

Posttraumatic Growth, Personality Factors, and Social Support Among War-Experienced Young Georgians

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Abstract

Despite much research on adult posttraumatic growth in recent decades, few studies have focused on posttraumatic growth in the young and especially after experiencing war. This study examined personality factors and different types and sources of social support as key correlates of posttraumatic growth in war-experienced children and adolescents. Participants were 242 individuals from settlements for internally displaced people in Georgia with a mean age of 13.22 years ($SD = 2.73$). Relations between variables were examined with correlations, standard multiple regressions, and mediation analyses. Results showed that the main predictors of posttraumatic growth were extraversion, conscientiousness, and social support. In addition,

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informational type of support from peers related significantly to posttraumatic growth. Moreover, general social support mediated the link between personality factors and posttraumatic growth. Conclusions are drawn on the mechanisms underlying posttraumatic growth in young persons.

Keywords

Posttraumatic growth, personality, social support, children, adolescents

Introduction

In recent decades, several studies have examined how traumatic experiences can nonetheless have positive psychological consequences (Matsui & Taku, 2016). Tedeschi and Calhoun (1996) proposed the concept of posttraumatic growth (PTG) to describe how the cognitive and emotional struggle with traumatic experiences can lead individuals to activate this positive transformation capability. PTG incorporates five major aspects of change: searching for new possibilities in life, enhancing relationships with others, increased subjective feeling of personal strength, more appreciation of life, and spiritual development (Tedeschi & Calhoun, 2004). Several studies have explored PTG and its correlates (Kilmer et al., 2014; Prati & Pietrantonio, 2009). Specifically, it is well documented that PTG in adults relates significantly to systems of social support and to coping strategies (Prati & Pietrantonio, 2009; Shand, Cowlshaw, Brooker, Burney, & Ricciardelli, 2015), to personality variables (Măirean, 2016; Tedeschi & Calhoun, 1996), to trauma characteristics (Boals, Steward, & Schuettler, 2010), and to cognitive processes such as rumination (Cann et al., 2011; Taku, Cann, Tedeschi, & Calhoun, 2009).

Fairly recently, this research on PTG in adults (Helgeson, Reynolds, & Tomich, 2006; Prati & Pietrantonio, 2009) has been augmented by documentations and analyses of PTG in younger age groups (e.g., Kilmer et al., 2014). These studies have confirmed PTG in children and adolescents, defined the related key variables, and confirmed the theoretical similarities and differences compared with adults (e.g., Kilmer & Gil-Rivas, 2010; Taku, Kilmer, Cann, Tedeschi, & Calhoun, 2012). They have related PTG in young samples to demographic variables, social factors, cognitive processes, environmental aspects, mental health, and developmental features (Kilmer et al., 2014; Meyerson, Grant, Carter, & Kilmer, 2011).

Personality and PTG

Personality factors have important implications for processing traumatic experiences and overcoming their consequences (Paris, 2000). According to Tedeschi

and Calhoun (1996), all Big Five personality factors except neuroticism are associated positively with PTG. However, Calhoun and Tedeschi (2004) have suggested that extraversion and openness to experience are the most important variables for positive transformation after trauma. Indeed, a variety of positive correlations between aspects of PTG and personality factors have been observed, with the strongest associations being found for activity, positive emotions, and openness to feelings. Hence, it has been proposed that activity level and positive emotions as aspects of extraversion play a crucial role for positive changes, and this, in turn, affects the responsiveness of others in the social environment (Calhoun & Tedeschi, 2004). Other studies on adults have corroborated these results by demonstrating different positive correlations between PTG and personality factors such as extraversion and conscientiousness (Garnefski, Kraaij, Schroevers, & Somsen, 2008) or openness, agreeability, and conscientiousness (Măirean, 2016). Results on neuroticism are inconsistent, with some studies failing to find any significant relationship with PTG (Jaarsma, Pool, Sanderman, & Ranchor, 2006; Tedeschi & Calhoun, 1996) but others showing a negative association (Garnefski et al., 2008).

Although personality factors are considered to be crucial for adult PTG, much still remains to be learned about the nature of these relationships in children and adolescents. Nonetheless, existing studies have demonstrated positive significant associations between PTG and dispositional optimism (J. Milam, Ritt-Olson, Tan, Unger, & Nezami, 2005; Sleijpen, Haagen, Mooren, & Kleber, 2016), suggesting that a positive outlook helps to reframe experiences. Chinese study exploring PTG in adolescent earthquake survivors has reported that extraversion is significant determinant of PTG (Jia, Ying, Zhou, Wu, & Lin, 2015). Furthermore, a study of internally displaced person (IDP) families in Georgia (Panjikidze, 2015) has revealed that emotion-related personality dispositions are important predictors of PTG in adolescents. It was particularly components of trait emotional intelligence (Petrides, 2010) such as well-being (optimism, happiness, and self-esteem) and motivational aspects that predicted PTG in this age-group (Panjikidze, 2015).

The literature described earlier shows that hardly any research has addressed the relation between personality factors and PTG in children and adolescents. This study aims to shed light on the relevance of the PTG model for young samples by examining which aspects of the five factor personality model (see Barbaranelli, Caprara, Rabasca, & Pastorelli, 2003; Shiner, 1998) have implications for PTG.

Social support and PTG

A collective, adverse experience may have particular implications for the nature of social relationships (Kimhi, Eshel, Zysberg, & Hantman, 2009), and this, in turn, may contribute to processes of growth (Tedeschi & Calhoun, 2004).

Theories propose that a safe, positive environment may encourage survivors to convey their past into the present and activate meaning-making processes through narrating their stories and possibly even finding positive aspects of their adverse experiences (Park, 2010; Taku et al., 2009). Thus, the social environment should be considered carefully when studying the mechanisms of evolving PTG. Indeed, a number of publications highlight the role of social support in developing PTG (Prati & Pietrantonio, 2009). Nonetheless, empirical findings on the relation between PTG and social support in children and adolescents are inconsistent (Meyerson et al., 2011). Although some studies reveal no significant correlations between PTG and social support in young samples (e.g., Cryder, Kilmer, Tedeschi, & Calhoun, 2006; Kilmer & Gil-Rivas, 2010), a growing body of both quantitative and qualitative research documents the positive role of social support in developing PTG (e.g., Kimhi et al., 2009; Sleijpen et al., 2016; Wolchik, Cox, Tein, Sandler, & Ayers, 2009; Yu et al., 2010).

Moreover, authors have proposed a variety of approaches and methods with which to study social support. Most focus on the importance of networks or sources of support (Meyerson et al., 2011), even though it would be more relevant conceptually to differentiate types of support in the context of trauma and growth (Alisic, Boei, Jongmans, & Kleber, 2011; Kilmer et al., 2014). However, there is one article on cancer patients (Schroevers, Helgeson, Sanderman, & Ranchor, 2010) highlighting the importance of, for example, emotional support in terms of perceived availability and support actually received.

