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Social Support from Sponsorships as a Moderator of Acculturative Stress: Predictors of Effects on Refugees and Asylum Seekers

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Abstract

N = 63 refugees and asylum seekers, 27 women and 36 men with a mean age of 33.08 years (SD = 10.3) from Chechnya and Afghanistan were granted sponsorships for six months and were randomized to an intervention and a waiting-list control group. Only participants with a history of traumatization benefited from the intervention. For the traumatized sub-sample, sponsorships led to a significant and stable decrease in anxiety, depression, and psychological problems as compared to the control group, with effect sizes comparable to those of psychotherapy. The effects being rather palliative than instrumental, however, sponsorships did not instigate improvements in acculturation, societal contact, or coping capability. Women benefited more from the intervention than men, and Afghans more than Chechen.

Keywords

social support; sponsorship; lay-help; refugees; asylum-seekers

Due to the country's geographical position in central Europe, Austria, where the present study has been carried out, has a long history of hosting and granting protection to refugees and displaced persons which goes back to the era following World-War II. While the total number of asylum applications has been unstable due to political factors both nationally and internationally during the last ten years (20,129 in 1999 vs. 39,354 in 2002 vs. 15,821 in 2009, Ministry of the Interior, 2010), people from Chechnya and Afghanistan continue to be the most prominent groups applying for asylum in Austria. In 2009, 1,398 Chechens and 587 Afghans have been granted political asylum and 312 Chechens and 535 Afghans have been granted a right of stay on humanitarian grounds (Asylkoordination Österreich, 2010). Asylum procedures on the various stages of appeal frequently last for several years while asylum seekers are living at refugee homes or private quarters without having access to the labor market. After having survived political persecution, imprisonment, and torture in their countries of origin and often having been subjected to dire circumstances in the course of

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their flight, approximately 50% of Chechen and Afghan refugees and asylum seekers in Austria suffer from severe symptoms of traumatization (Wilson & Drozdek, 2004; Renner, Salem, & Ottomeyer, 2007; Renner & Salem, 2009).

In addition to psychological strain prior to migration, however, further difficulties in the course of acculturation after arrival and after having been granted asylum must be considered. Such problems have been addressed for example by Beiser (2006) with respect to South Asian refugees in Canada. Porter and Haslam (2005) in their comprehensive review of literature have pointed to poor mental health among acculturating refugees worldwide and there are numerous studies reporting economic difficulties after refugee status has been granted (Hammarstedt, 2008 for France, the Netherlands and Sweden; Hansen & Lofstrom, 2006 for Sweden and Norway and Jäckering 2007 for Germany). Ekhaugen (2005) for example, found in a longitudinal study that eight years after their arrival, 55% of refugees still were dependent on the social security-system to some extent. There is also evidence of an interaction between post-traumatic and acculturative stress, i.e., refugees with a history of trauma must be expected to have more difficulties in the course of acculturation than those without traumatization (see for example, Fox, Cowell, & Montgomery, 1994; Silove, Manicavasagar, Coello, & Aroche, 2005; Spasojevic, Heffer, & Snyder, 2000).

Following the stress and coping paradigm of acculturation and referring to Lazarus and Folkman's (1984) transaction model of stress, Berry (1997; 2005) postulated that an individual's acculturation experience first of all is being influenced on a group level by his or her society of origin and settlement (see Figure 1).

According to Berry's model of acculturative stress, in due course, stress reactions may lead to symptoms like anxiety and depression, which in turn will influence the individual's psychological as well as socio-cultural adaptation (see central line in Figure 1). As far as moderating factors are concerned, in the first place socio-demographic variables like age, gender, religion, or educational level are important (see the upper part of the diagram). In addition, dynamic factors in the course of acculturation may promote or hinder an individual's adaptation, social support being one of the most obvious ones (see lower part of Figure 1).

