consequence of traumatic stress (Rutter, 2006) and results in better physical and mental health recovery (United Nations, 1985). Scholars have discussed resilience in relation to different life-threatening situations, such as facing potential trauma (Mancini and Bonanno, 2006), loss (Bonanno, 2004), chronic stress (Schetter and Dolbier, 2011), sexual assault (Steenkamp *et al.*, 2012) or chronic diseases (Hassani *et al.*, 2017). They clarify that these life-threatening situations could provide ample opportunities to master challenges, create the “inoculating” effect and promote resilience (Southwick *et al.*, 2016). The presence of COVID-19 provides a situation to study resilience in relation to a worldwide life-threatening situation.

COVID-19 has impacted all aspects of people’s lives and resulted in a significant decrease in mental well-being (e.g. Brooks *et al.*, 2020; Ammar *et al.*, 2020). Mental health issues have not only affected those infected by COVID-19 (Rogers *et al.*, 2020) but also those who were suspected to be exposed (Brooks *et al.*, 2020), as well as health caregivers (Pappa *et al.*, 2020). As a result, given the unexampled consequences of this crisis and an increase in vulnerability to mental health, a vast body of research examines the effect of COVID-19 on people’s mental health (Ammar *et al.*, 2020; Verdolini *et al.*, 2021) and wellbeing (Kaye-Kauderer *et al.*, 2021). Scholars have investigated mental well-being in different countries and in relation to different variables, such as work, income, gender and relationship status (e.g. India (Ahmad *et al.*, 2020), in Portugal (Silva Moreira *et al.*, 2021), China (Huang and Zhao, 2020), Brazil (Zhang *et al.*, 2020), Japan (Ueda *et al.*, 2020), Iran (Moghanibashi-Mansourieh, 2020) and Australia (Fisher *et al.*, 2020)). These findings suggest that resilience is a coping strategy (Khan *et al.*, 2020; Killgore *et al.*, 2020) that helps prevent mental impairment, contributes to the low emotional impact of the outbreak (Lenzo *et al.*, 2020) and attempts to identify factors that may contribute to greater psychological resilience.

Previous studies discuss resilience as a developmental outcome and reaction to traumatic events that appears to be within the basic capacity of humans (e.g. Schetter and Dolbier, 2011; Bonanno *et al.*, 2011) and that people are widely different based on their resilience capacity. This means that some people are more psychologically resilient to adversity than others (Killgore *et al.*, 2020). It has also been proven that the patterns of resilience even vary among individuals (Sominisky *et al.*, 2020) and across their lifespan (Masten and Wright, 2010). Moreover, it has been demonstrated that when facing certain severe stressful events, it is much harder to achieve resilience, however, individuals still demonstrate “relative resilience” to face the trauma (Feder *et al.*, 2019).

Nevertheless, while individuals’ capacity to face adversity is reported to vary based on several variables, it is found to be possible to cultivate and practice the resources and skills associated with resilience (American Psychological Association, 2005; Reissman *et al.*, 2004). Hence, we claim survivors of a traumatic experience may have developed functional adaptation strategies to cope with new traumatic events and hence are more resilient to the mental health challenges imposed by the COVID-19 pandemic. The first hypothesis is defined as follows:

*H1.* Survivors of a traumatic experience (compared to those who have never had such experience) are more resilient when living through another traumatic experience.

While resilience refers to positive adaptation despite hardship, studies have discovered another phenomenon that explains why some trauma-exposed people following a disaster not only show resilience but also thrive in the aftermath of the traumatic event. This phenomenon was named post-traumatic growth (PTG). PTG describes positive changes and growth following a traumatic event (Tedeschi and Calhoun, 1995) that cause optimal adaptation in individuals (Zoellner and Maercker, 2006). PTG is a process through which individuals acquire coping skills, ameliorate their interpersonal relationships (Frazier and Kaler, 2006; Tedeschi *et al.*, 2007) and re-evaluate their view of the world (Tedeschi and Calhoun, 2004). PTG is distinguished from resilience in the sense that PTG defines an advancement in functioning beyond the capabilities observed in individuals prior to the traumatic event (Tedeschi and Calhoun, 2004). Hence, since PTG is a positive transformation that reflects changes and goes beyond pre-trauma adjustment (Tedeschi *et al.*, 2018; Tedeschi and Calhoun, 2004, 1995), the second hypothesis is defined as follows:

*H2.* PTG mediates the relationship between living through a traumatic experience and resilience in reliving another traumatic experience.