There are now more studies exploring the significance of distinct sources of support for PTG. For example, a 6-year longitudinal study by Wolchik et al. (2009) showed that parental/guardian and other adults' support was a significant predictor of PTG. In contrast, support from peers did not relate significantly to any aspects of growth in adolescents and young adults. However, this study explored children or adolescents whose parents had died, thereby limiting any generalization to other types of traumatic experience. Findings on cancer patients are also very specific: Here PTG in youth was not related to peer and parental support and the only significant correlate was teacher's support (As cited in Meyerson et al., 2011). Findings on other traumatic experiences—such as different types of natural disaster—have also been inconsistent. For example, Hafstad, Gil-Rivas, Kilmer, and Raeder (2010) highlighted the significant role of parental well-being and functioning, together with the parents' own PTG level, for PTG in their offspring, whereas Yu et al. (2010) found that perceived mutual support among peers and perceived sense of security obtained from teachers during the adverse event were essential correlates of PTG in adolescents. However, the questions on support in Yu et al.'s study were incorporated into a positive experience checklist during an earthquake and thereby did not tap the nature or source of support after the event. A recent article by Laceulle, Kleber, and Alisic (2015) reported peer support as a domain-specific correlate of

PTG that was particularly relevant for the appreciation of life aspect of PTG in children drawn from a general population sample in the Netherlands. However, this study did not compare peer support with other important sources. Remarkably, previous research on Georgian IDP families (Panjikidze, 2015) demonstrated that neither perceived family functioning nor parental PTG level predicted PTG in adolescents. These results suggested that support from other networks than family might be more important for adolescents.

Overall, research has focused on exploring only one single aspect of social support in relation to PTG. This is unfortunate, because it fails to disclose how PTG is influenced by either the mechanisms or nature of social relations. Documentations and analyses of the network and type of social support at the time would deliver a better understanding of which strategies individuals use to manage adversities in their lives.

To the best of our knowledge, virtually no studies have explored different types and sources of social support in relation to PTG in children or adolescents experiencing war and displacement. Our study addresses this deficit by conceptualizing social support in line with Malecki and Demaray's (2001) framework. This links types of support (emotional, informational, appraisal, and instrumental) with the network or sources of support (e.g., parents, classmates, close friends, teachers, and school in general). This framework is based on Tardy's (1985) model for measuring social support (as cited in Malecki & Demaray, 2001).

Gender and age differences in PTG

The literature on adult PTG (see Vishnevsky, Cann, Calhoun, Tedeschi, & Demakis, 2010, for a review) indicates that there may be significant gender differences in experiencing PTG. A systematic analysis of 70 studies has shown that women report higher levels of growth than men (Vishnevsky et al., 2010). Explanations link these differences to the different coping strategies and rumination processes that contribute to PTG. This has been corroborated by a study of IDPs (in this study, referred as IDPs or displaced persons) (The UN Refugee Agency (UNHCR), 2009) in Georgia: Women reported higher scores not only in total PTG but also on the three subscales: Relating to others, Spiritual change, and Appreciation of life (Khechuashvili, 2016).

In younger samples, however, results on gender differences are inconsistent. Although some studies (Alisic et al., 2011; Cryder et al., 2006; Panjikidze, 2015; Sleijpen et al., 2016; Yu et al., 2010) have failed to find significant gender differences in PTG, others, such as Laufer and Solomon (2006), have found more growth in female compared with male adolescents (aged 13–16 years) exposed to terror incidents. Laceulle et al. (2015) also found more growth in all domains of PTG among girls (aged 8–12 years). In contrast, Kimhi et al. (2009) found higher indicators of postwar recovery in boys than in girls. Results are partly

explained by differences in cognitive appraisal, with girls experiencing a more intense sense of danger than boys.

Findings on age-related differences in PTG also vary: Although several studies reported higher growth in younger than older children (Kimhi et al., 2009; Laceulle et al., 2015; Yoshida et al., 2016; Yu et al., 2010), other studies found increased PTG levels in older ages (J. E. Milam, Ritt-Olson, & Unger, 2004) or revealed no relation between age and PTG (Cryder et al., 2006; Kilmer & Gil-Rivas, 2010; Zhou, Wu, & Chen, 2015).

PTG in children and adolescents has also been related to different types of trauma such as natural disasters (Cryder et al., 2006; Hafstad et al., 2010; Hafstad, Kilmer, & Gil-Rivas, 2011; Kilmer et al., 2009; Yu et al., 2010), cancer (Currier, Hermes, & Phipps, 2009; Phipps, Long, & Ogden, 2007), terrorism (Laufer & Solomon, 2006; Levine, Laufer, Hamama-Raz, Stein, & Solomon, 2008), loss of parents, or other potentially traumatic events (Alisic et al., 2011; Ickovics et al., 2006; J. E. Milam et al., 2004; Park, Cohen, & Murch, 1996; Taku et al., 2012; Vaughn, Roesch, & Aldridge, 2008). Although collective displacement or resettlement as an aftermath of war can create its own particular context for disclosing specific mechanisms of positive transformation, very few studies have explored PTG as a consequence of children and adolescents experiencing war (Kimhi et al., 2009; Kimhi, Eshel, Zysberg, & Hantman, 2010; Panjikidze, 2015; Powell, Rosner, Butollo, Tedeschi, & Calhoun, 2003) and displacement (Sleijpen et al., 2016).

The present study

Our first aim was to examine the correlates of PTG in children and adolescents who have experienced war and displacement. We hypothesized that personality factors such as extraversion and conscientiousness would be positively associated with PTG. Our second aim was to determine the significance of social support in general for PTG. We addressed four distinct types of social support based on the conceptual framework of PTG: emotional, informational, appraisal, and instrumental support (Tedeschi & Calhoun, 1996). We hypothesized that emotional support would predict PTG. We also examined the network or sources of perceived support: parents, classmates, close friends, teachers, and school (Malecki & Demaray, 2001). We hypothesized that support from peers would be the foremost predictor of PTG in our sample. We also hypothesized that general social support would mediate the positive relationship between personality factors and PTG. Finally, drawing on the results of previous studies (e.g., Kilmer & Gil-Rivas, 2010; Panjikidze, 2015; Sleijpen et al., 2016; Yu et al., 2010; Zhou et al., 2015), we did not expect to find age or gender differences in either the level of PTG or in its general predictors within our sample.

Method

Study population

The research was conducted with IDPs in Georgia who had been forced to flee from their homes due to the military conflict with Russia in August 2008. Most of the IDPs had experienced multiple life-threatening events. During the conflict, they had been exposed to the plundering of their possessions, harassment, and assaults. After the conflict, they were housed in newly built settlements situated in different regions of Georgia (The UN Refugee Agency (UNHCR), 2009). Since moving into these new settlements, these IDPs have been exposed to various economic, medical, and social problems (Koch, 2012).

Participants

The sample consisted of 242 children and adolescents (124 boys and 118 girls) aged 9 to 18 years ($M = 13.22$, $SD = 2.73$) who had registered in local secondary schools. All had IDP status since the 2008 military conflict. They were living in IDP settlements located in six different regions of Georgia (Gori, Koda, Shaumiani, Shavshvebi, Tserovani, and Tsmindatskhali). They were all Georgian citizens whose native language was Georgian.

Procedure

Participants were recruited randomly from houses and schools located in the IDP settlements. They were informed about the aims of the study, its confidentiality, and the procedure. After completing informed consent forms, they filled out questionnaires individually. All were rewarded with a notebook and a pen after completing the task. Interviewers were masters' students of Psychology at Tbilisi State University. Data were collected in August to September 2015.

