

CROSS CULTURAL ADAPTATION OF POSTTRAUMATIC GROWTH INVENTORY AND PSYCHOLOGICAL WELL-BEING SCALES FOR GEORGIAN POPULATION¹

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Abstract. Presented paper deals with initial stages of cross-cultural adaptation process of two questionnaires: posttraumatic growth inventory and scale of psychological well-being. Forward and backward translations, expert evaluation, piloting the first drafts of Georgian versions of questionnaires and internal consistency analysis were accomplished. Both inventories are ready for further refining and checking for factor structure as well as other psychometric properties.

Key words: posttraumatic growth, psychological well-being, inventory, translation, adaptation, internal consistency.

Presented paper deals with initial steps of cross-cultural adaptation process of two questionnaires: posttraumatic growth inventory (Tedeschi, R. G. and Calhoun L. G. , 1996) and scales of psychological well-being (Ryff, C.D, 1995). Before describing the work actually has been done for the moment, concept definitions and theoretical frameworks are briefly examined.

There in a long record and pretty big volume of literature dealing with trauma and posttraumatic experiences in various groups of people and after different kinds of traumatic events, ranging from natural disasters, wars and combat actions, through chronic illness and to dramatic changes in life course such as property loss, firing from one's job, marriage, child birth or death of loved one(s). All these (and huge amount of other) events may be perceived as stressful and traumatic, and cause long list of changes in one's physiological, psychological and/or social functioning, and as usual, these are meant to be negative changes. However, the growing body of research shows (e.g. Tedeschi, R. G. and Calhoun L. G. , 1996; Tedeschi R. G., and Calhoun, L. G., 2004; Taku, K., Calhoun, L. G., Tedeschi, R. G., Gil-Rivas, V., Kilmenr, R., P., & Cann, A. , 2007) that there is a possibility of positive impact of negative events. In particular, there are at least some positive changes people report aftermath trauma when straggling with such tragedies as rape, incest, cancer, heart attacks, disasters, combats and being refugee/displaced (Tedeschi, R. G. and Calhoun L. G. , 1996; Powell, S., Rosner, R., Butollo, W., Tedeschi, R. G., Calhoun, L. G., 2003). Given that elaboration of traumatic experience affects all domains of one's existence and functioning, and particularly on psychological health condition (Tedeschi R. G., and Calhoun, L. G., 2004c) it is reasonable to speak of influences and changes in perceptions of one's psychological well being, which is extensively studied during last 20 years by social scientists.

1. Posttraumatic Growth

1.1. Definition of the Concept

There are several terms that are interchangeably used in literature to denote positive changes that trauma survivors experience. Among them are concepts such as positive changes in outlook, thriving, stress-related growth, benefit-finding, flourishing, perceived or construing benefits, positive change, discovery of meaning, and positive by-products (Tedeschi R. G., and Calhoun, L. G., 2004; Joseph, S., & Bulter, L. D., 2010).

However, posttraumatic growth (PTG) (Tedeschi, R. G. and Calhoun L. G. , 1996) has been established as the most used term which describes the field of study and clinical practice. But first

¹ Study was accomplished in frame of Senior Fellowship under the Central Asia and Caucasus Research and Training Initiative of the International Higher Education Support Program of the Open Society Foundations (grant issues by the Foundation Open Society Institute, grant number: IN2013-11481).

of all, it represents positive changes experienced as a result of the psychological and cognitive efforts made in order to deal with challenging circumstances. It is a process when individual struggles with the new reality aftermath of trauma. Posttraumatic growth describes the experience of individuals, whose development, at least in some areas, has surpassed what was present before the struggle with crises occurred. The individual has not only survived, but has experienced changes that are viewed as important, and that go beyond what was the previous status quo. This is not simply a return to baseline but an experience of improvement that for some persons in deeply profound (Tedeschi R. G., and Calhoun, L. G., 2004).

1.2. Theoretical Developments: Transformational Model

There are two leading theories of posttraumatic positive change, namely organismic valuing theory (Joseph, S., & Linley, P. A., 2005) and transformational model (Tedeschi R. G., and Calhoun, L. G., 2004). The former approach attempts to provide an account of positive changes rooted in humanistic psychology wherein posttraumatic stress is viewed as indicative of normal, natural cognitive processes that have the potential to generate positive change. Since presented research uses the transformational model as the theoretical framework, only this model will be overviewed below.