While studies extensively discuss the considerable negative impact of COVID-19 on individual mental health (Duan *et al.*, 2020; Wu and Wei, 2020), emotional creativity is discussed as a dispositional trait that can improve mental health (Orkibi and Ram-Vlasov, 2019; Delavarpour and Lattifian, 2012). Emotional creativity refers to the ability to express and experience appropriate combinations of emotions (Averill, 1999). It can enhance the activation of positive emotions (Oriol *et al.*, 2016) and predict PTG (Orkibi and Ram-Vlasov, 2019). People with a high level of emotional creativity are reported to be more confident in their abilities and prefer planned problem-solving coping strategies (Averill, 1999).

Emotional creativity could help people cope with unfavorable circumstances (Frolova and Novoselova, 2015) since, under stressful situations, emotional creativity provides a higher level of flexibility and modifies stereotyped emotions into other emotions (Frolova and Novoselova, 2015). Hence, based on the above explanation, it is predicted that emotional creativity could be a good explanation for why survivors of a traumatic event experience PTG when reliving another traumatic experience. The third hypothesis is as follows (Figure 1 shows the conceptual model of the research):

*H3.* Emotional creativity mediates the relationship between living a traumatic event and PTG.

### 3. Methodology

#### 3.1 Data collection

The COVID-19 pandemic represents a major global mental health crisis. Researchers have investigated the effect of resilience on mental health enhancement. This study aimed to clarify the effect of living through a traumatic experience on resilience in relation to another traumatic experience, such as COVID-19. Among chronic diseases, the focus of this study was

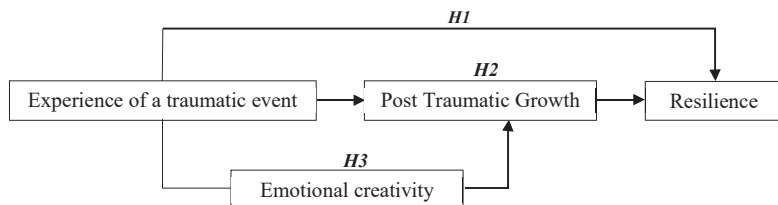


Figure 1.  
The conceptual model

on cancer. Cancer is a major global disease burden (Ma and Yu, 2006) and one of the leading chronic diseases worldwide (WHO).

The survey was designed in French on the Qualtrics platform. Data were collected in May 2020 (during the first COVID-19 lockdown in France) in two separate steps. In the first step, data collection with cancer survivors was through a private healthcare institution in Paris, France called the Rafaël Institute [1], the first institution that offered free global care for people with cancer through medical and paramedical customized support programs. In the second step, data were collected among non-cancer survivors and through a crowd panel participant pool ([www.crowdpanel.io](http://www.crowdpanel.io)), with a compensation rate of € 0.7 per participation.

### 3.2 Measurement scales

Validated scales were used to measure the dependent variable, control variables and moderators (see [Appendix](#) for the details of the scales). All scales were assessed with factorial analysis and validated through confirmatory analysis, and they showed adequate reliability. All questions were measured on a 7-point Likert scale, ranging from strongly disagree to strongly agree.

**3.2.1 Dependent variable. Resilience**, as the dependent variable, was measured by a 10-item unidimensional scale, self-report measure ([Campbell-Sills and Stein, 2007](#)). The Cronbach's alpha result was  $\alpha = 0.86$ .

**3.2.2 Mediators. PTG**, as the first mediator, was measured through the scale adopted from [Tedeschi and Calhoun \(1995\)](#). In particular, two subscales were used in this study (relating to others and appreciation of life). These subscales were chosen because they relate to specific areas of well-being that are most reported among cancer survivors ([Bellizzi, 2004](#)). Six items were used to measure relating with others, and four items were used to measure appreciation of life. The Cronbach's alpha results were  $\alpha = 0.81$  and  $0.86$  for relating with others and appreciation of life, respectively. **Emotional creativity** was measured using the [Averill \(1999\)](#) scale, which includes 30 items. This scale includes three subscales representing preparedness (understanding and learning from one's own and others' emotions) through seven items, 2) novelty (the ability to experience unusual emotions) through 14 items, and 3) effectiveness/authenticity (the skill to express emotions adroitly and honestly) through 9 items. After factorial analysis, based on Cronbach's alpha, only two dimensions were retained: preparedness and novelty. The Cronbach's alpha results were  $\alpha = 0.91$ ,  $\alpha = 0.83$ , and  $\alpha = 0.63$  for preparedness, novelty and authenticity/effectiveness, respectively.