A wealth of literature exists with respect to the moderating effect of social support on stress reactions, which has been summarized for example by Morrison and Bennett (2006). In addition to direct effects on well-being (Shoemaker & Brownell, 1984), social support has been shown to have a "protective buffering function" against the effects of stressful life events on psychological functioning and mental health symptoms, such as anxiety, depression or feelings of distress (Cobb, 1976). In the meantime, a great number of studies has been conducted to support these results (Cohen & Wills, 1985; Morrison & Bennett, 2006). Of great importance for the present study are findings on the effects of support interventions on psychological symptoms and well-being. In this context two papers are directly relevant: In their meta-analysis of 33 intervention studies on professionally provided social support, Röhrle and Sommer (1998) found a mean effect size of $d = 0.71$ (range -0.50 to 5.20) with a decrease at follow-up several months after the interventions had ended ($d = 0.32$, range -0.59 to 0.70). According to this study, outcome variables like anxiety, depression, distress as well as behavioral aspects (number of network members, utilizing support) were especially affected. Women benefited more from these interventions than men and adults more than children and adolescents. Suffering from psychological symptoms or having experienced stressful life events was predictive of larger effects. Interventions lasting for more than six months were superior to shorter ones. Activating resources as well as giving information to the clients was more beneficial than just being there or giving emotional support. Similarly, the meta-analysis by Hogan, Linden, and Najarian (2002)

found at least partially positive effects in 73 out of 92 controlled studies of social support. This study also revealed that support provided by relatives or peers was equally effective as support by professional helpers and its effects were superior to support by less close people. Overall, social support was found to yield effects comparable to psychotherapy.

In several studies social support also has been shown to promote acculturation and mental health and to reduce depression specifically in refugees (Horgan, 2000; Schweitzer, Melville, Steel, & Lachartz, 2006; Takeda, 2000), especially in those suffering from loss of their social networks in their home countries (Fontaine, 1986). Overall, however, as Hernández-Plaza, Alonso-Morillejo, and Pozo-Munoz (2006) have pointed out, the evidence on the effects of social support on migrants, both voluntary and involuntary, is scarce. These authors also indicated that migrants frequently are reluctant to utilize formal resources offered by the society, such as psychotherapy or social work-interventions. Most migrants and refugees are scared of being stigmatized by accepting psychotherapy offered to them for free. In addition, in Austria many asylum seekers and refugees live in remote areas, where they have no access to such offers and thus have to benefit from alternatives.

According to anecdotal evidence, sponsorships, as a means of social support by lay people, have been employed successfully in Austria during the Balkan crises by Caritas, a church based non-governmental charity organization operating on an international basis. Reviews of the literature by Gray and Elliott (2001) and by Ward, Bochner, and Furnham (2006) have indicated that sponsorships might be helpful in coping with stress in the course of acculturation, but results are inconsistent. In a German study, Prügel (1988) found that it is necessary to select, train and supervise sponsors carefully in order to avoid false expectations, negative supportive behavior and over-protection.

We therefore decided to test the effects of sponsorships for adult asylum seekers and refugees in a controlled study, and we expected that, compared to a waiting-list control group, sponsorships would significantly reduce stress-related symptoms, such as anxiety, depression, somatic complaints, or post-traumatic symptomatology. In addition we assumed that these interventions will enhance adaptation, social contact and acceptance by society as well as coping behavior, and acculturation. Table 1 summarizes our hypotheses together with the instruments we have used in order to measure the respective variables¹.

It can be seen that our hypotheses pertained to the “Stress” and “Adaptation” units of Berry’s (1997, 2005) model as well as to the “moderating factors” that may be expected in the course of acculturation (cf., Figure 1).

METHOD

Participants

Originally, a total of $N = 63$ refugees and asylum seekers, 27 women and 36 men with a mean age of 33.08 years ($SD = 10.3$, range = 16 to 58 years) participated. Forty-two participants came from Chechnya and 21 from Afghanistan. From Figure 2 it can be seen, how the participants were randomized to the intervention and the control groups. The same figure also shows the sample sizes at the different points of measurements. Drop-outs had lost interest in further participation; there were no adverse events.