Measures

Posttraumatic growth. The Posttraumatic Growth Inventory for Children (PTGI-C) (Cryder et al., 2006) is a 21-item adaptation of the original, adult self-report instrument (PTGI; Cryder et al., 2006; Tedeschi & Calhoun, 1996) in which items have been reformulated to make them easier for children and adolescents to understand while retaining the original structure and scales. The inventory measures positive personal changes that occur after experiencing a traumatic event. It assesses the following five domains of PTG on four-point scales ranging from 1 (*no change*) to 4 (*great degree of change*): (a) relating to others: strong bonds with others, more empathy toward others; (b) new possibilities: having a new path through life, new interests; (c) personal strength: feeling personally stronger than before the traumatic event; (d) spiritual change: change in

spiritual, religious, and other fundamental beliefs; and (e) appreciation of life: change in priorities and in values, being more respectful toward life in general. The PTGI-C demonstrated a high internal consistency in this study (Cronbach's $\alpha = .90$).

Personality dimensions. We measured the basic personality factors in children and adolescents with the Big Five Questionnaire for Children (Barbaranelli et al., 2003). This questionnaire contains 65 items rated on five-point scales ranging from 1 (*almost never*) to 5 (*almost always*). Internal consistencies were adequate to good: energy/extraversion (Cronbach's $\alpha = .75$), agreeableness (Cronbach's $\alpha = .79$), conscientiousness (Cronbach's $\alpha = .81$), emotional instability (Cronbach's $\alpha = .76$), and intellect/openness (Cronbach's $\alpha = .77$).

Social support. We measured social support with the Child and Adolescent Social Support Scale (CASSS) containing 60 items measuring the source, type, and importance of social support. Source is measured by five subscales covering support from parents, teachers, friends, classmates, and school. Type of support is measured by four subscales covering emotional, informational, appraisal, or instrumental support. The Georgian version of CASSS used in this study was sufficiently reliable (Cronbach's $\alpha = .95$). Looking at the individual subscales, Cronbach's α coefficients ranged from .87 to .93 for source subscales, from .85 to .89 for type subscales, and .80 to .95 for importance scales. The importance scale was not included in the present analyses.

Statistical analysis

We first examined descriptive statistics of the study variables for gender and age differences by computing correlations between total PTG, personality dimensions, and social support. Second, we tested our hypotheses with standard multiple regression and mediation analyses (conditional process modeling by Hayes, 2012, as cited in Field, 2013).

Results

Mean scores indicate that 71% to 89% of displaced children and adolescents reported that they had experienced positive changes across all domains of PTG (see Table 1). In this sample, 71% to 89% of participants reported moderate to high indices (≥ 3) of perceived positive change across the 21 PTGI-C items.

Gender and age differences for PTG

We used independent-samples t tests to identify significant differences in PTG across gender and age. Total PTG scores did not differ significantly between men ($M = 3.18$, $SD = 0.49$) and women ($M = 3.26$, $SD = 0.49$), $t(236) = -1.25$,

Table 1. PTG subscale scores across gender and age groups.

Variables	Entire sample		Gender				Age groups			
			Male		Female		9–12		13–18	
	M	SD	M	SD	M	SD	M	SD	M	SD
Relating to others	3.15	0.57	3.15	0.57	3.16	0.58	3.17	0.54	3.14	0.60
New possibilities	3.23	0.56	3.18	.057	3.29	0.56	3.19	0.60	3.27	0.54
Personal strength	3.21	0.60	3.16	0.63	3.27	0.57	3.09	0.63	3.30	0.56
Spiritual change	3.24	0.69	3.20	0.68	3.28	0.69	3.07	0.73	3.35	0.63
Appreciation of life	3.38	0.59	3.30	0.59	3.46	0.57	3.25	0.66	3.47	0.51
Total PTG	3.22	0.49	3.18	0.49	3.26	0.49	3.16	0.51	3.27	0.48

Note: PTG: posttraumatic growth. $N=242$, 101 children (9–12) and 141 adolescents (13–18) including 124 females and 118 males. Four-point scale ranging from 1 (*no change*) to 4 (*great degree of change*).

ns. However, in the individual subscale appreciation of life, girls ($M=3.46$, $SD=0.57$) tended to have higher scores than boys ($M=3.30$, $SD=0.59$), $t(238)=-2.12$, $p=.035$. Total PTG scores also did not differ significantly between 9- to 12-year-olds ($M=3.16$, $SD=0.51$) and 13- to 18-year-olds ($M=3.27$, $SD=0.48$), $t(236)=-1.66$, *ns.* However, the two age groups did differ significantly on two subscales: the personal strength scale with adolescents (13- to 18-year-olds) having higher mean scores ($M=3.30$, $SD=0.56$), than children (9- to 12-year-olds: $M=3.09$, $SD=0.63$), $t(240)=-2.61$, $p=.009$; and the appreciation of life scale with adolescents reporting higher scores ($M=3.47$, $SD=0.51$) than children ($M=3.25$, $SD=0.66$), $t(238)=-2.89$, $p=.004$.

Bivariate correlations between PTG, personality factors, types and sources of social support, and demographic variables

We assessed relations between PTG and other study variables with Pearson product-moment correlation coefficients (see Table 2). Results demonstrated that PTG was associated positively with all personality dimensions except emotional instability that showed a small positive correlation with PTG solely in the 9 to 12 age-group. The highest associations with PTG were observed for extraversion and conscientiousness. With regard to social support, PTG showed moderately to highly significant correlations with different sources and types of support. Relations between PTG and demographic variables were not significant. There were also associations between personality factors and social support: Extraversion ($r=.47$, $p<.001$), agreeableness ($r=.40$, $p<.001$), conscientiousness ($r=.56$, $p<.001$), and openness ($r=.44$, $p<.001$), all related positively to total perceived social support. However, there was no statistically significant relation to emotional instability ($r=.11$, *ns*), and there was only

Table 2. Bivariate correlations between PTG and personality factors, sources of support, types of support, gender, and age across gender and age groups.

Posttraumatic growth					
	Entire sample	Gender		Age groups	
		Male	Female	9–12	13–18
Personality factors					
Extraversion	0.50**	0.50**	0.50**	0.49**	0.51**
Agreeableness	0.39**	0.37**	0.40**	0.42**	0.38**
Conscientiousness	0.44**	0.39**	0.49**	0.52**	0.42**
Emotional instability	0.11	0.05	0.16	0.22*	0.04
Intellect/openness	0.40**	0.40**	0.38**	0.44**	0.41**
Types of social support					
Emotional	0.48**	0.50**	0.46**	0.57**	0.42**
Informational	0.55**	0.57**	0.52**	0.75**	0.42**
Appraisal	0.55**	0.60**	0.48**	0.67**	0.49**
Instrumental	0.54**	0.63**	0.42**	0.66**	0.48**
Sources of social support					
From parents	0.49**	0.50**	0.47**	0.62**	0.38**
From teachers	0.38**	0.30**	0.46**	0.64**	0.27**
From classmates	0.53**	0.57**	0.47**	0.63**	0.47**
From close friends	0.50**	0.65**	0.31**	0.61**	0.40**
From school	0.40**	0.45**	0.33**	0.46**	0.41**
Total social support	0.59**	0.66**	0.50**	0.70**	0.52**
Age	0.01				
Gender	0.08				

Note: PTG: posttraumatic growth. Total sample size varies between 238 and 242.