**3.2.3 Control variables.** Occupation, age and gender were used as demographic control variables. For the second group (non-cancer survivors), having the experience of any chronic disease was also asked as the control question.

## 4. Findings

In the first step, outliers from non-cancer survivors were omitted based on the control question of having the experience of chronic disease. After omitting the outliers, a final sample of 338 participants was reached (see [Table 1](#) for the details of the participants).

In accordance with the first hypothesis, the goal was to determine whether there is a significant difference between the two groups (survivors of a traumatic experience vs those who have never had such an experience) based on their level of resilience of living through another traumatic experience (COVID-19 situation). A *T*-test was conducted to compare the means of the two groups. The results revealed a significant effect of the experience of a traumatic event as an independent variable on the level of resilience during COVID-19 as the dependent variable ( $M_{\text{Non-Cancer}} = -0.18$  vs  $M_{\text{Cancer}} = 0.20$ ;  $t(336) = -3.98$ ,  $p < 0.01$ ). Thus, Hypothesis [H1](#) was supported. Additionally, controlling for the control variables, none of the

control variables (when included in the analysis) led to any significant change in the results (occupation ( $p = 0.23$ ), age ( $p = 0.51$ ) and gender ( $p = 0.30$ )).

In the second step, and to test H2 (PTG mediates the relation between living a traumatic experience and resilience in reliving another traumatic event), a mediation analysis was conducted using the PROCESS macro for SPSS (Hayes, 2017; mediation Model 4 with default settings) with experience of a traumatic event as the independent variable, the two dimensions of PTG (i.e. relating to others and appreciation of life) as the mediators, and resilience as the dependent variable. The results show that the experience of cancer has an indirect positive effect on resilience through both dimensions of PTG, relating to others and appreciation of life. In other words, a higher level of resilience among patients who experienced cancer compared to others who did not experience it may be explained by a higher feeling of connection to others and a higher level of appreciation of life (see Table 2).

To test H3 (the mediation effect of emotional creativity on the relationship between living a traumatic event and PTG), another mediation analysis was conducted using the PROCESS macro for SPSS with the experience of a traumatic event as the independent variable (preparedness and novelty) as the mediators, and the two dimensions of PTG (i.e. relating to others and appreciation of life) as the dependent variables. The results confirm H3 for both dimensions of emotional creativity. In other words, the experience of cancer leads to higher PTG (higher relating to others and higher appreciation of life) through the positive effect of preparedness and novelty (see Table 3).

### 5. Discussion and implications

Through a quantitative study, this research investigates the effect of the experience of a traumatic event on resilience in reliving another traumatic experience (the COVID-19 pandemic). The findings show two main insights. First, that the experience of cancer enhances levels of resilience, especially through a higher feeling of being connected to others and a higher appreciation of life. Second, the experience of cancer gives patients emotional creativity resources that enable them to enhance their PTG and resilience. Previous literature presents resilience as an important protective mechanism that is positively related to mental health (Davydov *et al.*, 2010). In the oncological domain specifically, both social (Vessal *et al.*, 2021, 2022)

**Table 1.**  
Participant details in each group

Group	No of participants	Gender (% of male)	Age mean
Cancer	152	21.7	57.3
Non-cancer	186	45.2	41.7
Total	338	34.6	48.7

**Table 2.**  
Mediation effects of PTG (H2)

	Estimate	Bias-corrected bootstrapped 95% confidence interval		
		<i>p</i> -value	Lower	Upper
<i>Effect of cancer on resilience through relating to others</i>				
Direct effect	0.20*	0.03	0.01	0.40
Indirect effect	0.18*		0.08	0.30
<i>Effect of cancer on resilience through appreciation of life</i>				
Direct effect	0.23*	0.00	0.05	0.41
Indirect effect	0.15*		0.06	0.26
<b>Note(s):</b> * $p < 0.05$				

**Table 3.** Mediation effects of emotional creativity (H3)

	Bias-corrected bootstrapped 95% confidence interval			
	Estimate	<i>p</i> value	Lower	Upper
<i>Effect of cancer on relating to others</i>				
Direct effect	0.52*	0.00	0.34	0.70
Indirect effect through <i>preparedness</i>	0.10*		0.03	0.19
Indirect effect through <i>novelty</i>	0.04*		0.03	0.13
<i>Effect of cancer on appreciation of life</i>				
Direct effect	0.22*	0.00	0.06	0.39
Indirect effect through <i>preparedness</i>	0.09*		0.03	0.17
Indirect effect through <i>novelty</i>	0.02*		0.01	0.07

