

**Background:** The aim of our studies was to evaluate the psychometric properties of a new measure of self-efficacy, referring to coping with secondary trauma experiences - the Secondary Trauma Self-Efficacy (STSE) scale.

**Methods:** Study 1 enrolled professionals ( $N = 247$ ) providing trauma therapy for military clients in the U.S. Study 2 was conducted among health care and social workers ( $N = 306$  at Time 1,  $N = 193$  at Time 2) providing services for trauma survivors in Poland.

**Findings:** The results of both studies indicated unidimensionality of the scale, its good reliability, good validity, and invariance across two language versions. As expected, STSE correlated highly or moderately with secondary traumatic stress. The associations between STSE and perceived social support, secondary traumatic growth, negative beliefs about the world and self were either moderate or low.

**Discussion:** STSE may constitute a key protective resource promoting well-being among people working with trauma victims.

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## INTRODUCTION

Professionals working with trauma survivors are at increased risk for negative psychological outcomes, such as secondary traumatic stress. **Secondary traumatic stress (STS)** is defined as "intrusion, avoidance, and arousal symptoms associated with indirect exposure to traumatic events via one's professional relationships with traumatized clients" (Bride et al., 2004, p.28).

Self-efficacy may be seen as an important determinant of health-related outcomes of a traumatic event (Benight & Bandura, 2004) - a systematic review (Luszczynska, Benight, & Cieslak, 2009) confirmed "large significant negative associations between self-efficacy and negative consequences of traumatization, such as posttraumatic stress disorder" (Cieslak et al., 2013, p. 4). Although self-efficacy should be assessed context-specific, most studies investigating self-efficacy and health outcomes of secondary trauma exposure assessed work-related self-efficacy.

Because there is no existing measure of secondary trauma self-efficacy, there is also a lack of knowledge about the relationships between self-efficacy and outcomes of secondary trauma exposure among professionals working with trauma survivors. To fill this gap in our study we evaluated the psychometric properties of a new measure of self-efficacy, referring to coping with secondary trauma experiences - the Secondary Trauma Self-Efficacy scale. **Secondary trauma self-efficacy (STSE)** is defined here as "perceived ability to cope with the challenging demands resulting from work with traumatized clients and perceived ability to deal with the secondary traumatic stress symptoms" (Cieslak et al., 2013, p. 5).

## OBJECTIVE

The aim of our study was to evaluate the psychometric properties of the Secondary Trauma Self-Efficacy (STSE) scale.

## METHODS

### Participants:

**Study 1:** mental healthcare providers working with returning soldiers in the United States,  $N = 247$  (gender: 82 males, 33.2%; age:  $M = 48.59$ ,  $SD = 13.02$ )

