The impact of enhancing perceived self-efficacy in torture survivors

Naser Morina¹, Richard A. Bryant², Emma L. Doolan², Chantal Martin-Sölch³, Michael Plichta¹,
Monique C. Pfaltz¹, Ulrich Schnyder¹, Matthias Schick¹, Angela Nickerson²

¹Department of Psychiatry and Psychotherapy, University Hospital Zurich, University of Zurich, Zurich, Switzerland

²School of Psychology, University of New South Wales, Sydney, NSW, Australia

³Unit of Clinical and Health Psychology, Department of Psychology, University of Fribourg, Fribourg, Switzerland

Correspondence: Richard Bryant, School of Psychology, University of New South Wales, NSW 2052, Australia.

Email: r.bryant@unsw.edu.au.

Background: Perceived self-efficacy (SE) is an important factor underlying psychological well-being. Refugees suffer many experiences that can compromise SE. This study tested the impact of enhancing perceived SE on coping with trauma reminders and distress tolerance in tortured refugees.

Methods: Torture survivors ($N = 40$) were administered a positive SE induction in which they retrieved mastery-related autobiographical memories, or a non-SE (NSE) induction, and then viewed trauma-related images. Participants rated their distress following presentation of each image. Participants then completed a frustration-inducing mirror-tracing task to index distress tolerance.

Results: Participants in the SE condition reported less distress and negative affect, and improved coping in relation to viewing the trauma-related images than those in the NSE condition. The SE induction also led to greater persistence with the mirror-tracing task than the NSE induction.

Conclusions: These findings provide initial evidence that promoting SE in tortured refugees can assist with managing distress from trauma reminders, and promoting greater distress tolerance. Enhancing perceived SE in tortured refugees may increase their capacity to tolerate distress during therapy, and may be a useful means to improve treatment response.

Keywords

distress tolerance, refugees, self-efficacy, torture survivors, trauma

This is the author manuscript accepted for publication and has undergone full peer review but has not been through the copyediting, typesetting, pagination and proofreading process, which may lead to differences between this version and the [Version of Record](#). Please cite this article as [doi: 10.1002/da.22684](#).

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Refugees are commonly subjected to repeated and severe traumatic experiences, which can lead to elevated rate of psychological disorders, including posttraumatic stress disorder (PTSD), depression, and anxiety (Steel et al., 2009). As the prevalence of refugees and internally displaced people exceeds 65 million worldwide, refugee mental health has become a critically important public health issue. Accordingly, there is a marked need to better understand the mechanisms underpinning refugee mental health (Nickerson, Bryant, Silove, & Steel, 2011).

One factor that contributes to how individuals cope with stress is perceived self-efficacy (SE). SE has been conceptualized as one's perceived capacity to manage stressful life events (Benight & Bandura, 2004). There is convergent evidence that exposure to trauma can diminish one's sense of SE as a result of the trauma survivor feeling helpless in the face of trauma, perceiving that they are not coping with PTSD symptoms, and guilt. For example, many studies have demonstrated that ongoing PTSD is associated with self-blame, negative self-appraisals about one's capacity to manage trauma reactions, and low levels of ability to manage one's environment (Dunmore, Clark, & Ehlers, 1999; Foa, Ehlers, Clark, Tolin, & Orsillo, 1999; Kleim, Ehlers, & Glucksman, 2007). Other studies have found that a diminished SE is associated with mental health problems following trauma (Solomon et al., 1999; Vujanovic, Bonn-Miller, Potter, Marshall, & Zvolensky, 2011) and with poor response to treatment (Ehlers et al., 1998; Livanou et al., 2002).