Tedeschi and Calhoun (2004) state that posttraumatic growth refers to a change in people that goes beyond their ability to resist and not be damaged by highly stressful event. It involves a movement beyond pretrauma levels of adaptation. Hence, it has a quality of transformation or, in other words, a qualitative change in functioning. Growth, however, doesn't occur as direct outcome of trauma and the fact that growth occurred in some extent does not prevent individual from negative experiences. Moreover, this does not signal that the trauma itself stops to be a distressing event. Posttraumatic growth is most likely a consequence of attempts of psychological survival, and it can easily coexist with the residual distress of the trauma.

Due to space constrains and presented research question, the issues of related concepts (such as, for instance, resilience), varieties of trauma and levels of posttraumatic growth, and personal experience will not be discussed. Only briefly should be mentioned that psychological processing of the stressful events has a highly emotional element connected to it. Hence, what makes these events transformative seems to be that they involve affective components, so outcomes from growth are not merely cognitive reflections (Tedeschi R. G., and Calhoun, L. G., 2004), that distinguishes it from normal developmental path.

1.2.1. Domains of Experience of Growth

There are three broad categories of perceived benefits have been identified from qualitative and quantitative data by the authors: changes in the perception of self, changes in the experience of relationships with others, and changes in one's general philosophy of life. Subsequently (Tedeschi, R. G. and Calhoun L. G. , 1996) factor analysis yielded five-factor approach to posttraumatic growth. However, as authors state (Calhoun, L. G. & Tedeschi, R. G., 2006) there can be some alterations beyond this common core that are quite specific to the struggle with particular stressors and in particular culture. These five domains² are personal strength, new possibilities, relating to others, appreciation of life, and spiritual change.

1.2.2. The Process of Posttraumatic Growth

As noted, Calhoun and Tedeschi (2004) proposed transformational model of posttraumatic growth which conceptualizes that the process of posttraumatic growth is triggered by the occurrence of a major life crisis that severely challenges and perhaps shatters one's understanding of the world and his/her place in it. Particular personality traits, such as extraversion, openness to experience and may be optimism may make growth a bit more likely. From the beginning, individual typically must

² Described in *Method* section.

engage in coping responses needed to manage overwhelming emotions, but intense cognitive processing of the difficult circumstances occurs as well. The degree to which the person is enrolled cognitively by the crisis appears to be a central element in the process of posttraumatic growth. His/her social system may also play an important role in the general process of growth, in particular, through the provision of new schemas related to growth, and the empathetic acceptance of disclosures about the traumatic event and about growth-related themes. Besides, Posttraumatic growth seems closely related to the development of general wisdom about life, and the development and modification of the individual's life narrative.³ Although there are findings indicating that posttraumatic growth correlates with a reduction of distress, some degree of psychological distress is necessary not only to push the process of growth towards motion, but also some enduring upset may accompany the enhancement and maintenance of posttraumatic growth (Tedeschi R. G., and Calhoun, L. G., 2004).

2. Psychological well being

2.1. Definition of the Concept

The concept of psychological well-being entails those aspects of positive psychology that were omitted in formulations of positive human functioning (Ryff, C. D., 2014) and answers the question: what does it mean to be well psychologically. Here are different answers according the view taken toward the construct, whether one sees it as having one or multidimensional structure.

Turning to classics of psychology of 20th century, Erikson's (1963) psychosocial stages, Buhler's basic life tendencies, and Neugarten's personality changes (Ryff, C.D, 1995) describe wellness as trajectories of continued growth across the life cycle. Clinical psychologists offer further descriptions of well-being, for instance Maslow's conception of self-actualization, Allport's (1961) formulation of maturity, Roger's (1951) fully functioning person, and Jung's account of individuation.

Theoretical Developments: Multidimensional Model

Beginning from the 1970s the study of psychological well-being has been guided by two major conceptions of positive functioning: One of them, traceable to Bradburn's (1969, cited in Ryff, 1995) seminal work, distinguished between positive and negative affect and defined happiness as the balance between the two. The second conception, which has been popular among sociologists, emphasizes life satisfaction as the key indicator of well-being. Viewed as a cognitive component, life satisfaction was seen to complement happiness, the more affective dimension of positive functioning (e.g., Andrews & McKennell, 1980; Andrews & Withey, 1976; Bryant & Veroff, 1982; Campbell, Converse, & Rodgers, 1976).