¹Additional hypotheses have been tested by a qualitative part of the study, based on semi-structured interviews, whose results have been published in an edited book (Renner, 2011).

Most sponsors were attending to more than one person and thus the 63 sponsorships were carried out by 35 sponsors, ten men and 25 women. Out of the total of 63 sponsorships, 53 were carried out by single persons and ten by married couples.

Measures

The measures employed are presented in Table 1. All the scales used have been shown to work sufficiently well with refugee populations by their respective authors. All the scales have been carefully translated and back-translated by linguistic experts. Russian versions were prepared for the Chechen and Farsi versions for the Afghan sub-samples.

Implementing Sponsorships

In a preparatory phase prospective sponsors were recruited, selected, and trained for their task. This training comprised four workshops at the University of Innsbruck, where basic information on counseling techniques as well as on the psycho-social background of refugees and asylum seekers in Austria was given (for details of the training see Renner, 2011). The study followed a randomized controlled design as it is shown in Figure 2. Taking the clients' conservative gender roles into account, in most cases men were assigned to male sponsors and women to female ones.

Recruiting clients turned out to be much more difficult than expected. Many prospective participants, especially Chechen men were reluctant to accept social support offered by strangers. Many of them suspected hidden motives on the sponsors' side or declined the offer because of injured pride (for details of the recruiting procedure, cf. Renner, 2011). As a consequence of these difficulties, participants had to be recruited in a longer time period than initially planned to be randomized to the intervention and the waiting-list control group. The latter group received their sponsorships with a delay of six months between t_2 and t_3 . Apart from obvious ethical reasons, this procedure enabled us to replicate any results observed in the Intervention Group between t_1 and t_2 . As can be seen from Figure 2, three- and six-months follow-up measurements (t_3 and t_4 in the intervention and t_4 and t_5 in the waiting-list control group) were devised in order to assess, whether improvements that might have been reached by the sponsorships, would remain stable over time.

Sponsorships were planned for a duration of six months, leaving it to the sponsors' and the clients' decision whether they would choose to continue their contact on an informal basis later on. In the course of the sponsorships, sponsors received monthly supervision by a Professor of Psychology from Innsbruck University. Sponsors living in remote areas were supervised by the first author.

Data Analysis

Sample sizes did not allow the application of multivariate methods. Thus, when assessing the changes from pre- to post-measurements, Wilcoxon Tests have been employed to test significance separately in the intervention and the control group. Accordingly, when taking follow-up measurements into account, significance was tested by Friedman tests.

In a previous study addressing the validity of the Harvard Trauma Questionnaire (HTQ, Part IV) Renner, Salem, and Ottomeyer (2006) had found that a cut-off of 1.75 (on the basis of the HTQ's original Likert scale, ranging from 1 to 4) differentiated best between traumatized and non-traumatized refugees and asylum seekers from Chechnya, Afghanistan, and West Africa. In an additional study on self-help groups offered to Chechnyan refugees in Austria, only participants with an HTQ-score ≥ 1.75 had responded positively to the intervention (Renner, Bänninger-Huber, & Peltzer, accepted). Thus, we decided to re-analyze the present data, taking only traumatized individuals into account. As in the present

study a Likert scale ranging from 0 to 3 had been applied to the HTQ, a cut-off point of 0.75 was used to distinguish traumatized from non-traumatized participants.

As far as identifying possible predictors of outcome was concerned, in order to account for the small sample size, model selection has been achieved by univariate multiple linear regression and consecutively, the resulting model has been subjected to a multi-level analysis. With the initial models, all possible effects were added – one at a time – and for each variable, an F -Test assessed whether the resulting model was statistically superior (at $\alpha = .05$) in explaining the data as compared to the original model. If inclusion of a term led to an improved model, the term was incorporated and the procedure started again. When the model could not be improved by adding more variables any more, this strategy was terminated. The model found by forward selection was then subjected to backward selection, where the hierarchically highest terms were removed, one at a time, and the reduced model was tested against the original model (i.e., if there are two variables, X and Y , along with their interaction, XY , the interaction is the hierarchically highest term – so X or Y can only be removed if XY had been eliminated before). Again, variables that did not lead to a significant reduction in model fit, were eliminated and if no variable could be removed, this strategy was terminated. The remaining terms finally were used in the multilevel model.