Experimental evidence indicates that inducing SE results in improved social problem solving in healthy participants (Brown, Dorfman, Marmar, & Bryant, 2012), and promoting SE in war veterans with PTSD increases perceived SE (Brown et al., 2016). These findings are consistent with cognitive models that emphasize the role of appraisals of one's impoverished control over outcomes in the maintenance of PTSD (Ehlers & Clark, 2000). Despite this evidence of the role of SE in trauma response, there is no experimental evidence on how perceived SE impacts on mental health in traumatized refugees. This is a surprising omission because refugees often experience a lack of control as a result of prolonged trauma, torture, and uncertainties about their future (Nickerson et al., 2011). The current study investigated whether increasing perceptions of SE in tortured refugees

decreases distress when exposed to trauma reminders, and improves distress tolerance. Following previous successful efficacy inductions (Brown et al., 2016, #50542), we attempted to increase perceived SE by asking participants to recall two self-efficacious memories, after which they viewed traumatic pictures and then completed a behavioral task indexing distress tolerance. We predicted that the SE induction would lead to less distress while viewing the trauma-related images, as well as to greater overall distress tolerance as indexed by the behavioral test.

2 METHOD

2.1 Participants

Data were collected between November 2015 and May 2016. All participants ($N = 40$) came from Turkey and were refugees or asylum seekers who had survived war and/or torture. Participants were treatment-seeking refugees attending an outpatient unit for victims of torture and war in Zurich, Switzerland. Inclusion criteria were (a) being a refugee/asylum seeker, (b) being 18 years or older, and (c) speaking Turkish. Patients were excluded if they were unable to complete self-report questionnaires, suffering from psychosis, or were acutely suicidal or a threat to others. No participants were excluded for these reasons. Participants were randomly allocated to receive either the SE ($n = 20$) or non-SE (NSE, $n = 20$) induction.

2.2 Measures and materials

Accredited translators translated measures into Turkish, and blind backtranslation procedures were then implemented (Bontempo, 1993), with differences between the two translations being rectified by independent bilingual individuals experienced in working with health-related questionnaires.

2.2.1 Trauma exposure

Trauma exposure was measured by combining the trauma event lists of two standardized questionnaires, the Harvard Trauma Questionnaire (HTQ; Mollica et al., 1992) and the Posttraumatic

Diagnostic Scale (PDS; Foa et al., 2016). This combined scale indexes exposure to 23 types of potentially traumatic events (Morina, Schnyder, Schick, Nickerson, & Bryant, 2016).

2.2.2 Posttraumatic stress disorder

To measure PTSD symptom severity over the past month, a version of the PDS-5 based on the DSM-5 criteria was used (Foa et al., 2016). The PDS has been used with multiple refugee populations (e.g., Schnyder et al., 2015). PTSD diagnosis was determined according to DSM-5 criteria. Internal consistency for this scale was high: $\alpha = .91$.

2.2.3 Depression

The depression subscale of the Hopkins Symptom Checklist (HSCL; Mollica, Wyshak, de Marneffe, Khuon, & Lavelle, 1987) was used to measure symptoms of depression in the last week. This 15-item scale has been used repeatedly with refugee groups (e.g., Schweitzer, Melville, Steel, & Lacherez, 2006), and the internal consistency for the scale in this study was .93. A DSM-5 based algorithm to determine likely depression caseness was employed.

2.2.4 Perceived SE

Trait levels of perceived SE were assessed using the General SE Scale (GSE; Schwarzer & Jerusalem, 1995). The 10 items (e.g., “I can always manage to solve difficult problems if I try hard enough”) are rated on a 4-point Likert scale (1 = “Not at all true” to 4 = “Exactly true”), and a higher score indicates greater SE (range: 10--40). The GSE has been validated across diverse cultural populations (Luszczynska, Scholz, & Schwarzer, 2005). Cronbach’s alpha for this scale in the current study was high with $\alpha = .96$. The GSE was used to ensure that the two conditions were matched for trait SE levels.

2.2.5 Negative affect

Participants rated their level of negative affect using five items at six time points during the study. Four of these items (upset, afraid, angry, and distressed) were selected from the Positive and Negative Affect Schedule (PANAS; Watson, Clark, & Tellegen, 1988), and one additional item

(physically tense) was included following clinical observations regarding the expression of distress by refugees. All items were rated on 5-point Likert scales (1 = “Not at all” to 5 = “Extremely”), and ratings were summed to derive a state negative affect score. Internal consistency of the overall PANAS was strong in this study ($\alpha = .83$).