As Ryff (1989) states all above mentioned authors in their proposed concepts describe quite similar phenomena, just in different terms and via using different wordings. This, in turn, clearly indicate the lack and the need of multidimensional construct and theory behind it. Hence, the convergence of these multiple frameworks of positive functioning served as the theoretical foundation to generate a multidimensional model of psychological well-being (Ryff, 1995).

2.2. Dimensions of Psychological Well-being

Ryff's (1989, 1995, 2014) multidimensional construct of psychological well-being is composed by six distinct components⁴ of positive psychological functioning. In combination, these dimensions encompass a breadth of wellness that includes positive evaluations of oneself and one's past life (self-acceptance), a sense of continued growth and development as a person (personal growth), the belief that one's life is purposeful and meaningful (purpose in life), the possession of

³ That's why the transformational model was selected as theoretical framework for entire project searching for posttraumatic growth and psychological well-being indicators and signs in life story narratives.

⁴ Described in *Method* section.

quality relations with others (positive relations with others), the capacity to manage effectively one's life and surrounding world (environmental mastery), and a sense of self-determination (autonomy).

3. Cross-Cultural Adaptation of Self-Report Measures

In this section cross-cultural adaptation process of self-reported measures are briefly overviewed. According Guidelines for the Process of Cross-Cultural Adaptation of Self-Report Measures (Beaton, D. E., Bombardier, C., Guillemin, & Ferraz, M. B., 2000) and International Test Commission Guidelines for Translating and Adapting Tests (2000, 2010) there are several necessary steps to be taken when cross-cultural adaptation of instruments is needed. The term "cross-cultural adaptation" itself refers to a process that looks at both language and cultural adaptation issues in the process of preparing an instrument for use in another setting. As for the process, it tries to produce equivalency between source and target based on content. (Bartrum, D., 2000).

Briefly speaking, cross-cultural adaptation of self-report measures is three-step process: (1) translation, (2) verification of the scaling requirements (item performance, item weights), and (3) validation of and establishing normative values for the new version. Regardless how precise the researcher is when going through the process, it can't be said that translated instrument is equivalent to its original *per se*. Though, one should demonstrate equivalency. As Butcher (1996) states, there are three levels of equivalence between the original and the translated instruments or scales: (1) functional (or structural) equivalence, when original and translation versions measure same construct even though the item contents of the two scales may be different; (2) metric equivalence refers to the similarities between the original and the translated instruments in psychometric properties, such as item-scale correlations and the pattern of loadings in factor analyses, and (3) scalar (or full score) equivalence denotes the extent to which the scale scores indicate the same degree, intensity or magnitude of the characteristic being measured in both cultures⁵ (Cheung, F. M., & Cheung, S. F., 2003).

This paper covers first and partly second steps of the process,⁶ and data will be described and analyzed according to the above mentioned guideline.

4. The aim of the research

The overall aim of the research is to prepare working Georgian versions of posttraumatic growth inventory and psychological well-being scales for construct validity checking and standardization procedures, and explore how these two constructs are presented in Georgians. Research tasks covered in this piece of research are as follows:

1. Preparing final Georgian working version of posttraumatic growth inventory (Tedeschi, R. G. and Calhoun L. G. , 1996) for further work for establishing its psychometric properties.
 - 1.1. Translation of English original instrument
 - 1.2. Backward translation
 - 1.3. Comparison of backward translation with the original by native speaker expert
 - 1.4. Expertise for content validity checking
 - 1.5. Piloting and internal consistency checking
 - 1.6. Editing
2. Preparing final Georgian working version of Psychological well-being scales (Ryff, C. D., & Keyes, C.L. M. , 1995) for further work for establishing its psychometric properties.
 - 2.1. Translation of English original instrument
 - 2.2. Backward translation

⁵ This is the most difficult to obtain.

- 2.3. Comparison of backward translation with the original by native speaker expert
- 2.4. Expertise for content validity checking
- 2.5. Piloting and internal consistency checking
- 2.6. Editing
3. Creating short version of life stress scale
 - 3.1. Piloting initial list and data analysis
 - 3.2. Creating final version

5. Method

5.1. Participants

Altogether, 215 persons volunteered to participate (average age=32, SD=15):⁷ 77 women and 54 men.

Marital status of the participants: 71.6% were single, 24.7% were married and 3.7% widowed;

Education of the participants: 50.6% had higher education (BA and above), 45.7% were with uncompleted higher education and 3.7% had technical/special secondary education.

