Post-traumatic growth enhances social identification in liver transplant patients: A longitudinal study

Marta Scrignaro [a], Fabio Sani [b], Juliet Ruth Helen Wakefield [c], Elisabetta Bianchi [d,*], Maria Elena Magrin [a], Laura Gangeri [d]

[a] Department of Psychology, University of Milano-Bicocca, Milano, Italy
[b] School of Psychology, University of Dundee, Dundee, Scotland, UK
[c] Division of Psychology, Nottingham Trent University, England, UK
[d] Clinical Psychology Unit, Fondazione IRCCS Istituto Nazionale dei Tumori, Milano, Italy

ABSTRACT

Objective: The main aim of this paper is to investigate the prediction that greater subjective identification with relevant groups and social categories (i.e. 'family' and 'transplantees') can be an outcome of post-traumatic growth (PTG). To date there are no studies that have explored these relationships.
Methods: A longitudinal study was conducted with a group of 100 liver transplant patients from the outpatient populations of the participating centre. Data were collected by means of a self-report questionnaire, which was completed at two different time points (T1 and T2) that were 24 months apart. PTG was assessed using the Post-Traumatic Growth Inventory, while both transplantee and family identification were assessed using group identification scales. A path model was tested, using a structural equation model (SEM) approach, to examine the reciprocal effects among family identification, transplantee identification, and PTG over time.
Results: As predicted, we found that greater PTG T1 predicted both greater family identification T2 and marginally greater transplantee identification T2. However, the two identification variables did not predict PTG over time.
Conclusions: The results show that family identification and transplantee identification may be outcomes of the PTG process, confirming the importance of adopting a thriving multidimensional model of adjustment to medical illness, whereby people facing adverse life events, such as transplantation, may flourish rather than deteriorate psychologically.

© 2016 Elsevier Inc. All rights reserved.

1. Introduction

How do people who have survived cancer adjust psychologically to life? Until the mid-1990s, psycho-oncologists assumed that a traumatic life event such as cancer could only cause disruption and distress in one's life. As a consequence, experts considered that one had adjusted to cancer if one showed an absence of diagnosed psychological disorders, no psychological symptoms, no negative mood, or no limitations in physical functioning [1,2]. Carver [2] aptly defined such exclusive focus on negative outcomes as an *impairment model* of medical illness.

More recently, however, researchers have become aware that positive adjustment is not simply the absence of distress [3], and that many individuals with medical illness such as cancer actually report positive adjustment [4]. As a consequence, an increasing number of researchers have begun to examine the positive outcomes of cancer survivorship [5], thereby proposing a *thriving model* of illness [2].

One positive outcome of particular interest is *post-traumatic growth* (PTG) [6–9]. This refers to positive psychological changes in self, life directions, and interpersonal relationships, which are produced by a traumatic life event - for instance a life-threatening illness such as cancer - and may either replace or accompany negative consequences. A rapidly growing literature now shows the high prevalence of positive life changes and personal growth following cancer. Indeed, a recent meta-analysis [10] showed that 60–90% of people living with cancer report positive changes post-diagnosis.

As mentioned above, researchers consider interpersonal relationships to be an important domain of growth in the aftermath of trauma. Post-trauma interpersonal relationship enhancement is said to take different forms, such as placing increased value on one's relationships with close others, or experiencing greater feelings of compassion and empathy towards those feeling pain or grief [9]. However, according to social psychologists taking a *social identity* perspective towards human relations [11,12], people do

not only establish connections with others *as individuals*. People may also subjectively *identify* with (i.e., feel psychologically connected to) social groups and categories, such as one's own family, leisure group, support group, religious community, or people with cancer. Importantly, social identity researchers point to the fact that perceiving others as members of a group with which one identifies is a precondition for experiencing empathy, sympathy, compassion, and concern for others [13,14]. Put differently, to the extent that one identifies with a group, his or her relationship with other members of that group will be affectively more intense and genuine.

In line with a social identity perspective, the main aim of this paper is to assess the assumption that greater identification with relevant groups and social categories can be an outcome of PTG. Specifically, we test the prediction that cancer survivors who have undergone liver transplantation will develop some degree of identification with both their family group and the group of transplantees over time, as a consequence of PTG. This is because people with cancer will normally rely upon family members for moral and instrumental support, and will almost inevitably perceive themselves as members of the category of 'people with cancer'.

Because to date researchers have used group identification exclusively as a predictor of psychological well-being outcomes rather than as a psychological well-being outcome itself [15–17], we will also assess the alternative possibility that greater identification with both the family group and the group of transplantees will lead to greater PTG over time.