RESULTS

Out of the $N = 63$ initial participants, a total of $N = 54$ ($N = 25$ in the intervention and $N = 29$ in the waiting-list-control-group) also were available at t_2 and thus could be included into data analysis. The results are presented in Table 1. For the total sample, none of the hypotheses could be confirmed. Whereas in the control group psychosomatic symptoms had increased and problem focused coping had decreased significantly, in the Intervention Group no significant changes were found at all.

The results obtained for the traumatized sub-sample can be seen at the right part of Table 1. Again, the control group had deteriorated with regard to an increase in psychosomatic symptoms and a reduction in problem-focused coping. The intervention group however, significantly improved with respect to a reduction of anxiety ($d = -0.96$)², depression ($d = -0.82$) and psychological problems ($d = -1.09$) as well as an increase in ethnic contact ($d = 0.53$) and perceived and utilized social support ($d = 1.06$). Thus, for the traumatized sub-sample, Hypotheses 2, 3, 7, 8 and 10 could be confirmed. Taking the three- and the six-months follow-up measurements at t_3 and t_4 into account, in the course of the time following the sponsorships, no significant deterioration occurred (Friedman tests: anxiety, $p = .145$, depression $p = .125$, psychological problems $p = .330$, ethnic contact, $p = .133$, social support $p = .871$).

As can be seen in Figure 1, the control group had received time-delayed sponsorships following t_2 . Thus, the results of the time-delayed interventions could be used towards replicating the findings obtained from the intervention group.

Table 2 shows that the results of the intervention group were replicated for anxiety (Hypothesis 2), depression (Hypothesis 3), and psychological problems (Hypothesis 7). For ethnic contact (Hypothesis 8) and for perceived and enacted social support (Hypothesis 10) our findings were not replicated. According to Friedman tests, neither for anxiety ($p = .809$), nor for depression ($p = .508$), and psychological problems ($p = .607$) the outcome deteriorated significantly in the course of follow-up measurements.

²All effect sizes were computed for the outcome of the intervention group as compared to the control group.

Next, we attempted to identify possible predictors of a positive outcome of the sponsorships. For this purpose, we used intervention vs. control group, gender, the score on the Harvard Trauma Questionnaire (HTQ), country of origin, sponsor's gender and age as the independent and the outcome variables, for which the hypotheses had been confirmed as the dependent variables in a regression model. In this analysis the total sample was employed using the changes from t_1 to t_2 for the intervention group and from t_2 to t_3 for the control group (cf., figure 1 for measurement occasions).

For the purpose of model selection, at first a forward selection to add terms and consecutively a backward selection in order to eliminate unnecessary terms was used. The employed predictors were *group*, *gender*, *trauma*, *country of origin*, *sponsor's gender*, *age* and *time-point*. The initial model consisted of all the predictors' main effects along with every two-way interaction with the variable *time-point* (i.e. *group* with *time-point*, *gender* with *time-point*, etc.).

For "anxiety" (hypothesis 2), the model explained 32% of the variance (corrected $R^2 = 28\%$). The random effects had a variance of 0.18 at the level of participants and a residual variance of 0.22. These results are shown in Table 3.

Only results in italics should be interpreted. The preceeding lines pertain to initial differences at t_1 and similarly, the last three lines of Table 3 refer to control variables in the model. The main results of Table 3, printed in italics, indicate that Afghan ethnicity, female gender, and a higher score on the HTQ were predictive of a larger reduction in the symptoms of anxiety as measured by the anxiety subscale of the HSCL-25. Tables 4 and 5 show the respective results of the regression analyses for "depression" (hypothesis 3) and "psychological problems" (hypothesis 7).