2.2.6 Trauma images

The experimental stimuli were 30 negatively valenced trauma-related pictures (e.g., interpersonal violence, civil conflict) selected from the International Affective Picture System (IAPS; Lang, Bradley, & Cuthbert, 2008). Participants rated each picture on 5-point Likert scale in terms of how distressed they were while watching the picture.

2.2.7 Stimulus response ratings

Anticipated (*how distressing do you think these images will be?*) and experienced (*how distressing did you find these images?*) distress, and perceived coping were assessed before (*to what extent do you feel you can cope with these images*) and after (*to what extent did you feel you could cope with these images*) the stimuli presentation on 5-point Likert scales (1 = “Not at all” to 5 = “Extremely”).

2.2.8 Distress tolerance

The Mirror-Tracing Task (MTT; Strong et al., 2003) was administered to measure participants' ability to cope with distress. Participants were instructed to trace the outlines of three figures on a computer screen, however they were told that the actions of the computer mouse and cursor were reversed. That is, if the mouse was moved down, the cursor moved up on the screen, and if it was moved left, the cursor moved right. While tracing, if the participant stopped moving forward, moved too slowly, or moved off the line, a loud buzz would sound and they would be required to start over. The program moved onto the next shape once the participant had correctly traced it or after 60 s had passed without a successful tracing. The first two shapes were relatively easy and intended as practice tasks, followed by the actual task, which was extremely difficult. Pilot testing indicated this

task caused participants considerable frustration and distress. The participants had the option to end tracing the third shape by pressing any key on the computer keyboard. On the premise that persistence with a frustratingly distressing task reflected capacity to tolerate distress, the dependent variable on this was operationalized as the amount of time it took participants to terminate the task. Accordingly, the time (in seconds) it took for the participant to quit the task was recorded as the behavioral level of persistence. The maximum time allowed was 300 s.

2.3 Procedure

The study was approved by the Canton of Zurich Ethics Committee (KEK-ZH-Nr. 2011-0495), and all participants provided written informed consent. Sessions were conducted by a Turkish-speaking masters-level clinical psychology student. Participants were reimbursed 40 Swiss francs (approximately USD 40) for participation. In a first session, individuals completed baseline ratings of GSE, as well as depression and posttraumatic stress symptoms on a therapist-assisted computer-based assessment tool. In the second session, participants completed the negative affect questions and then sat quietly for 5 min before the SE/control induction was given. Participants in the SE condition received the following 2-min instruction:

Today I would like you to think about something that you have achieved in your life, some things that you did that made you feel good about yourself because you did something that proves you can cope with challenges or where you succeeded. This might be your own achievement---for example finishing your education or feeling like you did a good job at something. It might also be an achievement by your family or community, or a time you have helped a family member or friend who was struggling. The important thing is that it is something you did or were able to manage. In a moment, I would like you to tell me about two of these experiences. Please tell me about them in detail.

Participants in the NSE control condition were instructed with:

Today I would like you to think about things you have done as a common activity. I do not want you to think about negative or sad things here but instead to think about things that are neutral or make you feel just normal. The sort of thing I want you to think about are things you do a lot of the time.

Routine or usual sorts of things. It might be having your dinner or lunch. Or shopping for groceries, catching public transport, watching TV, or waiting in a queue. Or it might be something else. The important thing is that you were involved in a daily life activity in this particular situation. In a moment, I would like you to tell me about two of these activities. Please tell me about them in detail.

Participants then completed a second set of negative affect questions, as well as the anticipated distress and coping questions. Participants then viewed the trauma-related images for 10 s, followed by a rating of each picture and immediately by a fixation cross that remained on screen for 5 s. Following this, participants completed the negative affect questions a third time and answered the experienced distress and coping questions, followed by another 5-min period, where they sat quietly. Participants then completed the negative affect questions again, completed the distress tolerance task, and completed the negative affect questions again. Finally, participants sat quietly for another 5-min period, completed a final affect rating, and the session was then terminated.