* $p < .05$; ** $p < .01$.

a small positive correlation between emotional instability and social support from parents ($r = .13$, $p < .038$).

Personality factors and social support as predictors of PTG

We used multiple linear regression analyses to test whether personality factors and different sources of social support predicted participants' rating of PTG (see Table 3). We started by testing the model for combined personality factors and PTG. This explained 29% of the variance and significantly predicted PTG ($R^2 = .29$, adjusted $R^2 = .28$), $F(5, 227) = 19.31$, $p < .001$, with extraversion ($\beta = .37$, $t = 4.92$, $p < .001$) and conscientiousness ($\beta = .22$, $t = 2.60$, $p = .014$) as significant predictors of PTG.

The regression model testing how far perceived social support predicted PTG explained 37% of the variance ($R^2 = .36$, adjusted $R^2 = .34$), $F(5, 230) = 25.99$,

Table 3. Predictors of PTG.

Predictor	PTG			
	B	SE	β	95% CI
Personality factors				
Extraversion	0.32	.06	.37***	[0.19, 0.45]
Agreeableness	0.29	.06	.03	[−0.10, 0.15]
Conscientiousness	0.18	.06	.22*	[0.04, 0.31]
Emotional instability	−0.03	.04	−.04	[−0.11, 0.05]
Intellect/openness	−0.00	.07	−.01	[−0.14, 0.13]
R^2			.29	
F			19.31***	
Sources of social support				
From parents	0.11	.45	.18*	[0.02, 0.20]
From teachers	0.00	.03	.01	[−0.06, 0.07]
From classmates	0.13	.04	.24**	[0.04, 0.23]
From close friends	0.14	.04	.24**	[0.06, 0.22]
From school	0.00	.03	.01	[−0.06, 0.07]
R^2			.36	
F			25.99***	
Types of social support				
Emotional	−0.003	.06	−.004	[−0.13, 0.13]
Informational	0.15	.07	.26*	[0.02, 0.30]
Appraisal	0.12	.07	.21	[−0.02, 0.28]
Instrumental	0.08	.08	.12	[−0.08, 0.25]
R^2			.33	
F			28.29***	
Total social support	0.39	.03	.59**	[0.32, 0.46]

Note: PTG: posttraumatic growth. Sample size varies between 238 and 242; age range: 9–18 years.

* $p < .05$; ** $p < .01$; *** $p < .001$.

$p < .001$. Looking at the types of social support, only informational support significantly predicted PTG ($\beta = .26$, $t = 1.99$, $p < .003$). Looking at the different sources of perceived social support, support from close friends ($\beta = .24$, $t = 3.62$, $p < .001$), support from classmates ($\beta = .24$, $t = 2.85$, $p < .001$), and parental support ($\beta = .18$, $t = 2.50$, $p = .013$) all significantly predicted PTG.

Finally, we computed two multiple regression models to test combined significant predictors of PTG: first, extraversion, conscientiousness, and three sources of social support (parents, classmates, and close friends) and second, extraversion, conscientiousness, and informational type of social support. Results on the first model showed that extraversion ($\beta = .25$, $t = 4.17$, $p < .001$), support from classmates ($\beta = .20$, $t = 2.93$, $p = .004$), and close friends ($\beta = .21$, $t = 3.30$, $p < .001$) still correlated with PTG ($R^2 = .43$, adjusted

$R^2 = .41$), $F(5, 230) = 34.87$, $p < .001$. Results of the second model were compatible with the first ($R^2 = .40$, adjusted $R^2 = .40$), $F(3, 232) = 53.17$, $p < .001$, with extraversion ($\beta = .30$, $t = 4.95$, $p < .001$) and informational support ($\beta = .39$, $t = 6.59$, $p < .001$) predicting PTG.

The final models (combination of personality and types of support; personality and sources of support) examined gender and age differences in separate regression analyses. Extraversion remained a significant predictor of PTG for both men ($\beta = .31$, $t = 3.90$, $p < .001$) and women ($\beta = .27$, $t = 2.61$, $p = .010$). Looking at types of support, informational support significantly predicted PTG in both men ($\beta = .42$, $t = 5.25$, $p < .001$) and women ($\beta = .35$, $t = 3.97$, $p < .001$). Turning to sources of support, support from classmates ($\beta = .20$, $t = 2.06$, $p < .041$) and close friends ($\beta = .39$, $t = 4.60$, $p < .001$) were the most important predictors for boys but only support from classmates ($\beta = .21$, $t = 2.10$, $p < .037$) was significant for girls.

With regard to age differences, the personality factor conscientiousness ($\beta = .20$, $t = 2.13$, $p < .05$), the sources of support classmates ($\beta = .32$, $t = 3.34$, $p < .001$) and close friends ($\beta = .25$, $t = 2.60$, $p < .011$), and the informational type of support ($\beta = .63$, $t = 8.26$, $p < .001$) were significant predictors of PTG in children (9- to 12-year-olds). For adolescents (13- to 18-year-olds), significant predictors of PTG were extraversion ($\beta = .32$, $t = 3.95$, $p < .001$) combined with classmates' support ($\beta = .21$, $t = 2.17$, $p = .032$) and informational support ($\beta = .23$, $t = 2.78$, $p = .006$).

Mediation analyses

We performed mediation analyses with conditional process modeling (Hayes, 2012, as cited in Field, 2013). Results showed that the relationship between extraversion and PTG was mediated by social support (see Figure 1). There were statistically significant standardized regression coefficients between extraversion and social support and between social support and PTG. There was a significant indirect effect of extraversion on PTG through

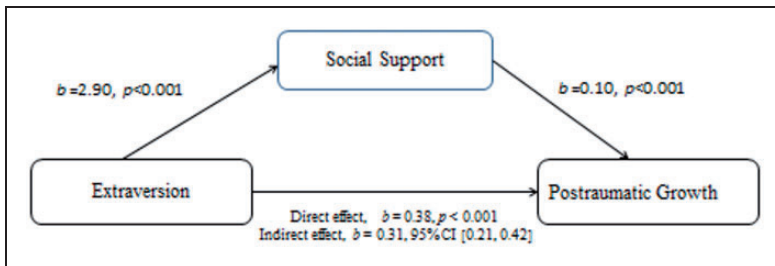


Figure 1. Mediation analysis between extraversion, social support, and posttraumatic growth.

social support, $b = 0.311$, CI [0.217, 0.428]. This represented a relatively large effect, $\kappa^2 = .222$, 95% CI [.154, .298].

Figure 2 presents the mediation model for conscientiousness and PTG. Similar to the previous mediation analysis, the association between conscientiousness and PTG was also significantly mediated by social support, $b = 0.364$, CI [0.252, 0.485]. This was also a relatively large effect, $\kappa^2 = .265$, 95% BCa CI [.179, .335].

Discussion

Although experiences of war and displacement may be universal, they also vary across cultures. Several studies have explored which strategies survivors use to overcome adversial experiences (see, e.g., Boals et al., 2010; Helgeson et al., 2006; Meyerson et al., 2011; Sawyer, Ayers, & Field, 2010). Although the concept of PTG has been studied mainly in adult samples, there have been hardly any studies of PTG and its correlates across cultures, especially in younger age groups.