It can be seen that symptoms of traumatization, as measured by the HTQ, are predictive for improvements expressed by a reduction of depressive symptoms and psychological problems. In the case of depression, the model explained 32% of the variance (corrected $R^2 = 25\%$); the variance of the random effects for Level 2 is 0.09 and the residual variance is 0.25. For "psychological problems" the model explained 26% of the variance (corrected $R^2 = 22\%$). Because of hierarchical nesting, variance in this case only amounted to 0.10, as compared to a residual variance of 0.64. Finally, an additional look at Tables 3 to 5 makes obvious that non-traumatized participants even deteriorated in their psychological health, indicated by a significant increase in anxiety, depression, and psychological problems over the course of their sponsorships.

DISCUSSION

As far as the traumatized sub-sample of our study is concerned, important aspects of Berry's (1997; 2005) model on acculturative stress have been confirmed: Social support provided by the sponsors reduces anxiety, depression, and psychological problems significantly and consistently over time, thus having a moderating effect on acculturative stress and improving the refugees' and asylum seekers psychological health and adaptation. On the other hand, it is to be noted that additional clinical aspects, as well as ethnic or national contact, feeling supported and accepted by the host culture, or coping behavior and acculturation either were not significantly improved or improvements could not be replicated in the waiting-list control group in the course of their time-delayed intervention.

Overall, the present results indicate that the effects of sponsorships are rather palliative than instrumental, and only are helpful for people at risk, characterized by post-traumatic symptoms prior to the interventions. In this respect, and in accordance with Röhrle and Sommer's (1998) meta-analytic findings on social support provided on a professional basis,

the effects of sponsorships on refugees and asylum seekers are comparable to those of psychotherapy and the effect sizes found for sponsorships resemble those of effective psychotherapeutic interventions. For example, Smith, Glass, and Miller (1980) reported an average effect size of 1.13 for Cognitive Behavior Therapy and an average effect size of 1.05 for Systematic Desensitization, whereas placebo treatments only had an average effect size of 0.56. The effect sizes reached by sponsorships in the present study also were on a par with those reported by Röhrle and Sommer (1998) for professionally provided social support. Our findings of women benefiting from the interventions more than men also are in line with Röhrle and Sommer's (1998) meta-analytic results. As opposed to sponsorship programs addressed to children or adolescents, the present study successfully offered sponsorships to adults, thereby also supporting the findings of Röhrle and Sommer (1998) who had indicated that social support programs were found to be more effective in grown-ups than in younger age groups.

We could not address Röhrle and Sommer's (1998) suggestion of a minimum duration of six months as a prerequisite of an effective intervention, as in our study the interventions lasted for a maximum of six months. In this respect, it should be kept in mind that as a consequence of their war-torn biographical background many prospective participants had been unable to understand the nature of our sponsors' voluntary commitment, reacting with suspicion when being offered a possible sponsorship. An engagement exceeding six months' duration even would have increased these difficulties and also might have kept prospective sponsors from getting involved in the project. It should also be emphasized that many sponsors had agreed to stay in touch with their clients after the end of the formal sponsorships and thus might have contributed substantially to the fact that the improvements attained had remained stable over the three- and six-months follow-up measurements.

In the course of recruiting possible participants we had experienced that especially Chechen men reacted with suspicion or felt hurt by being offered sponsorships. Such feelings also may have influenced the outcome in other cases when male participants from Chechnya finally had agreed to participate and may have contributed to the finding of Chechens benefiting less than Afghans and men less than women.

Important limitations of the present research pertain to the rather small sample size and to the fact that only the two largest ethnic groups among refugees and asylum seekers in Austria could be included. Thus, the exploratory nature of the study is to be emphasized and its overall encouraging results should instigate sponsorship programs for refugees and asylum seekers in the future and on a larger scale. The present findings have been noticed with great interest by Caritas and the Austrian Red Cross. They will be incorporated into these organizations' nationwide endeavours in assisting refugees and asylum seekers and have also been considered by the International Federation of the Red Cross/Red Crescent (IFRC) (for details on implementing the present results, see Renner, Juen, & Ortner, 2011).