**Study 2:** health care and social workers providing services for civilian survivors of traumatic events

**Time 1:**  $N = 306$  participants (gender: 71 males, 23.2%; age:  $M = 35.41$ ;  $SD = 8.59$ );

**Time 2:**  $N = 193$  (gender: 37 males, 19.2%; age:  $M = 35.05$ ;  $SD = 8.10$ ).

**Table 1**  
Pearson's Correlations among the Study Variables

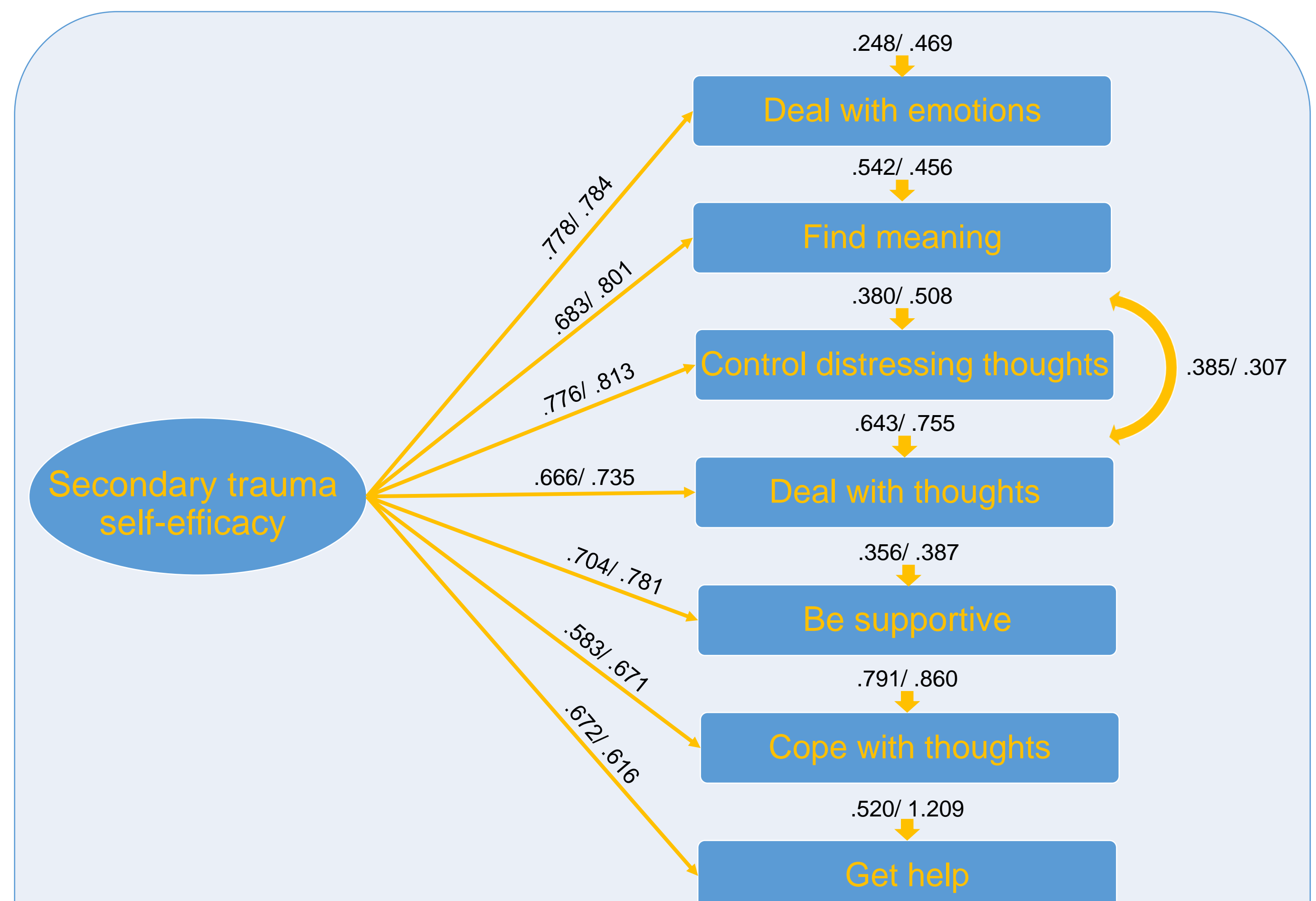
Measure	1	2	3	4	5	6	7	8
1. Secondary trauma self-efficacy (STSE)		.23***	-.64***	.13***	-	-	.04*	-
2. Perceived social support	.32***		-.17***	.13***	-	-	.04*	.25***
3. Secondary traumatic stress	-.54***	-.33***		-.05***	-	-	.07*	-.65***
4. Secondary traumatic growth	.14***	.14***	.10***		-	-	.05*	.13*
5. Negative cognitions: World	-.32***	.30***	.47***	-.08***		-	-	-
6. Negative cognitions: Self	-.51***	-.39***	.56***	-.10***	.52***		-	-
7. Direct trauma exposure	.05	-.11	.19***	.10	.16***	-	.12*	-
8. STSE (direct exposure partialled out)	-	.38***	-.55***	.16*	-.32***	-.49***	-	-

Note. Correlations in upper diagonal region show values for Polish data (Study 2). Correlations in lower diagonal region show values for U.S. data (Study 1). Direct trauma exposure in Study 1 represents the number of direct trauma experiences; direct trauma exposure in Study 2 represents whether participants have experienced any of direct traumatic events (with direct exposure dummy coded using 0=No and 1=Yes). \*\*\*  $p < .001$ , \*\*  $p < .01$ , \*  $p < .05$ .

**Table 2**  
Goodness-Of-Fit Statistics for Tests of Invariance of Factor Structure for Study 1 and Study 2

Model Description	$\chi^2$	$\chi^2/df$	RMSEA	CFI	SRMR	GFI	NFI	$\Delta\chi^2$	$\Delta NFI$
Hypothesized model (unconstrained)	51.19	2.01	.043	.986	.036	.974	.972	-	-
Factor loadings, variances, and covariance constrained equal	142.20	3.47	.067	.945	.068	.937	.925	90.02***	-.048
Factor loadings constrained equal	62.87	1.97	.042	.983	.045	.969	.967	10.68***	-.006
Variances constrained equal	129.10	3.69	.070	.949	.053	.942	.932	76.91***	-.041
Covariance constrained equal	52.59	1.95	.041	.986	.036	.974	.972	0.40***	-.000
Factor loadings and covariance constrained equal (final model)	62.91	1.91	.041	.984	.045	.969	.967	10.72***	-.006

Note. The  $\Delta\chi^2$  indicates a change in a  $\chi^2$  from the hypothesized model. \*\*\*  $p < .001$ : A significant  $\Delta\chi^2$  value indicates that the model was not good fit for the hypothesized model.