This article examined the correlates and predictors of PTG in children and adolescents currently residing in settlements for people internally displaced by the 2008 war in Georgia. We paid particular attention to different aspects of social relationships as well as intrapersonal characteristics as key functions of evolving PTG. We adopted a comprehensive approach to social support by addressing not only its sources but also its types. This sheds light on the social mechanisms contributing to PTG. Such an approach also reveals how cultural strategies embodied in the core of social interaction play a healing role after traumatic experiences (Kilmer et al., 2014). We then addressed the Big Five in order to highlight the most relevant personality factors in young individuals who experience growth in adversity. Furthermore, we tested a general mediation model that confirmed an indirect link between personality factors and PTG through social support. In particular, we found that extraversion and

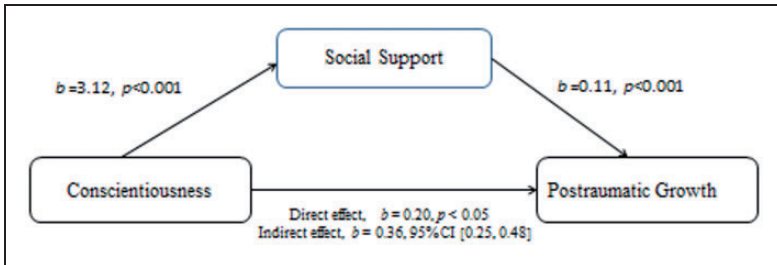


Figure 2. Mediation analysis between conscientiousness, social support, and posttraumatic growth.

conscientiousness, mediated by perceived general support, were the main predictors of PTG in children and adolescents. Finally, one of the main purposes of our study was to focus attention on differences in PTG across age groups and gender.

The majority of war-affected children and adolescents in this study experienced moderate to high level of PTG. This provides further evidence of transformational potential in nonadults (Alisic, Van der Schoot, Van Ginkel, & Kleber, 2008; Kilmer & Gil-Rivas, 2010; Taku et al., 2012), especially after experiences of war and displacement.

With regard to the association between personality factors and PTG, our findings indicate that traumatic experiences do not always produce growth, and that this may depend on specific individual personality characteristics (Tedeschi & Calhoun, 2004). Indeed, we found moderate to large positive correlations between PTG and extraversion, conscientiousness, agreeableness, and intellect/openness, but no significant association with emotional instability. This largely supported our hypothesis that extraversion and conscientiousness would be particularly important for PTG in children and adolescents. Our results are partly consistent with the previous PTG studies (Garnefski et al., 2008; Jia et al., 2015) and underline the particular contribution of extraversion and conscientiousness. In addition, our data are in line with the literature on coping processes (Connor-Smith & Flachsbart, 2007), suggesting that both extraversion and conscientiousness predict the application of problem-solving and cognitive restructuring coping strategies, whereas extraversion facilitates support seeking. These adaptive cognitive coping strategies are, in turn, positively associated with PTG (Linley & Joseph, 2004).

Furthermore, the lack of a significant association between emotional instability and PTG basically corroborates the results of earlier studies on adults (Tedeschi & Calhoun, 1996) while failing to match more recent studies (Garnefski et al., 2008). Interestingly, we found that emotional instability had a small but significant correlation with perceived support from parents. This is in line with other studies demonstrating a link between neuroticism and support seeking as a coping strategy (Connor-Smith & Flachsbart, 2007). Further research needs to explain the role of emotional instability in positive outcomes of trauma, especially in younger samples.

This study confirms that social support in general is a significant predictor of PTG that explains 37% of variance. This is consistent with not only a transformational model of PTG (Tedeschi & Calhoun, 1996) but also a substantial body of empirical evidence (see Meyerson et al., 2011; Prati & Pietrantoni, 2009; Sleijpen et al., 2016). However, our hypothesis that emotional type of support would be the most significant predictor for PTG was not supported in our sample. Instead, informational support proved to be most important. This suggests that factors contributing to the behavioral enactment of growth may differ depending on the type of adversity, the time that has elapsed since the traumatic

event, and how others respond to the change (Tedeschi & Calhoun, 2004). In other words, emotional support or warmth can be crucial for growth to occur immediately after the event, whereas more practical assistance becomes important at a later stage. Indeed, experiencing war and displacement challenges people's prior views (Cann et al., 2010) and leads to uncertainty, fear, and worry. This, in turn, generates a push for resolution in order to create a meaningful and liveable universe (Park, 2010; Pelkmans, 2013). In this striving for resolution, individuals may seek a social environment oriented toward active problem-solving that also offers them emotional comfort. Informational support helps individuals to enhance their understanding on various issues (Tennant et al., 2015) and to gain new ideas and insights. Thus, the availability of the relevant information can gradually facilitate positive change.

As for sources of support, results backed our hypothesis that peer support would be a strong predictor of PTG. Nevertheless, our first regression model also highlighted the importance of parental support. Evidence of a lower parental contribution to PTG is in line with some previous studies (Kilmer & Gil-Rivas, 2010; Michel, Taylor, Absolom, & Eiser, 2010; Panjikidze, 2015) while contradicting others (Hafstad et al., 2010) that highlight the importance of parental attendance and parental PTG experience for PTG in children. Even though parental support is important for child and adolescent psychosocial adjustment (Weine et al., 2013), the parental ability to catalyze children's positive transformation may still be limited by the specific circumstances. Considering the developmental perspective and previous studies on parent-adolescent dyads (Jensen & Dost-Gözkan, 2015), we assume that adolescents and younger children prefer to validate their thoughts and seek informational support from peers. Moreover, the majority of internally displaced people in Georgia have experienced prolonged unemployment, placing them in an economically disadvantageous position. Hence, there are many cases in which poverty also exacerbates health issues (Koch, 2012). These permanent adversities could limit the parental capacity to reflect on or react to children's self-disclosure in substantial ways or to provide necessary information when requested. Alternatively, parents may give only very brief guidance to their children, and this does not suffice to help them process their experiences. Peers, in contrast, may encourage the expression of concerns and provide the necessary information for discussion and resolution. Presumably, not only practical guidance but also interaction with peers may also facilitate the constructive, deliberate rumination process that is viewed as a cornerstone of PTG (Kilmer et al., 2014; Meyerson et al., 2011).

Finally, in contrast to some reports in the literature (e.g., Yu et al., 2010), this study showed that school and teachers do not contribute to the youngsters' achieving positive outcomes from adversity. Obviously, this finding is of direct practical relevance. Naturally, it may be specific to this particular internally displaced sample, demonstrating the problem of social integration with

local inhabitants (Koch, 2012). Further research needs to explore how school, teachers, and other community members influence young peoples' positive development in a different sociocultural framework.

Our hypothesis that levels would be similar across gender and age was partly confirmed. In addition, our results match those of a previous study on adolescents (Arpawong, Oland, Milam, Ruccione, & Meeske, 2013; Sleijpen et al., 2016) and on IDP samples in Georgia (Mosashvili, 2016; Panjikidze, 2015). However, our results contradict studies demonstrating more growth in either women (Laufer & Solomon, 2006) or men (Kimhi et al., 2009). Explanations for gender differences vary, although most consider that the underlying mechanisms are distinct cognitive and emotional processes (Kimhi et al., 2009; Laceulle et al., 2015; Vishnevsky et al., 2010). Nonetheless, our sample revealed no gender differences for the most important predictors of PTG, namely, extraversion, conscientiousness, and informational support from peers. The only difference was that classmates and close friends were important sources of support for males compared with classmates alone for girls. However, it is necessary to point out that our study did not differentiate clearly between classmates and close friends, and respondents may well have been referring to the same persons when answering items on the two groups in the social support inventory (CASSS; Malecki & Demaray, 2001).