From the present findings the following practical conclusions and recommendations can be drawn: Sponsorships are a powerful alternative to psychotherapy for refugees and asylum seekers, especially if professional treatment is unavailable or if it is not accepted by the clients. In the first place, possible doubts on the part of the clients and cultural preconceptions on accepting help from strangers should be taken into account, especially when addressing men from Chechnya. It is equally important to emphasize that sponsorships can reduce anxiety, depression, and psychological symptoms of stress but do not promote problem solving or coping behavior in the course of acculturation. Therefore, sponsorships may be expected to be helpful for refugees and asylum seekers suffering from considerable symptoms of (post-traumatic) stress, whereas for those, not suffering from such symptoms, the effects even may be detrimental reminding us on the many studies and observations of

negative effects of social support reported in literature (cf., Laireiter, Fuchs, & Pichler, 2007 and Laireiter, 2011 for details).

In accordance with the meta-analyses by Hogan, Linden, and Najarian (2002) and Röhrle and Sommer (1998), the present study has confirmed that social support offered by lay people can be equally effective as professionally provided interventions. However, it should be kept in mind that sponsors were carefully selected, properly trained, and closely supervised. Sponsors should also be instructed to take time in building up trust and to avoid unrealistic aspirations which might lead to a premature termination of the sponsorships on the part of the clients (cf., Juen & Siller, 2011; Renner et al., 2011). These findings should be taken into account when planning sponsorship programs for additional ethnic groups among refugees and asylum seekers and in other parts of the world.

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Figure 1. Factors affecting acculturative stress and adaptation (From Berry, Poortinga, Segall, & Dasen, 2006, p. 363). Reprinted with permission.

Figure 2.

Duration of Sponsorships and Sample Sizes (Traumatized Sub-Sample in Parentheses) at the Various Measurement Occasions: Initial, Idealized Time-Plan