2. Method

2.1. Participants and procedure

A longitudinal study was conducted from January 2011 to January 2013 at the Istituto di Ricovero e Cura a Carattere Scientifico (IRCCS), the National Cancer Institute of Milan. The study was approved by the ethical committee of the institution in which data were collected.

The participants were liver transplant cancer patients from the outpatient populations of the participating centre. Patients were included in the study if they were 18 years or older, they spoke Italian as their mother tongue, their condition was not so severe that they could not complete the questionnaire, they did not have severe mental disorders or dementia, and they provided written informed consent to participate in the study.

The eligible patients were enrolled in the study by the first author, over a number of visits to the centre. These patients (termed 'participants' from now on) were sent a structured questionnaire asking for various types of medical information, and including various measures of quality of life and PTG. Basic demographic and clinical data were gathered, as well as information on ethnicity and religious affiliation. All questionnaires were self-completed and sent back to the centre inside a pre-stamped envelope. This completed Time 1 (T1) data collection. Two years later, the first author sent the same questionnaire to the same participants, and the procedure was repeated. This completed Time 2 (T2) data collection.

Among the 300 enrolled patients who met the inclusion criteria, 233 (78%) sent back the questionnaire at T1. Of these 233 individuals, 171 (73%) sent back the questionnaire at T2. Analyses comparing patients who did not complete the first or the second questionnaire with patients who completed both questionnaires showed no significant differences in socio-demographic characteristics.

Not all the questionnaires sent back were completely filled in, with 100 (58%) completely filling in both T1 and T2 questionnaires. The statistical analyses presented in this paper concern these 100 participants. It should be noted that this paper reports results from only a portion of these participants' data.

2.2. Measures

2.2.1. Identification with groups

Identification with transplantees was assessed with a widely-used four-item global measure of group identification devised by Doosje et al. [18]. Items relate to either affective aspects of group identification (e.g., "I feel a link with other people who have had a transplant") or cognitive aspects, specifically self-definitional aspects (e.g., "I see myself as a member of the group of transplantees").

To measure *family identification* we used the two items related to the affective aspects of group identification from Doosje et al.'s [18] scale; however we replaced the two cognitive items from the scale with two items tapping on perceived similarity with other group members. These items were selected from Leach et al.'s [19] in-group identification scale (e.g., "I have a lot in common with the average member of my family").

Our decision to measure identification in this way was driven by the assumption that the relative importance of the cognitive aspects of group identification may depend on whether the group is a large, relatively abstract social category (such as people who have undergone a transplant), or whether it is a small, intimate group such as the family [20,21]. In particular, regarding the family group we assumed that one's perceived degree of similarity to other group members is a more relevant manifestation of group identification than self-definition in terms of the group.

In all cases, items were rated on a 7-point scale (1 = I strongly disagree; 7 = I strongly agree). Each participant's overall transplantee identification was obtained by calculating the mean of their responses to the four transplantee items. Similarly, each participant's overall family identification was obtained by calculating the mean of their responses to the four family items.

2.2.2. Post-traumatic growth

Positive change owing to the liver transplant experience was assessed with the Post-Traumatic Growth Inventory (PTGI) [22]. This is a 21-item measure of growth following an event (e.g., "I changed my priorities about what is important in life"). For each item, participants indicated the degree to which change had occurred in their life 'as a result of having cancer', using a 6-point scale (0 = I did not experience this change; 5 = I experienced this change to a very great degree). Although the PTGI consists of five subscales tapping on dimensions such as spiritual change and gain in personal strength, in this study we used the inventory as a global measure of PTG because of sample size limitations. This approach, which is consistent with studies that have found the PTGI items to load onto a single factor during exploratory principal component analysis, has been used several times in the literature (e.g., [23,24]).

2.3. Data analysis

We began by calculating statistics describing the characteristics of the sample (e.g., age, marital status, etc.) at baseline. At this point we performed two three-factor factor analyses to confirm the legitimacy of treating our three core multi-item variables, namely PTG and the two identification measures, as three independent variables. The first factor analysis concerned the three variables at T1, while the second factor analysis concerned the three variables at T2. Then we calculated the mean, standard deviation, and reliability of the multi-item variables (i.e., PTG T1 and T2, family identification T1 and T2, transplantee identification T1 and T2), as well as the Pearson's product-moment correlation coefficients for the relationships among these variables and age at baseline. Subsequently we conducted three repeated measures t-tests to determine if there were across-time mean differences on PTG, family identification, and transplantee identification. These analyses were conducted using Version 21 of SPSS (Statistical Package for the Social Sciences).