2.4 Data analysis

Data were analyzed using SPSS (version 23.0). Kolmogorov--Smirnov tests indicated that PTSD, depression, and GSE scores were normally distributed. Repeated measures analysis of covariance (ANCOVA) was used to compare the PANAS scores across the six measurement time

points; this analysis controlled for the amount of time participants talked after induction because after the induction was administered participants spoke in the SE condition ($M = 3:43$ min, $SD = 1:08$) for a longer periods than those in the NSE condition ($M = 2:32$ min, $SD = 1:19$), $t(38) = 3.07$, $P = .004$. As the Mauchly's test of sphericity did not indicate data homogeneity, the Greenhouse--Geisser test was adopted. In recognition that PTSD has been shown to moderate SE inductions (Brown et al., 2016), we predicted distress after the trauma film and time until the mirror tracing task was terminated by conducting separate linear hierarchical regressions that entered PTSD severity score at Step 1, and SE induction at Step 2.

3 Results

3.1 Demographic and self-report data

Participants had a mean age of 48.35 years ($SD = .64$), and the sample comprised 35 males (87.5%). Participants reported having experienced a mean of 13.73 ($SD = 4.01$) types of traumatic events, with every one having experienced torture. Approximately two thirds of the sample ($N = 24$, 60.0%) had a diagnosis of PTSD and one third a diagnosis of major depression ($N = 15$, 37.5%). No significant differences were observed on demographic and psychological characteristics between the two conditions (see Table 1).

3.2 Induction checks

A 2 (Induction Condition) $\times$ 2 (Assessment Point) repeated measures ANOVA of distress ratings indicated significant main effects for Induction Condition [$F(1, 38) = 12.93$, $P = .001$, $\eta = .25$] and Assessment Point [$F(1, 38) = 35.12$, $P = .001$, $\eta = .48$]. Specifically, participants reported more distress after presentation of the images than prior to their presentation, and participants in the SE condition reported less distress than those in the NSE condition. A 2 (Induction Condition) $\times$ 2 (Assessment Point) repeated measures ANOVA of coping ratings indicated a significant main effect for Induction Condition [$F(1, 38) = 6.56$, $P = .01$, $\eta = .15$], indicating that participants in the SE condition reported better coping than those in the control condition (see Table 1).

3.3 Mood and stimuli ratings

A 2 (Induction Condition) $\times$ 6 (Assessment Point) repeated measures ANOVA of affect ratings indicated significant main effects for Induction Condition [$F(1, 38) = 7.13, P = .01, \eta = .16$], Assessment Point [$F(1, 38) = 6.89, P = .01, \eta = .15$], and a significant interaction effect [$F(1, 38) = 2.30, P = .04, \eta = .06$] (see Fig. 1). Specifically, whereas affect ratings did not differ at baseline, participants in the SE condition reported less negative affect at each subsequent assessment than participants in the NSE condition (P 's $< .05$). A planned comparison of ratings of pictures indicated no significant effects between conditions, $t(38) = 1.172, P = .25$.

3.4 Mirror-tracing task

A one-way ANOVA of time spent on the MTT indicated that participants in the SE ($M = 3.43, SD = 1.08$; shown in minutes) condition spent more time on the MTT compared to the NSE ($M = 2.32, SD = 1.19$; shown in minutes) condition, [$F(1, 38) = 9.43, P = .004, \eta = .20$].

3.5 Regression analyses

Table 2 presents the summary models of the linear regression analyses. The linear regression analysis of PANAS scores after the trauma film yielded a significant model [$F(2, 37) = 3.98, P = .03$]. After controlling for PTSD severity, the SE induction predicted reduced PANAS scores, accounting for 18% of variance. Similarly, after controlling for PTSD severity, the SE induction predicted greater persistence on the mirror-tracing task, accounting for 20% of variance.