IG = Intervention Group; WL-CG = Wait List – Control Group

Table 1

Hypotheses tested, Measures Employed and Results Obtained³

Hypo-thesis Nr.	Variable and Expected Direction of Change	Measure	Total Sample (N = 54)				Intervention Group				Control Group				Traumatized Sub-Sample (HTQ > 0.75) (N = 35)			
			t ₁	t ₂	p		t ₁	t ₂	p		t ₁	t ₂	p		t ₁	t ₂	p	
Stress:																		
1	Psychosomatic Symptoms ↓	Bradford Somatic Inventory (BSI), Mumford et al., 1991	0.47 (0.52)	0.44 (0.35)	.946		0.45 (0.31)	0.57 (0.41)	.001**		0.77 (0.57)	0.48 (0.32)	.116		0.53 (0.31)	0.64 (0.43)	.007**	
2	Anxiety ↓	Hopkins Symptom Check List (HSC-25), Mollica et al., 1987	0.87 (0.82)	0.73 (0.67)	.153		0.99 (0.68)	1.11 (0.77)	.287		1.39 (0.83)	0.83 (0.58)	.033*		1.19 (0.64)	1.28 (0.71)	.507	
3	Depression ↓	Hopkins Symptom Check List (HSC-25), Mollica et al., 1987	0.92 (0.75)	0.79 (0.61)	.132		1.10 (0.63)	1.18 (0.73)	.909		1.36 (0.75)	0.87 (0.60)	.036*		1.33 (0.52)	1.37 (0.68)	.862	
4	Post-Traumatic Stress ↓	Harvard Trauma Questionnaire (HTQ, Items 1-16), Mollica et al., 1992	0.98 (0.81)	1.08 (0.80)	.986		1.25 (0.66)	1.27 (0.65)	.810		1.58 (0.69)	1.14 (0.60)	.092		1.53 (0.47)	1.45 (0.62)	.550	
Psychological Adaptation:																		
5	Life Satisfaction ↑	Vedder & van de Vijver (2006)	2.00 (1.20)	1.42 (1.01)	.055		1.87 (0.66)	1.80 (0.71)	.551		1.67 (1.33)	1.43 (1.03)	.607		1.79 (0.65)	1.72 (0.72)	.631	
6	Self Esteem ↑	Vedder & van de Vijver (2006)	2.41 (0.74)	2.51 (0.38)	.830		2.25 (0.58)	2.23 (0.63)	.647		2.08 (0.70)	2.43 (0.38)	.135		2.05 (0.46)	2.08 (0.62)	.931	
7	Psychological Problems ↓	Vedder & van de Vijver (2006)	1.80 (1.14)	1.65 (0.97)	.397		1.97 (0.93)	2.07 (0.89)	.423		2.57 (0.82)	1.62 (0.93)	.023*		2.38 (0.59)	2.30 (0.78)	.809	
Moderating Factors During Acculturation:																		
8	Ethnic contact ↑	Vedder & van de Vijver (2006)	2.12 (1.28)	2.23 (1.09)	.473		1.72 (1.09)	1.75 (0.87)	.986		1.69 (1.08)	2.15 (0.99)	.028*		1.63 (0.95)	1.65 (0.76)	.979	
9	Austrian contact ↑	Vedder & van de Vijver (2006)	1.52 (1.15)	1.69 (0.96)	.425		1.17 (0.95)	1.34 (0.80)	.270		1.21 (1.15)	1.73 (1.01)	.104		1.06 (0.96)	1.24 (0.79)	.325	
10	Social support appraised and used ↑	Ong & Ward (2005)	1.05 (0.99)	1.32 (0.73)	.112		0.77 (0.76)	0.71 (0.63)	.899		0.79 (0.87)	1.43 (0.86)	.016*		0.81 (0.77)	0.72 (0.56)	.763	
11	Social attitudes (discrimination) ↓	Vedder & van de Vijver (2006)	1.13 (0.80)	0.99 (0.60)	.624		1.29 (0.70)	1.28 (0.76)	.833		1.12 (0.96)	0.85 (0.53)	.422		1.35 (0.79)	1.34 (0.81)	.827	
12	Coping: Problem focused ↑	Ways of Coping Checklist, Vitaliano et al. (1985)	0.51 (0.32)	0.57 (0.27)	.247		0.73 (0.20)	0.66 (0.23)	.026*		0.58 (0.27)	0.61 (0.21)	.929		0.74 (0.21)	0.68 (0.21)	.026*	
13	Coping: Social support ↑	Ways of Coping Checklist, Vitaliano et al. (1985)	0.53 (0.34)	0.53 (0.36)	.979		0.61 (0.36)	0.68 (0.28)	.391		0.47 (0.26)	0.54 (0.33)	.717		0.65 (0.35)	0.71 (0.24)	.414	
14	Coping: Wishful thinking ↓	Ways of Coping Checklist, Vitaliano et al. (1985)	0.59 (0.31)	0.60 (0.26)	.420		0.66 (0.24)	0.68 (0.21)	.609		0.66 (0.26)	0.59 (0.22)	.573		0.73 (0.19)	0.72 (0.20)	.908	
15	Coping: Self-Blame ↓	Ways of Coping Checklist, Vitaliano et al. (1985)	0.31 (0.42)	0.32 (0.36)	.475		0.44 (0.43)	0.40 (0.37)	.732		0.41 (0.45)	0.32 (0.34)	.717		0.40 (0.42)	0.45 (0.35)	.441	
16	Coping: Avoidance ↓	Ways of Coping Checklist, Vitaliano et al. (1985)	0.43 (0.29)	0.47 (0.26)	.187		0.50 (0.22)	0.54 (0.22)	.260		0.50 (0.21)	0.52 (0.17)	1.000		0.55 (0.21)	0.61 (0.17)	.275	