As for age differences, we found that extraversion plays a significant role for PTG in adolescents, whereas conscientiousness is important in children. The most likely explanation of these results lies in the cognitive and behavioral enactment of these personality factors. Our findings suggest that 9- to 12-year-old children need to exhibit conscientious personality traits in order to build up the internal working model that has been weakened by adverse life events (Cann et al., 2010; Kilmer et al., 2014). In other words, conscientiousness may facilitate the growth process inasmuch as it may assist in the constructive processing of enduring adversity, and this helps to create a coherent picture of reality and to discover new perspectives (Taku, Calhoun, Cann, & Tedeschi, 2008). Moreover, the result suggests that younger children need to be conscientious in order to gain more informational support from peers, whereas adolescents require activity, assertiveness, and self-confidence. This ultimately facilitates a shared, enhanced understanding of what really matters and to a more positive view of the opportunities in life for both age groups.

To the best of our knowledge, virtually no other studies have disclosed the distinct personality factors affecting PTG in children and adolescents in the aftermath of war and displacement. Nonetheless, future studies will need to validate these results and extend our knowledge.

Conclusion

In summary, we can conclude that PTG can be observed in children and adolescents who have experienced war and displacement, and that it reveals

correlates to the PTG found in adults. Specifically, certain personality factors, in particular extraversion and conscientiousness, predict PTG in children and adolescents. Moreover, the link between personality factors and PTG is mediated by social support. Our comprehensive exploration of the nature of social support reveals that informational support from peers is of foremost importance for further PTG in youth. Finally, our results show no gender or age differences in the level of PTG, whereas age-related differences can be found in its personality predictors. In particular, conscientiousness is the relevant personality factor for facilitating PTG in 9- to 12-year-old children, whereas extraversion plays the leading role in older adolescents.

The study's main limitations are due to its cross-sectional design: We are unable to determine the causal direction of interactions between the correlates. Specifically, we have no information on pretrauma personality or on the nature of earlier social support. It is also possible that PTG affects social support and personality factors in different ways during different phases of development. In addition, information on other correlates such as cognitive processes or coping strategies would improve our understanding of the mechanisms underlying the links found in this study. Finally, using self-report questionnaires also limits the possibility of validating the key concepts, such as PTG and social support. Moreover, the results would be more valid if we had parental reports in addition to children and adolescent's self-reports.

Notwithstanding these restrictions, the study contributes to confirming existing theoretical standpoints and constructs on PTG by gathering and examining empirical data on the phenomena, predictors, specific features, and mechanisms of PTG in a young sample. Moreover, the study embeds PTG within the broader trauma literature and highlights the role of cultural factors. It also addresses important issues for practitioners working with war-affected and forcibly displaced populations.


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References

- Alisic, E., Boeije, H. R., Jongmans, M. J., & Kleber, R. J. (2011). Children's perspectives on dealing with traumatic events. *Journal of Loss and Trauma*, 16(6), 477–496. doi:10.1080/15325024.2011.576979
- Alisic, E., van der Schoot, T. A. W., van Ginkel, J. R., & Kleber, R. J. (2008). Looking beyond posttraumatic stress disorder in children: Posttraumatic stress reactions, post-traumatic growth, and quality of life in a general population sample. *The Journal of Clinical Psychiatry*, 69, 1455–1461. doi:10.4088/jcp.v69n0913
- Arpawong, T. E., Oland, A., Milam, J. E., Ruccione, K., & Meeske, K. A. (2013). Post-traumatic growth among an ethnically diverse sample of adolescent and young adult cancer survivors. *Psycho-oncology*, 22(10), 2235–2244. doi:10.1002/pon.3286
- Barbaranelli, C., Caprara, G. V., Rabasca, A., & Pastorelli, C. (2003). A questionnaire for measuring the Big Five in late childhood. *Personality and Individual Differences*, 34(4), 645–664. doi:10.1016/s0191-8869(02)00051-x
- Boals, A., Steward, J. M., & Schuettler, D. (2010). Advancing our understanding of posttraumatic growth by considering event centrality. *Journal of Loss and Trauma*, 15(6), 518–533. doi:10.1080/15325024.2010.519271
- Calhoun, L. G., & Tedeschi, R. G. (2004). The foundations of posttraumatic growth: New considerations. *Psychological Inquiry*, 15, 93–102. doi:10.1207/s15327965pli1501_03
- Cann, A., Calhoun, L. G., Tedeschi, R. G., Kilmer, R. P., Gil-Rivas, V., Vishnevsky, T., & Danhauer, S. C. (2010). The Core Beliefs Inventory: A brief measure of disruption in the assumptive world. *Anxiety, Stress, and Coping*, 23(1), 19–34. doi:10.1080/10615800802573013
- Cann, A., Calhoun, L. G., Tedeschi, R. G., Triplett, K. N., Vishnevsky, T., & Lindstrom, C. M. (2011). Assessing posttraumatic cognitive processes: The Event Related Rumination Inventory. *Anxiety, Stress, and Coping*, 24(2), 137–156. doi:10.1080/10615806.2010.529901
- Connor-Smith, J. K., & Flachsbart, C. (2007). Relations between personality and coping: A meta-analysis. *Journal of Personality and Social Psychology*, 93(6), 1080–1107. doi:10.1037/0022-3514.93.6.1080
- Cryder, C. H., Kilmer, R. P., Tedeschi, R. G., & Calhoun, L. G. (2006). An exploratory study of posttraumatic growth in children following a natural disaster. *American Journal of Orthopsychiatry*, 76(1), 65–69. doi:10.1037/0002-9432.76.1.65
- Currier, J. M., Hermes, S., & Phipps, S. (2009). Brief report: Children's response to serious illness: Perceptions of benefit and burden in a pediatric cancer population. *Journal of Pediatric Psychology*, 34(10), 1129–1134. doi:10.1093/jpepsy/jsp021
- Field, A. (2013). *Discovering statistics using IBM SPSS statistics: And sex and drugs and rock 'n' roll* (4th ed.). London, England: SAGE.
- Garnefski, N., Kraaij, V., Schroevers, M. J., & Somsen, G. A. (2008). Post-traumatic growth after a myocardial infarction: A matter of personality, psychological health, or cognitive coping? *Journal of Clinical Psychology in Medical Settings*, 15(4), 270–277. doi:10.1007/s10880-008-9136-5
- Hafstad, G. S., Gil-Rivas, V., Kilmer, R. P., & Raeder, S. (2010). Parental adjustment, family functioning, and posttraumatic growth among Norwegian children and adolescents following a natural disaster. *American Journal of Orthopsychiatry*, 80(2), 248–257. doi:10.1111/j.1939-0025.2010.01028.x