Employment status: 27.2% were students, 16% were employed in private and 24.7% in state sector, 4.9% were self-employed, 1.2% were housewives and 22.2% were unemployed. Besides, 1.2% were retired, 1.2% had seasonal jobs and 1.4 % recorded as “other”.

Place of residence of the participants: the majority of participants (77%) were urban residents and 23% were rural inhabitants (buffer zones and IDPs’ settlements).

5.2. Measures

5.2.1. Posttraumatic Growth Inventory

Theoretical foundation. Posttraumatic growth inventory (Tedeschi, R. G. and Calhoun L. G. , 1996) is based on transformational model of posttraumatic growth proposed by Tedeschi and Calhoun (1995) and consists of three major domains such as changes in self-perception, changes in relation to others and changes in overall philosophy of life. These three domains are represented by five factor structure (see below) in posttraumatic growth inventory.

Instrument. Original version of posttraumatic growth inventory is 21-item measure (internal consistency $\alpha = .90$). Respondents are asked to indicate for each of the statements the degree to which this change occurred in their life as the result of the crisis (mentioned as the most influential in trauma checklist) using the six point Likert format scale, whereas 0 corresponds to “I did not experience this change as a result of my crisis” and 5 means “I experienced this change to a very great degree as a result of my crisis”.

Items are grouped in five factors (with eigenvalues greater than 1). Factors are scored by adding up the responses to items on each factor.

These factors are: Relating to others ($\alpha = .85$, explains 17% of variance), New possibilities ($\alpha = .84$, explains 16% of variance), Personal strength ($\alpha = .72$, explains 11% of variance), Spiritual change ($\alpha = .85$, explains 9% of variance), and Appreciation of life ($\alpha = .67$, explains 9% of variance). Besides, corrected item-total PTGI correlations (the correlation of each item with the total score across all remaining 20 items) are all in the moderate range ($r = .35$ to $r = .63$). The Pearson product-moment correlations among the factors ranges from $r = .27$ to $r = .52$, and the correlations of the factors with the PTGI ranged from $r = .62$ to $r = .83$, indicating overlap but some separate contributions by these factors (Tedeschi, R. G. and Calhoun L. G. , 1996).

Factor I: Relating to Others. People with higher scored report a feeling of greater connection to other people in general, particularly an increased sense of compassion for other persons who suffer.

⁷ Age variable does not met criteria of normal distribution model, because when distribution is not normal, standard deviation may be more than mean, as in this case. In this sample age min = 19 and max = 76 years.

A greater sense of intimacy, closeness, and freedom to be oneself, disclosing even socially undesirable elements of oneself or one's experience are also reported by persons who have struggled with traumatic events (e.g. "I have a greater sense of closeness with others", "I better accept needing others").

Factor II: New Possibilities. Some people report the emergence of new possibilities in life, developing new interests, new activities, and perhaps embarking on significant new paths in life (e.g. "I established a new path for my life", "New opportunities are available which wouldn't have been otherwise").

Factor III: Personal Strength. The phrase "I am more vulnerable than I thought, but much stronger than I ever imagined" describes the meaning of this factor. The major life crisis bring the threat to the assumptive world of people, and changes in self-perception reflecting a significant disruption of the assumptive world are presented. The encounter with such life challenge includes an increased sense that one has been tested, and found to be a person who has survived the worst, suggesting that one is indeed quite strong (e.g. "I discovered that I'm stronger than I thought I was", "I know better that I can handle difficulties").

Factor IV: Spiritual Change. It is in the realm of existential and, for some persons, of spiritual or religious matters that the most significant posttraumatic growth may be experienced. The experiences that comprise this domain tend to reflect a greater sense of purpose and meaning in life, greater satisfaction, and perhaps clarity with the answers given to the fundamental existential questions (e.g. "I have a stronger religious faith", "I have a better understanding of spiritual matters").

Factor V: Appreciation of Life. A changes sense of what is the most important in life is one of the elements of changed philosophy of life that individuals can experience as posttraumatic growth. Common way in which the change of priorities is experienced is that what previously was viewed as a small thing may now become much more important than ever before. A greater appreciation for life and for what one actually has and a changed sense of the priorities of the central elements of life are common experiences of persons dealing with crisis (e.g. "I can better appreciate each day", "I changed my priorities about what is important in life"). (Calhoun, L. G. & Tedeschi, R. G., 2006).