Hypothesis Nr.	Variable and Expected Direction of Change	Measure	Total Sample (N = 54)						Traumatized Sub-Sample (HTQ > 0.75) (N = 35)					
			Intervention Group			Control Group			Intervention Group			Control Group		
			t1	t2	p	t1	t2	p	t1	t2	p	t1	t2	p
17 ⁴	Acculturation: Maintenance ↑	J. W. Berry (Personal Communication, 16 th Feb 2007)	2.95 (0.90)	2.50 (0.90)	.238	3.20 (0.59)	2.98 (0.77)	.487	3.15 (0.39)	2.67 (0.84)	.865	3.05 (0.53)	2.85 (0.76)	.192
18	Acculturation: Participation ↑	J. W. Berry (Personal Communication, 16 th Feb 2007)	3.29 (0.72)	3.33 (0.85)	.861	3.40 (0.46)	3.44 (0.36)	.549	3.42 (0.48)	3.56 (0.41)	.624	3.28 (0.45)	3.40 (0.31)	.608

³ Arithmetic means with Standard Deviations in Parentheses

⁴ Due to an error in the Farsi questionnaires, at t1 measures 17 and 18 were administered to Chechen participants only

Table 2

Results of the Control Group when trying to Replicate Main Findings (Wilcoxon Tests for Traumatized Sub-Sample, N = 14)

	Mean (t_2)	SD (t_2)	Mean (t_3)	SD (t_3)	p
H2: Anxiety	1.40	0.73	1.03	0.47	.006
H3: Depression	1.41	0.75	1.06	0.32	.049
H7: Psychol. Problems	2.60	0.64	2.10	0.70	.013
H8: Ethnic Contact	1.81	0.81	1.71	0.89	.443
H10: Social support	0.78	0.67	0.89	0.48	.307

Table 3

Regression Analysis for “Anxiety” as the Dependent Variable

	<i>Estimate</i>	<i>Standard Error</i>	<i>t</i>	<i>Sig.</i>
Constant	1.76	0.30	5.82	*
Control Group	−0.11	0.20	−0.58	
Chechnya	−1.44	0.39	−3.70	*
Sponsor couple	−0.78	0.38	−2.07	*
Sponsor female	−0.52	0.31	−1.66	
Female	0.31	0.18	1.73	
Not traumatized	−0.95	0.22	−4.38	*
<i>t2</i>	− 0.67	0.18	− 3.66	*
<i>Chechnya: t2</i>	0.68	0.22	3.11	*
<i>Female: t2</i>	− 0.47	0.20	− 2.32	*
<i>Not traumatized: t2</i>	0.59	0.20	2.87	*
Chechnya: Sponsor couple	1.49	0.52	2.88	*
Chechnya: Sponsor female	1.40	0.43	3.27	*
Control gr.: not traumatized	0.84	0.33	2.53	*

Table 4

Regression Analysis for “Depression” as the Dependent Variable

	<i>Estimate</i>	<i>Standard Error</i>	<i>t</i>	<i>Sig.</i>
Constant	1.48	0.27	5.59	*
Control group	−0.02	0.18	−0.12	
Chechnya	−0.94	0.33	−2.83	*
Sponsor couple	−0.51	0.33	−1.52	
Sponsor female	−0.02	0.27	−0.06	
Not traumatized	−0.82	0.20	−4.16	*
<i>t2</i>	− 0.43	0.13	− 3.38	*
<i>Not traumatized: t2</i>	0.62	0.21	2.92	*
Control Gr.: Not traumatized	0.66	0.28	2.32	*
Chechnya: Sponsor couple	1.20	0.46	2.64	*
Chechnya: Sponsor female	0.81	0.38	2.17	*

Table 5

Regression Analysis for “Psychological Problems” as the Dependent Variable

	<i>Estimate</i>	<i>Standard Error</i>	<i>t</i>	<i>Sig.</i>
Constant	2.19	0.19	11.72	*
Control Group	0.06	0.22	0.28	
Not traumatized	-1.21	0.27	-4.45	*
<i>t2</i>	- 0.59	0.20	- 2.95	*
<i>Not traumatized: t2</i>	1.15	0.33	3.43	*
Control Gr.: not traumatized	1.11	0.38	2.89	*