- Hafstad, G. S., Kilmer, R. P., & Gil-Rivas, V. (2011). Posttraumatic growth among Norwegian children and adolescents exposed to the 2004 tsunami. *Psychological Trauma: Theory, Research, Practice, and Policy*, 3(2), 130–138. doi:10.1037/a0023236
- Hayes, A. (2012). Master Methodologist: Integrating Mediation and Moderation Analysis: Part I. *PsycEXTRA Dataset*. doi:10.1037/e533652013-392
- Helgeson, V. S., Reynolds, K. A., & Tomich, P. L. (2006). A meta-analytic review of benefit finding and growth. *Journal of Consulting and Clinical Psychology*, 74(5), 797–816. doi:10.1037/0022-006X.74.5.797
- Ickovics, J. R., Meade, C. S., Kershaw, T. S., Milan, S., Lewis, J. B., & Ethier, K. A. (2006). Urban teens: Trauma, posttraumatic growth, and emotional distress among female adolescents. *Journal of Consulting and Clinical Psychology*, 74(5), 841–850. doi:10.1037/0022-006X.74.5.841
- Jaarsma, T. A., Pool, G., Sanderman, R., & Ranchor, A. V. (2006). Psychometric properties of the Dutch version of the posttraumatic growth inventory among cancer patients. *Psychooncology*, 15(10), 911–920. doi:10.1002/pon.1026
- Jensen, L. A., & Dost-Gözkın, A. (2015). Adolescent–parent relations in Asian Indian and Salvadoran immigrant families: A cultural-developmental analysis of autonomy, authority, conflict, and cohesion. *Journal of Research on Adolescence*, 25(2), 340–351. doi:10.1111/jora.12116
- Jia, X., Ying, L., Zhou, X., Wu, X., & Lin, C. (2015). The effects of extraversion, social support on the posttraumatic stress disorder and posttraumatic growth of adolescent survivors of the Wenchuan earthquake. *PLoS One*, 10(3), e0121480. doi:10.1371/journal.pone.0121480
- Khechuashvili, L. (2016). Investigation of psychometric properties of the Georgian version of Posttraumatic Growth Inventory. *Journal of Loss and Trauma*, 21(6), 522–532. doi:10.1080/15325024.2016.1157409
- Kilmer, R. P., & Gil-Rivas, V. (2010). Exploring posttraumatic growth in children impacted by Hurricane Katrina: Correlates of the phenomenon and developmental considerations. *Child Development*, 81(4), 1211–1227. doi:10.1111/j.1467-8624.2010.01463.x
- Kilmer, R. P., Gil-Rivas, V., Griesse, B., Hardy, S. J., Hafstad, G. S., & Alisic, E. (2014). Posttraumatic growth in children and youth: Clinical implications of an emerging research literature. *American Journal of Orthopsychiatry*, 84(5), 506–518. doi:10.1037/ort0000016
- Kilmer, R. P., Gil-Rivas, V., Tedeschi, R. G., Cann, A., Calhoun, L. G., Buchanan, T., & Taku, K. (2009). Use of the revised Posttraumatic Growth Inventory for Children. *Journal of Traumatic Stress*, 22(3), 248–253. doi:10.1002/jts.20410
- Kimhi, S., Eshel, Y., Zysberg, L., & Hantman, S. (2009). Getting a life: Gender differences in postwar recovery. *Sex Roles*, 61(7–8), 554–565. doi:10.1007/s11199-009-9660-2
- Kimhi, S., Eshel, Y., Zysberg, L., & Hantman, S. (2010). Postwar winners and losers in the long run: Determinants of war related stress symptoms and posttraumatic growth. *Community Mental Health Journal*, 46(1), 10–19. doi:10.1007/s10597-009-9183-x
- Koch, E. (2012). *Displacement, health, and humanitarianism in post-Soviet Georgia* (Working Paper No. 825-12). Retrieved from https://www.ucis.pitt.edu/nceer/2012_825-12_Koch.pdf

- Laceulle, O. M., Kleber, R. J., & Alisic, E. (2015). Children's experience of posttraumatic growth: Distinguishing general from domain-specific correlates. *PLoS One*, 10(12), e0145736. doi:10.1371/journal.pone.0145736
- Laufer, A., & Solomon, Z. (2006). Posttraumatic symptoms and posttraumatic growth among Israeli youth exposed to terror incidents. *Journal of Social and Clinical Psychology*, 25(4), 429–447. doi:10.1521/jscp.2006.25.4.429
- Levine, S. Z., Laufer, A., Hamama-Raz, Y., Stein, E., & Solomon, Z. (2008). Posttraumatic growth in adolescence: Examining its components and relationship with PTSD. *Journal of Traumatic Stress*, 21(5), 492–496. doi:10.1002/jts.20361
- Linley, P. A., & Joseph, S. (2004). Positive change following trauma and adversity: A review. *Journal of Traumatic Stress*, 17(1), 11–21. doi:10.1023/b:jots.0000014671.27856.7e
- Mairean, C. (2016). The relationship between secondary traumatic stress and personal posttraumatic growth: Personality factors as moderators. *Journal of Adult Development*, 23(2), 120–128. doi:10.1007/s10804-016-9228-7
- Malecki, C. K., & Demaray, M. K. (2001). Measuring perceived social support: Development of the Child and Adolescent Social Support Scale (CASSS). *Psychology in the Schools*, 39(1), 1–18. doi:10.1002/pits.10004
- Matsui, T., & Taku, K. (2016). A review of posttraumatic growth and help-seeking behavior in cancer survivors: Effects of distal and proximate culture. *Japanese Psychological Research*, 58(1), 142–162. doi:10.1111/jpr.12105
- Meyerson, D. A., Grant, K. E., Carter, J. S., & Kilmer, R. P. (2011). Posttraumatic growth among children and adolescents: A systematic review. *Clinical Psychology Review*, 31(6), 949–964. doi:10.1016/j.cpr.2011.06.003
- Michel, G., Taylor, N., Absolom, K., & Eiser, C. (2010). Benefit finding in survivors of childhood cancer and their parents: Further empirical support for the Benefit Finding Scale for Children. *Child: Care, Health and Development*, 36(1), 123–129. doi:10.1111/j.1365-2214.2009.01034.x
- Milam, J., Ritt-Olson, A., Tan, S., Unger, J., & Nezami, E. (2005). The September 11th 2001 terrorist attacks and reports of posttraumatic growth among a multi-ethnic sample of adolescents. *Traumatology*, 11(4), 233–246. doi:10.1177/153476560501100404
- Milam, J. E., Ritt-Olson, A., & Unger, J. B. (2004). Posttraumatic growth among adolescents. *Journal of Adolescent Research*, 19(2), 192–204. doi:10.1177/0743558403258273
- Mosashvili, K. (2016). *Meaning making: The relationship between religiousness, world assumptions and posttraumatic growth* (Unpublished doctoral dissertation). Ivane Javakhishvili Tbilisi State University, Georgia.
- Panjikidze, M. (2015). Posttraumatic growth, family functioning and emotional intelligence among post 2008 war internally displaced families in Georgia (Unpublished doctoral dissertation). Ivane Javakhishvili Tbilisi State University, Georgia.
- Paris, J. (2000). Predispositions, personality traits, and posttraumatic stress disorder. *Harvard Review of Psychiatry*, 8(4), 175–183. doi:10.1093/hrp/8.4.175
- Park, C. L. (2010). Making sense of the meaning literature: An integrative review of meaning making and its effects on adjustment to stressful life events. *Psychological Bulletin*, 136(2), 257–301. doi:10.1037/a0018301
- Park, C. L., Cohen, L. H., & Murch, R. L. (1996). Assessment and prediction of stress-related growth. *Journal of Personality*, 64(1), 71–105. doi:10.1111/j.1467-6494.1996.tb00815.x
- Pelkmans, M. E. (2013). *Ethnographies of doubt: Faith and uncertainty in contemporary societies*. London, England: I.B.Tauris & Co.