4 Discussion

The current study shows for the first time that administering an induction designed to enhance SE in torture survivors leads to less distress in response to traumatic stimuli, and also greater tolerance of a distressing task. These effects were observed beyond the influence of PTSD severity. In this sense, attempts to enhance SE resulted in improvements in both experiential and behavioral indicators of responses to stressors in torture survivors. These findings accord with evidence that experimentally

enhanced SE results in better social problem solving (Brown, Dorfman et al., 2012), greater pain tolerance (Litt, Nye, & Shafer, 1993), decreased intrusive memories after exposure to a traumatic film (Brown, Joscelyne, Dorfman, Marmar, & Bryant, 2012), and better management of potential panic symptoms (Sanderson, Rapee, & Barlow, 1989). Moreover, this study extends prior research that has found that enhancing SE by promoting mastery-based autobiographical memories in veterans with PTSD (Brown et al., 2016) can be usefully applied to foster SE in tortured refugees.

The capacity for enhanced SE to foster improved distress tolerance may be understood in terms of cognitive models of PTSD (Ehlers & Clark, 2000). It is possible that refugees who were instructed to focus on self-efficacious memories appraised their capacity to watch traumatic images and undertake the MTT with enhanced confidence, and this translated into less distress and greater persistence with the distress tolerance task. Individuals with PTSD tend to focus on negative memories (Sutherland & Bryant, 2005). Fostering retrieval of efficacy-oriented memories may limit this tendency instead promote a greater sense of one's agency.

We recognize several methodological limitations. First, the SE induction may have resulted in a range of beneficial psychological responses, such as improved mood, which may be responsible for the resulting improvement in distress tolerance. Although we found that the SE did lead to greater expectations of coping, which is suggestive that the induction did lead to heightened perceived SE, future replications could include a condition that induced a positive mood to determine its impact on distress tolerance relative to a SE induction. The need to control for positive valence effects is indicated by evidence that positive mood inductions do impact on other indicators of emotional response, including startle in a fear reinstatement paradigm (Zbozinek, Holmes, & Craske, 2015) and pain perception (Goli, Asghari, & Moradi, 2016). Relatedly, although we assessed perceived coping of the distressing images, we did not explicitly index perceived SE following the induction; future studies should more directly assess SE to directly measure the impact to which this induction enhances participants' perceived SE. Second, the sample size was limited, which precluded examination of potential moderating factors, such as gender, which may influence the impact of perceived control.

Third, the focus on Turkish refugees limits the generalizability of the findings to other cultural groups. Fourth, all the participants had experienced torture, and it is possible that different results may emerge within a sample that had variable torture experience. Finally, we note that a degree of complexity was introduced by requiring all materials and procedures to be translated into Turkish, which potentially limits the generalizability of the findings to other language groups.

The current findings have implications for the management of distressed refugees. Refugees affected by PTSD respond more poorly to trauma-focused treatments than other PTSD patients, which may be attributable in part to their difficulties in managing distress (Nickerson et al., 2011). Exposure to interpersonal trauma is associated with more severe emotion regulation difficulties and other traumatic experiences (Cloitre, Miranda, Stovall-McClough, & Han, 2005; Nickerson et al., 2015; Walsh, DiLillo, & Scalora, 2011). Given that many refugees are exposed to torture and other forms of interpersonal violence (Steel et al., 2009), it is possible that this factor contributes to their difficulties in managing distress, which in turn can impede treatment response. The finding that focusing refugees' attention on mastery experiences can increase their tolerance for distress suggests that this is one approach for enhancing refugees' SE, which in turn may increase their tolerance for trauma-focused treatments and contribute to better treatment outcomes. This possibility would need to be tested in the context of trauma-focused treatment to determine if increasing SE increases capacity to tolerate and respond to trauma-focused therapies. Additionally, refugees experience significant postmigration challenges that may contribute to mental health problems (Li, Liddell, & Nickerson, 2016; Schick et al., 2016). Although these postmigration difficulties can challenge refugees' perceived SE, focusing attention on mastery-oriented memories may enhance appraisals regarding their capacity to cope with current life stressors. This is particularly important given the finding that emotion regulation difficulties mediate the relationship between postmigration stressors and mental health outcomes in a sample of refugees and asylum seekers (Nickerson et al., 2015). We temper these conclusions, however, with the recognition that the effect sizes for these results were small. This suggests that the extent of the influence of the efficacy induction may be limited, and future studies could usefully investigate the extent to which repeated sessions of efficacy training can improve the

distress tolerance of refugees. These opportunities point to the need for further experimental research into psychological processes that can modulate refugee emotional regulation with the view of enhancing the mental health of refugees.