5.2.2. Scales of Psychological Well-Being

Theoretical foundation. Scales of Psychological Well-Being is theory-guided instrument (Ryff, C. D., 1989), based on multidimensional model of psychological well-being proposed by Carol D. Ryff (1989, 1995, 1996, 2014) which is composed of six dimensions, such as the extent to which respondents felt their lives had meaning, purpose and direction; whether they viewed themselves to be living in accord with their own personal convictions; the extent to which they were making use of their personal talents and potential; how well they were managing their life situations; the depth of connection they had in ties with significant others, and the knowledge and acceptance they had of themselves, including awareness of personal limitations. These dimensions, accordingly, are represented by six scales briefly described below.

Instrument. The full version⁸ of Scales of Psychological Well-Being is 84 item self-report measure consisting of six separate scales of Autonomy ($\alpha = .83$), Environmental Mastery ($\alpha = .86$), Personal Growth ($\alpha = .85$), Positive Relations with Others ($\alpha = .88$), Purpose in Life ($\alpha = .88$) and Self-Acceptance ($\alpha = .91$). Each scale is composed by 14 items. Items for separate scales are mixed (by taking one item from each scale successively into one continuous self-report instrument), and there are positively and negatively formed items. Participants respond using a six-point format: strongly disagree (1), moderately disagree (2), slightly disagree (3), slightly agree (4), moderately agree (5), strongly agree (6). It should be mentioned that there are no specific scored or cut-points for defining high or low well-being. These distinctions are best derived from distributional

⁸ There are three different versions of the instruments: full (14-item scales), moderate (9-item scales), and short (3-item scales). The 14-item scales are employed here.

information from the data collected. As author states, For example, high well-being (for short or long versions of the scales) could be defined as scores that are in the top 25% (quartile) of the distribution, whereas low well-being could be defined as scores that are in the bottom 25% (quartile) of the distribution. Another alternative would be to define high well-being as scores that are 1.5 standard deviations above the mean, whereas low well-being is scores that are 1.5 standard deviations below the mean.

Autonomy. High scorer is self-determining and independent; able to resist social pressures to think and act in certain ways; regulates behavior from within; evaluates self by personal standards. Low Scorer is concerned about the expectations and evaluations of others; relies on judgments of others to make important decisions; conforms to social pressures to think and act in certain ways (e.g. “My decisions are not usually influenced by what everyone else is doing”, “I tend to worry about what other people think of me”).

Environmental Mastery. High Scorer has a sense of mastery and competence in managing the environment; controls complex array of external activities; makes effective use of surrounding opportunities; able to choose or create contexts suitable to personal needs and values. Low Scorer has difficulty managing everyday affairs; feels unable to change or improve surrounding context; is unaware of surrounding opportunities; lacks sense of control over external world (e.g. “In general, I feel I am in charge of the situation in which I live”, “I often feel overwhelmed by my responsibilities”).

Personal Growth. High Scorer has a feeling of continued development; sees self as growing and expanding; is open to new experiences; has sense of realizing his or her potential; sees improvement in self and behavior over time; is changing in ways that reflect more self-knowledge and effectiveness. Low Scorer has a sense of personal stagnation; lacks sense of improvement or expansion over time; feels bored and uninterested with life; feels unable to develop new attitudes or behaviors, for instance, “I am the kind of person who likes to give new things a try”, “I do not enjoy being in new situations that require me to change my old familiar ways of doing things”).

Positive Relations with Others. High Scorer has warm satisfying, trusting relationships with others; is concerned about the welfare of others; capable of strong empathy, affection, and intimacy; understands give and take of human relationships. Low Scorer has few close, trusting relationships with others; finds it difficult to be warm, open, and concerned about others; is isolated and frustrated in interpersonal relationships; not willing to make compromises to sustain important ties with others (e.g. “Most people see me as loving and affectionate”, “I find it difficult to really open up when I talk with others”).

Purpose in Life. High Scorer has goals in life and a sense of directedness; feels there is meaning to present and past life; holds beliefs that give life purpose; has aims and objectives for living. Low Scorer lacks a sense of meaning in life; has few goals or aims, lacks sense of direction; does not see purpose of past life; has no outlook or beliefs that give life meaning (“I have a sense of direction and purpose in life”, “In the final analysis, I'm not so sure that my life adds up to much”) (Ryff, C. D., 2014).