**Figure 1.** Final two-group confirmatory factor analysis model of the Secondary Trauma Self-Efficacy scale.

Note. Standardized regression weights (i.e., factor loadings), variances, and correlation between error variances are presented. In the final model factor loadings and covariance are constrained to be equal in Study 1 and Study 2. Numbers before the slash refer to Study 1; numbers after the slash refer to Study 2. All parameters significant at  $p < .001$ .

### Measures:

- **Secondary Trauma Self-Efficacy.** Secondary Trauma Self-Efficacy Scale (Cieslak et al., 2013) - Study 1 ( $\alpha = .87$ ) and Study 2 ( $\alpha = .89$  at Time 1,  $\alpha = .88$  at Time 2)
- **Secondary Trauma Exposure.** Secondary Trauma Exposure Scale (Cieslak et al., 2012) - Study 1 and Study 2
- **Secondary Traumatic Stress.** Secondary Traumatic Stress Scale (Bride et al., 2004) - Study 1 ( $\alpha = .94$ ) and Study 2 ( $\alpha = .93$ )
- **Perceived Social Support.** Multidimensional Scale of Perceived Social Support (Zimet, Dahlem, Zimet, & Farley, 1988) - Study 1 ( $\alpha = .94$ ) and Study 2 ( $\alpha = .96$ )
- **Negative Cognitions.** Posttraumatic Cognition Inventory (Foa et al., 1999) - only Study 1 (total score:  $\alpha = .89$ , NC about the World:  $\alpha = .88$ , NC about Self:  $\alpha = .85$ )
- **Secondary Traumatic Growth.** Posttraumatic Growth Inventory-Short Form (Cann et al., 2010) - Study 1 ( $\alpha = .92$ ) and Study 2 ( $\alpha = .92$ )

## RESULTS

- ✓ The results of exploratory and confirmatory factor analysis showed **unidimensionality of the STSE scale** in both studies.

**Principal components analysis:** Study 1: one component accounting for 56.89% of the variance (eigenvalue = 3.98). Factor loadings of the items ranged between .71 and .83. Study 2: one component accounting for 61.87% of the variance (eigenvalue = 4.33). Factor loadings for the seven items ranged between .64 and .87.

**Confirmatory factor analysis:** Study 1: RMSEA = .071 (90% lower and upper confidence limits: .037 and .106), CFI = .978, SRMR = .036 (modified one-factor unconstrained model - items 4 and 5 covaried). Study 2: RMSEA = .050 (90% lower and upper confidence limits: .008, .083), CFI = .991, SRMR = .023 (modified one-factor unconstrained model - items 4 and 5 covaried).

- ✓ The results indicated **good internal consistency** of the STSE scale and its **good stability over time** (Study 1:  $\alpha = .87$ . Study 2:  $\alpha = .89$  at Time 1,  $\alpha = .88$  at Time 2; the association between the STSE scores at Time 1 and Time 2 in Study 2:  $r(191) = .65$ ,  $p < .001$ )
- ✓ Secondary trauma self-efficacy correlated highly or moderately with secondary traumatic stress (see Table 2)
- ✓ The associations between secondary trauma self-efficacy and perceived social support, secondary traumatic growth, negative beliefs about the world and self were either moderate or low (see Table 2)
- ✓ The STSE factor structure and pattern of correlations with the validity measures were invariant across two studies, which indicated that the **STSE scale may be a culturally unbiased instrument** (see Figure 1 and Table 2)

## CONCLUSION

The results confirmed **good psychometric properties of the Secondary Trauma Self-Efficacy (STSE) scale** and verify its theoretically assumed unidimensional structure (Bandura, 1997). They also provide evidence that the STSE scale is a robust measure and suggest that secondary trauma self-efficacy may have similar properties and operate similarly across different cultural contexts. Secondary trauma self-efficacy may constitute a key protective resource promoting well-being among people working with trauma survivors – we propose a new measure to assess it.