ACKNOWLEDGMENTS

This study was partly supported by the State Secretariat for Migration, Switzerland (3a-12-0495).

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Table 1. Demographic and Self-Report Characteristics

Variable	SE	NSE	<i>F</i>	<i>P</i>
Age	50.6	46.1	1.68	.10
Gender, men <i>n</i> (%)	16 (80)	19 (95.0)	2.06	.15
Years of education, <i>n</i> (%)	8.6 (4.2)	8.2 (4.3)	.28	.78
Employed, <i>n</i> (%)	5(25)	3 (15)	.63	.43
Number of experienced trauma types: <i>M</i> (<i>SD</i>)	12.2 (4.7)	14.10 (3.4)	1.41	.16
Depression				
Probable depression, <i>n</i> (%)	9 (45.0)	6 (30.0)	.96*	.33
Depression severity: HSCL score, <i>M</i> (<i>SD</i>)	31.10 (9.74)	30.10 (11.2)	.30	.76
PTSD				
Probable PTSD (%)	12 (60.0)	12 (60.0)	.00*	1.00
PTSD severity: PDS-5 score	33.3 (13.9)	31.55 (11.44)	.44	.67
GSE score, <i>M</i> (<i>SD</i>)	23.7 (8.1)	20.6 (7.2)	1.30	.20

Anticipated distress	2.6 (1.0)	3.3 (1.0)	2.13	.04
Experienced distress	3.8 (.5)	4.5 (.8)	3.21	.003
Anticipated coping	3.0 (.9)	2.5 (.6)	2.19	.04
Experienced coping	3.2 (1.1)	2.4 (.8)	2.67	.01

Note: * $P < .01$. PTSD = posttraumatic stress disorder; HSCL = Hopkins Symptom Checklist; PDS-5 = posttraumatic Diagnostic Scale for DSM-5; GSE = general self-efficacy. Data refer to means (standard deviations) except where indicated.

Table 2. Summary of Hierarchical Regression Models Predicting PANAS Scores and Time

Until Termination of Mirror-Tracing Task

	<i>B</i>	SEB	β	<i>P</i>
PANAS				
Step 1: PTSD severity	.00	.01	.05	
Step 2: Self-Efficacy Condition	.77	.27	.42	.008
Mirror-Tracing Task Time				
Step 1: PTSD severity	−.73	.95	−.11	.45
Step 2: Self-Efficacy Condition	−72.98	23.54	−.45	.004

Note. PANAS: Step 1 $R^2 = .00$, $\Delta R^2 = .00$. Step 2 $R^2 = .18$, $\Delta R^2 = .18$. Mirror-Tracing Task Time:

Step 1 $R^2 = .01$, $\Delta R^2 = .01$. Step 2 $R^2 = .21$, $\Delta R^2 = .20$.

Figure 1. Negative affect ratings for participants in the positive self-esteem (PSE) and nonself-esteem (NSE) conditions.

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Author/s:

Morina, N;Bryant, RA;Doolan, EL;Martin-Solch, C;Plichta, MM;Pfaltz, MC;Schnyder, U;Schick, M;Nickerson, A

Title:

The impact of enhancing perceived self-efficacy in torture survivors

Date:

2018-01-01

Citation:

Morina, N., Bryant, R. A., Doolan, E. L., Martin-Solch, C., Plichta, M. M., Pfaltz, M. C., Schnyder, U., Schick, M. & Nickerson, A. (2018). The impact of enhancing perceived self-efficacy in torture survivors. *DEPRESSION AND ANXIETY*, 35 (1), pp.58-64. <https://doi.org/10.1002/da.22684>.

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