**Note(s):** \**p* < 0.05

and biological factors (Matzka *et al.*, 2016) help to enhance patients' resilience. These findings contribute to the literature on resilience in a few ways. First, the study contributes to the literature by showing that having the experience of living through a traumatic event positively contributes to the level of resilience in living with another traumatic event. It is shown here that COVID-19, as one type of traumatic event, might bring personal growth for individuals (e.g. Hyun *et al.*, 2021; Zhou *et al.*, 2020). Moreover, this positive effect is mediated by PTG. This is in line with previous studies showing that compared to healthy women, women with breast cancer report greater PTG, appreciation of life and spiritual change (Mols *et al.*, 2009). Finally, studies on the effect of emotional capacity on PTG are limited and more focused on the effect of positive and negative emotion on PTG (e.g. Zhou *et al.*, 2019; Wang *et al.*, 2011; Thornton and Perez, 2006; Norlander *et al.*, 2005) or the promotion of PTG through better emotional processing (Manne *et al.*, 2004). These results contribute to expanding on this literature by showing that higher levels of PTG among survivors of a traumatic experience could be explained due to higher emotional creativity resources. This result is also in accordance with previous studies that pointed out that high levels of emotional creativity result in seeking social support (Averill, 1999). Hence, the results confirm that personal resources are important resilience-related factors in facing mental health difficulties, especially under stressful circumstances (Sehmi *et al.*, 2020).

From a managerial perspective, the results of this study a better understanding of one type of personal resource that the experience of cancer has strengthened, i.e. emotional creativity abilities. Previous studies clarify that individuals with higher emotional creativity are better able to consider their emotions and tolerate emotional conflict (Averill and Thomas-Knowls, 1991). Hence, managers should consider these "soft skill" abilities and appreciate them in a professional context. The resilience characteristics of members help organizations to increase their capacity to face difficulties (Cooper *et al.*, 2013). Thus, survivors of a traumatic experience (e.g. cancer survivors) should not only be considered from a "soft skill" perspective but also from an organizational capacity to face difficulties.

Emotional resources are assets for higher professional productivity (Abraham, 2004) and for high-quality interactions between employees (Jennings *et al.*, 2017). The findings of this study show that individuals who have experienced cancer have a higher level of emotional competence and are more able to manage their emotions in adaptive ways and to demonstrate empathy. Emotional competence is defined as the capacity to recognize and manage our emotions and those of others (Härtel *et al.*, 2006) and is discussed as a factor that facilitates organizational life (Ikävalko *et al.*, 2020). Emotional resources and competence help employees make better decisions and be less sensitive to stress and burnout (Jennings, 2011; Rey *et al.*, 2016).

Moreover, the findings of this study provide interesting insights for better care and support of cancer patients. Indeed, several private and public health-related institutions offer different services to cancer patients to support them during and after their diagnosis. These emotional creativity resources should be considered as adapted services to enhance PTG, such as artistic workshops, painting, drawing, theater, mindfulness and co-creative games. These workshops help cancer patients enhance self-esteem and redefine social bonds that were affected by the experience of the illness. Finally, in terms of health-related care, the findings suggest the importance of including emotional creativity in different programs that help cancer patients return to work after the experience of cancer.

Like any other study, this research has some limitations, which provide interesting avenues for future studies. A part of the sample (cancer survivors) was chosen using convenience sampling, which may impact external validity. Future research might replicate these results using another sampling method with better external validity. This study was conducted in France and among cancer survivors of one type of cancer. Future research could investigate this relation with trauma other than cancer and in different cultural contexts.