- Petrides, K. V. (2010). An application of belief-importance theory with reference to the Big Five and trait emotional intelligence. *Social Behavior and Personality*, 38(5), 697–709. doi:10.2224/sbp.2010.38.5.697
- Phipps, S., Long, A. M., & Ogden, J. (2007). Benefit Finding Scale for Children: Preliminary findings from a childhood cancer population. *Journal of Pediatric Psychology*, 32(10), 1264–1271. doi:10.1093/jpepsy/jsl052
- Powell, S., Rosner, R., Butollo, W., Tedeschi, R. G., & Calhoun, L. G. (2003). Posttraumatic growth after war: A study with former refugees and displaced people in Sarajevo. *Journal of Clinical Psychology*, 59, 71–83. doi.org/10.1002/jclp.10117
- Prati, G., & Pietrantonio, L. (2009). Optimism, social support, and coping strategies as factors contributing to posttraumatic growth: A meta-analysis. *Journal of Loss and Trauma*, 14(5), 364–388. doi:10.1080/15325020902724271
- Sawyer, A., Ayers, S., & Field, A. P. (2010). Posttraumatic growth and adjustment among individuals with cancer or HIV/AIDS: A meta-analysis. *Clinical Psychology Review*, 30(4), 436–447. doi:10.1016/j.cpr.2010.02.004
- Schroevers, M. J., Helgeson, V. S., Sanderman, R., & Ranchor, A. V. (2010). Type of social support matters for prediction of posttraumatic growth among cancer survivors. *Psychooncology*, 19(1), 46–53. doi:10.1002/pon.1501
- Shand, L. K., Cowlishaw, S., Brooker, J. E., Burney, S., & Ricciardelli, L. A. (2015). Correlates of post-traumatic stress symptoms and growth in cancer patients: A systematic review and meta-analysis. *Psychooncology*, 24(6), 624–634. doi:10.1002/pon.3719
- Shiner, R. L. (1998). How shall we speak of children's personalities in middle childhood? A preliminary taxonomy. *Psychological Bulletin*, 124(3), 308–332. doi:10.1037//0033-2909.124.3.308
- Sleijpen, M., Haagen, J., Mooren, T., & Kleber, R. J. (2016). Growing from experience: An exploratory study of posttraumatic growth in adolescent refugees. *European Journal of Psychotraumatology*, 7, 28698. doi:10.3402/ejpt.v7.28698
- Taku, K., Calhoun, L. G., Cann, A., & Tedeschi, R. G. (2008). The role of rumination in the coexistence of distress and posttraumatic growth among bereaved Japanese university students. *Death Studies*, 32(5), 428–444. doi:10.1080/07481180801974745
- Taku, K., Cann, A., Tedeschi, R. G., & Calhoun, L. G. (2009). Intrusive versus deliberate rumination in posttraumatic growth across US and Japanese samples. *Anxiety, Stress, and Coping*, 22(2), 129–136. doi:10.1080/10615800802317841
- Taku, K., Kilmer, R. P., Cann, A., Tedeschi, R. G., & Calhoun, L. G. (2012). Exploring posttraumatic growth in Japanese youth. *Psychological Trauma: Theory, Research, Practice, and Policy*, 4(4), 411–419. doi:10.1037/a0024363
- Tedeschi, R. G., & Calhoun, L. G. (1996). The Posttraumatic Growth Inventory: Measuring the positive legacy of trauma. *Journal of Traumatic Stress*, 9, 455–471. doi:10.1002/jts.2490090305
- Tedeschi, R. G., & Calhoun, L. G. (2004). Posttraumatic growth: Conceptual foundations and empirical evidence. *Psychological Inquiry*, 15, 1–18. doi:10.1207/s15327965pli1501_01
- Tennant, J. E., Demaray, M. K., Malecki, C. K., Terry, M. N., Clary, M., & Elzinga, N. (2015). Students' ratings of teacher support and academic and social-emotional well-being. *School Psychology Quarterly*, 30(4), 494–512. doi:10.1037/spq0000106

- The UN Refugee Agency (UNHCR). (2009). *Protection of internally displaced persons in Georgia: A gap analysis [PDF]*. Retrieved from <http://www.unhcr.org/4ad827f59.pdf>
- Tardy, C. (1985). Social support measurement. *American Journal of Community Psychology*, 13, 187–202. doi: 10.1007/bf00905728
- Vaughn, A. A., Roesch, S. C., & Aldridge, A. A. (2008). Stress-related growth in racial/ethnic minority adolescents: Measurement structure and validity. *Educational and Psychological Measurement*, 69(1), 131–145. doi:10.1177/0013164408318775
- Vishnevsky, T., Cann, A., Calhoun, L. G., Tedeschi, R. G., & Demakis, G. J. (2010). Gender differences in self-reported posttraumatic growth: A meta-analysis. *Psychology of Women Quarterly*, 34, 110–120. doi:10.1111/j.1471-6402.2009.01546.x
- Weine, S. M., Ware, N., Tugenberg, T., Hakizimana, L., Dahnweih, G., Currie, M., Levin, E. (2013). Thriving, managing, and struggling: A mixed methods study of adolescent African refugees' psychosocial adjustment. *Adolescent Psychiatry (Hilversum)*, 3(1), 72–81. doi:10.2174/2210676611303010013
- Wolchik, S. A., Cox, S., Tein, J. Y., Sandler, I. N., & Ayers, T. S. (2009). Six-year longitudinal predictors of posttraumatic growth in parentally bereaved adolescents and young adults. *OMEGA - Journal of Death and Dying*, 58(2), 107–128. doi:10.2190/OM.58.2.b
- Yoshida, H., Kobayashi, N., Honda, N., Matsuoka, H., Yamaguchi, T., Homma, H., & Tomita, H. (2016). Post-traumatic growth of children affected by the Great East Japan Earthquake and their attitudes to memorial services and media coverage. *Psychiatry and Clinical Neurosciences*, 70(5), 193–201. doi:10.1111/pcn.12379
- Yu, X.-N., Lau, J. T. F., Zhang, J., Mak, W. W. S., Choi, K. C., Lui, W. W. S., & Chan, E. Y. Y. (2010). Posttraumatic growth and reduced suicidal ideation among adolescents at month 1 after the Sichuan Earthquake. *Journal of Affective Disorders*, 123(1–3), 327–331. doi:10.1016/j.jad.2009.09.019
- Zhou, X., Wu, X., & Chen, J. (2015). Longitudinal linkages between posttraumatic stress disorder and posttraumatic growth in adolescent survivors following the Wenchuan earthquake in China: A three-wave, cross-lagged study. *Psychiatry Research*, 228(1), 107–111. doi:10.1016/j.psychres.2015.04.024

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