Self-Acceptance. High Scorer possesses a positive attitude toward the self; acknowledges and accepts multiple aspects of self-including good and bad qualities; feels positive about past life. Low Scorer feels dissatisfied with self; is disappointed with what has occurred in past life; is troubled about certain personal qualities; wishes to be different than what he/she is (e.g. “In general, I feel confident and positive about myself”, “I envy many people for the lives they lead”).

5.2.3. Life Stress Scale

In order to determine the presence and the type of stressful/traumatic event that happened to be the trigger from posttraumatic growth, the modification⁹ of The Social Readjustment Rating Scale (Holmes, T. H. & Rahe, R. H., 1967) was used. This is the list of 43 life events as being the most

⁹ Details see in *Results* section.

common and stressful. Some of the events are traumatic whereas others would be pleasant and enjoyable. Anyway, they all require some effort to change in one's life to readjust to the situation. There are such events in the list, such as death of a spouse (maximum value 100), change in responsibilities at work (29), begin or end school (26), vacation (12). Participants have to mark those events that are relevant to her/him and rate listed potential stressors in accord of their life situations and past experience.

5.2.4. Demographics

Participants filled some demographic information, such as their gender, age, marital status, education, type of education, average monthly income, faith and habits associated with it, general health condition, and place of residence and living conditions.

5.3. Procedure

5.3.1. Translation and preparing the Final Georgian Drafts of Questionnaires for Checking Psychometric Qualities

First of all, should be said that both instruments were taken for translation and adaptation with informed consent and permission of the authors, Dr. Tedeschi and Dr. Ryff. They kindly provided the latest versions of the instruments and all needed background information.

The work on text of the instruments conducted according the above mentioned guideline. They were translated from English to Georgian, back translated, compared and modified, went through expertise and modified again, piloted and analyzed and modified again.

5.3.2. Piloting and Administration of the Instruments

Research assistants obtained informed consent from each individual participants of pilot research and only after that the block of instruments were administered to the participants in groups in urban areas and were handed out to every person at their place of residence in rural settlements, alongside with standard instructions on how to fill them out.

Participants filled demographic part of questionnaire, list stressful events (checking "yes" or "no"), and concentrating on the most severe/emotionally loaded (from their subjective point of view) event, and answered either the items from posttraumatic growth inventory or the items from psychological well-being scales (or both).

6. Results

All procedures for adaptation of the instruments were employed are same for both instruments, hence, the process and results of adaptation of two instruments are presented under one heading.

Data were processed via IBM SPSS.22. All references were made using confident interval 95%, $p < .05$

6.1. Posttraumatic Growth Inventory (PTGI) and Scales of Psychological Well-Being (SPW)

6.1.1. Translation and synthesis

According to guidelines for test adaptation (Beaton, D. E., Bombardier, C., Guillemin, & Ferraz, M. B., 2000; International Test Commission, 2010), three independent (T1, T2 and T3) Georgian translations were made. Translation was accomplished by informed and uninformed translators fluent in both languages. Afterwards T1, T2 and T3 were synthesized into T-123, and all discrepancies with translators' reposts were resolved. This, first Georgian draft was created.

6.1.2. Backward translation

This is a process of content validity checking to make sure that the translated version is reflecting the same item content as the original versions, and highlights gross inconsistencies or conceptual errors in the translation.

Two independent backward translations (T-123 was back translated into English and resulted in BT1 and BT2) were made by skilled translators, who were neither aware nor informed of the concepts explored. Besides, they were without any background in psychology. Afterwards BT1 and BT2 were combined and resulted in BT-12.

6.1.3. Matching original and translated versions

Both (PTGI and SPW) Original and BT-12 were compared by Dr. McLean¹⁰. Besides, Dr. Tedeschi checked BT-12 of posttraumatic growth inventory and Dr. Ryff looked through BT-12 of Scales of Psychological Well-Being. All feedbacks were analyzed and changes in item wordings were made. In particular, 2 items¹¹ and 7 items¹² were modified in PTGI and SPW, respectively.

6.1.4. Expertise of first draft of Georgian version

Instruments with modified items were sent for expertise and content validity checking to seven experts. They were psychology professors (5) and doctoral students (2). Items were assessed on three-point Likert format scale how each of them matches the corresponding scale. All items with high rate of discrepancy were modified and/or rewrite, namely, 6 items¹³ in PTGI and 30 items¹⁴ in SPW.

6.1.5. First pilot

Both instruments were administered to 30 people to probe how they get at understanding of items. Afterwards some minor changes were made in wording and sentence construction.