#### Note

1. [www.institut-rafael.fr/](http://www.institut-rafael.fr/)

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Appendix

Variable	Measurement items	Cronbach's $\alpha$
<i>Dependent variable</i> <i>Resilience</i> (adopted from Campbell-Sills and Stein, 2007)	<ul style="list-style-type: none"> <li>• I am able to adapt when changes occur</li> <li>• I can deal with whatever comes my way</li> <li>• I try to see the humorous side of things when I am faced with problems</li> <li>• Having to cope with stress can make me stronger</li> <li>• I tend to bounce back after illness, injury or other hardships</li> <li>• I believe I can achieve my goals, even if there are obstacles</li> <li>• Under pressure, I stay focused and think clearly</li> <li>• I am not easily discouraged by failure</li> <li>• I think of myself as a strong person when dealing with life's challenges and difficulties</li> <li>• I am able to handle unpleasant or painful feelings like sadness, fear and anger</li> </ul>	$\alpha = 0.86$
<i>Mediators</i> <i>Post-traumatic growth</i> (adopted from Tedeschi and Calhoun, 1995)	<p><i>Relating to others</i></p> <ul style="list-style-type: none"> <li>• I know I can count on others when needed</li> <li>• I feel close to others</li> <li>• It is important for me to express how I feel with others</li> <li>• I have compassion for others</li> <li>• I have learned to discover the good in others</li> <li>• I accept that I need the other</li> </ul> <p><i>Appreciation of life</i></p> <ul style="list-style-type: none"> <li>• I clearly define my priorities</li> <li>• I clearly know what is important in life</li> <li>• I appreciate the value of my own life</li> <li>• I truly know how to appreciate the value of each day</li> </ul>	<p><math>\alpha = 0.81</math></p> <p><math>\alpha = 0.86</math></p>

(continued)

**Table A1.**  
Measurement scales and reliability

Variable	Measurement items	Cronbach's $\alpha$
<i>Emotional creativity</i> (adopted from Averill, 1999)	<p><i>Preparedness</i></p> <ul style="list-style-type: none"> <li>• When I have strong reactions, I search for reasons for my feelings</li> <li>• I believe people should work on their emotional development as hard as they work on their intellectual development</li> <li>• I think about and try to understand my emotional reactions</li> <li>• I am not particularly interested in the emotional aspects of my life. (R)</li> <li>• I think about past emotional experiences to help me cope with current emotional problems</li> <li>• After an intensely emotional experience, I try to step back and examine my reactions objectively</li> <li>• I pay attention to other people's emotions so that I can better understand my own feelings</li> </ul>	$\alpha = 0.91$
	<p><i>Novelty</i></p> <ul style="list-style-type: none"> <li>• My emotional reactions are different and unique</li> <li>• I can imagine myself being lonely, angry and joyful, all at the same time</li> <li>• I sometimes experience feelings and emotions that cannot be easily described in ordinary language</li> <li>• I have felt combinations of emotions that other people probably have never experienced</li> <li>• I like music, dance and paintings that arouse new and unusual emotional reactions</li> <li>• I have emotional experiences that would be considered unusual or out of the ordinary</li> <li>• When in emotional situations, I tend to respond in a unique manner</li> <li>• I like to imagine situations that call for unusual, uncommon or unconventional emotional reactions</li> <li>• When responding emotionally, I can be quite inventive and innovative</li> <li>• I would have to be a poet or novelist to describe the kinds of emotions I sometimes feel, they are so unique</li> <li>• I can experience a variety of different emotions at the same time</li> <li>• I prefer movies and books that depict complex and improbable emotional situations</li> <li>• The range and diversity of my emotional reactions sometimes exceed my ability to describe how I feel</li> <li>• I am able to experience a large number of different emotions</li> </ul>	$\alpha = 0.83$

Table A1.

(continued)

Variable	Measurement items	Cronbach's $\alpha$
	<i>Authenticity/effectiveness*</i>	$\alpha = 0.63$
	<ul style="list-style-type: none"> <li>• I respond well in situations that call for new or unusual emotional responses</li> <li>• I am good at expressing my emotions</li> <li>• The way I experience and express my emotions helps me in my relationships with others</li> <li>• My emotions help me achieve my goals in life</li> <li>• My emotions are a major source of meaning in my life; without them, my life would lack significance</li> <li>• I try to be honest about my emotional reactions, even when it causes me problems</li> <li>• My emotions are almost always an authentic expression of my true thoughts and feelings</li> <li>• My outward emotional reactions accurately reflect my inner feelings</li> <li>• I try to disguise and hide my emotions. (R)</li> </ul>	
<i>Control variables</i>		
<i>Demographics</i>	Gender, Age, Occupation, Experience of any chronic disease (for non-cancer survivors)	NA

**Note(s):** \*Based on the Cronbach's alpha reliability coefficient score, these items were excluded from the analysis to improve the internal consistency of the scale

**Table A1.**

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