6.1.6. Second pilot of the second draft of Georgian version

For internal consistency checking the second drafts with life stress scale and demographics were administered altogether to 155 persons (50 for PTGI and 105 for SPW). Data are presented in Table 1.

Table 1. Cronbach's alphas for PTGI Factors and SPW Scales. Numbers from original version are given in brackets.

N	factors	Number of items	Internal consistency, Cronbach's alpha (α)
Posttraumatic Growth Inventory			
1	Relating to others	7	.78 (.85)
2	New possibilities	5	.73 (.84)
3	Personal strength	4	.57 (.72)
4	Spiritual change	2	.33 (.85)
5	Appreciation of life	3	.35 (.67)
Scaled of Psychological Well-Being			
1	Autonomy	14	.83 (.83)
2	Environmental Mastery	14	.84 (.86)
3	Personal growth	14	.85 (.85)
4	Positive relations with others	14	.87 (.88)
5	Purpose in life	14	.86 (.88)
6	Self-acceptance	14	.89 (.91)

¹⁰ Associated Professor, Western Washington University, USA.

¹¹ Items 2 and 9.

¹² Items 6, 12, 15, 20, 22, 28, and 36.

¹³ Items 4, 5, 6, 8, 9, 21.

¹⁴ Items 4, 5, 6, 12, 15, 20, 22, 23, 24, 25, 28, 29, 30, 31, 36, 37, 41, 45, 49, 51, 61, 63, 68, 69, 72, 74, 76, 79.

6.1.7. Additional Pilot for Modified PTGI

Since items related to Spiritual change and Appreciation of life didn't show satisfactory internal consistency (see table 1), additional pilot were conducted with modified items. Instrument was administered to 60 participants. Data are given in table 2.

Table 2. Cronbach's alphas for PTGI factors after re-administration of modified items. Numbers from first are given in brackets.

N	factors	Number of items	Internal consistency, Cronbach's alpha (α)
Posttraumatic Growth Inventory			
1	Relating to others	7	.83 (.78)
2	New possibilities	5	.88 (.73)
3	Personal strength	4	.78 (.57)
4	Spiritual change	2	<u>.62</u> (.33)
5	Appreciation of life	3	<u>.54</u> (.35)

6.1.8. Final Pilot for Re-modified PTGI

Although internal consistency of two factors, namely Spiritual Change and Appreciation of Life were little higher than in previous pilot, they did not meet the criteria still (see table 2). Though, final pilot was conducted with re-modified items. Table 3 shows the data (only for these two scales).

Table 3. Cronbach's alphas for PTGI factors after final administration of re-modified items. Numbers from previous pilot are given in brackets.

N	factors	Number of items	Internal consistency, Cronbach's alpha (α)
Posttraumatic Growth Inventory			
4	Spiritual change	2	.70 (.62)
5	Appreciation of life	3	.71 (.54)

6.2. Life Stress Scale

Holmes and Rahe's Social Readjustment Rating Scale were administered to 105 participants and those events with low rate of answers were deleted, and 23-item list was accepted (Cronbach's alpha, $\alpha = .76$). This list will be used alongside the PTGI and SWP in process of standardization and psychometric property establishing.

7. Discussion

Thus, all steps of translation and preparing Georgian texts of two instruments are almost completed, and they can be administered for establishing psychometric properties and standardization.

This is true for both, Ryff's Scales of Psychological Well-Being and Posttraumatic Growth Inventory, since as internal consistency check show, Cronbach's alpha for individual scales ranges between .70 and .91 that is high level of internal consistency. This means that each item works appropriately for respective scale, and there is no need for further changing or modifying any single item. As for consistency with original version, Cronbach's alphas are given in parenthesis (table 1, 3rd column). So, it can be said that both instruments are ready for further administration.¹⁵

¹⁵ Actually, it is already administered to 280 persons but process is not completed yet. In order to extract factors and see factorial structure, and establish all needed psychometric properties of the instruments, according instructions (International Test Commission, 2010; Field, A., 2013), in case of 84-item inventory at least 588 participants are need.

8. Limitations and Further Activities

The major limitation of this piece of research is that it is uncompleted in terms of producing final version of PTGI and WPS, however, further activities are already planned and in process, namely, administration of both instruments to larger sample (600 participants altogether) for the purposes of establishing psychometric properties and standardization later on.

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Article received: 2014-07-25