



Developing the Shame and Guilt Scale in Secondary Traumas

Aykut Günlü¹

Accepted: 8 July 2025

© The Author(s), under exclusive licence to Springer Science+Business Media, LLC, part of Springer Nature 2025

Abstract

The current research aimed to develop a scale measuring feelings of shame and guilt in secondary traumas. In addition, the current research's another aimed to test the mediating role of negative emotion in the relationship between psychological resilience and feelings of shame and guilt in secondary traumas. The study was conducted in three stages, and all consist of people from different provinces of Türkiye. There were 118 participants from the general population in the pilot study, 310 participants in Study 1, and 414 participants in Study 2. The age range of the participants in all groups is 18–50. The data obtained from the entire research were analyzed in SPSS and AMOS analysis programs. The Shame and Guilt Scale in Secondary Traumas, Brief Psychological Resilience Scale, Toronto Empathy Scale, Trait Shame and Guilt Scale, and Positive and Negative Emotion Scales were used in the study. The Shame and Guilt Scale in Secondary Traumas consists of 2 sub-dimensions, "escape" and "facilities", and a total of 8 items. The Cronbach Alpha reliability coefficient of the scale is .84 for the escape sub-dimension; it was calculated as .91 for the facilities sub-dimension and .86 for the overall scale. As a result, it can be said that the Shame and Guilt Scale in Secondary Traumas is a valid and reliable measurement tool. In line with the second aimed of this research, it was observed that negative emotions had a full mediator role in the relationship between the feelings of shame and guilt experienced in the general population in secondary traumas and psychological resilience.

Keywords Secondary trauma · Shame · Guilt · Resilience · Negative emotion

Introduction

Traumatic event, is an event that threatens the physical, and psychological integrity of oneself or others, and may cause death or injury. These negative effects of events on individuals are called trauma [1]. Experiences such as war, terrorist attacks, earthquakes, fires, and traffic accidents are examples of traumatic life events. Traumas can negatively effect both individuals directly exposed to the traumatic event, and those indirectly exposed to it [2]. The effects on individuals who experience the trauma indirectly are called secondary traumatic effects [3]. These effects include intrusive thoughts, avoidance, mood

✉ Aykut Günlü
aykutgunlu48@gmail.com

¹ Department of Child Care and Youth Services, Pamukkale University, Denizli, Turkey

changes, hyperarousal, and feelings of shame and guilt [1]. These negative cognitive and affective experiences were first classified as a subtype of post-traumatic stress disorder (PTSD) in The Diagnostic and Statistical Manual of Mental Disorders [DSM]-III in the 1960s. Initially conceptualized as survivor guilt in the literature, these emotions and feelings were included as a symptom of PTSD in DSM-IV [1]. In DSM-V, guilt was listed as a defining feature associated with PTSD, as trauma victims diagnosed with PTSD often experience feelings of guilt [4].

Due to secondary traumatic effects, some individuals' physical and mental health may deteriorate, and these individuals may need help. The negative emotions that individuals experience most intensely in secondary traumatic events, such as shame and guilt, are similar to PTSD and therefore are directly related to many mental health problems [5–8]. There are scientific studies showing that individuals who need psychological support because they indirectly witness traumas experience feelings of guilt and shame due to not being able to prevent or survive the traumatic event experienced by others [4, 9–12]. For example, another study conducted on a clinical sample of patients diagnosed with PTSD determined that shame and guilt in secondary traumas were experienced by 90% of survivors of an event in which people died [13]. Miller et al. [14] found that 83% of individuals who were victims of secondary trauma experienced feelings of guilt. In addition, being injured in an earthquake, losing a family member (child, sibling, etc.), and losing their home or workplace significantly increase the negative impact of these secondary traumatic events on the individual. For example, it was stated that the rate of trauma and secondary trauma-related symptoms and feelings of guilt in individuals directly or indirectly affected by the earthquake that occurred in Schuan (China) in 2008 was between 21.5% and 41.0% [15]. When looking at feelings of shame and guilt in secondary traumas as an emotional and cognitive response after trauma, working on feelings of shame and guilt in secondary traumas will help increase people's well-being and reduce the negative impact of the trauma on the individual more quickly [11].

Studies in the literature show that secondary traumatic reactions observed in individuals due to secondary traumas experienced are related to many variables [16]. Studies have examined the effects of concepts such as secondary traumatic stress and personality traits, sociodemographic characteristics, workplace, and occupational characteristics, trauma history, and the presence of social support, and coping styles as protective and risk factors [6, 17–19]. In addition to variables such as level of education and special training received on trauma, level of perceived social support, and similar variables, studies are showing that the level of secondary traumatic reaction is related to age, and length of professional experience [20–24].

After secondary traumatic events, the level of response given by an individual, depending on their own emotions and thoughts, varies from person to person. One of the concepts that affect the change in response is psychological resilience. Psychological resilience is the power that emerges in daily life and the strength that enables coping with difficult experiences and restoring disrupted balances [25]. Psychological resilience is a broad and conceptual subject, and is the process of eliminating negative thoughts and providing positive adaptation instead. Psychologically robust individuals are the most resistant to stress. In other words, it is expressed as individuals who do not suffer from physical or emotional disorders in the face of major stressful events.

Studies in the field indicate that there are multiple risk factors that affect the level of psychological resilience [26, 27]. When a threat is perceived, implementing positive thoughts that come to mind has a reducing effect on the negative impact of the traumatic event on the individual [28]. While problem-focused coping is about taking direct action

to eliminate or change the stressful situation, emotion-focused coping is about changing the meaning attributed to the event by moderating emotional reactions with cognitive effort [29]. Emotion-focused coping includes discharging emotions related to the stressful situation, seeking emotional support, and emotional relief behaviors [30]. People who have and have not experience traumatic life events sometimes cope by blaming themselves. Because they feel that they could have prevented the event from occurring and often assume that they have individual responsibility for the event. In such cases, it can be said that the individual's feelings of shame and guilt related to the trauma are affected by the individual's psychological resilience [31–33]. Studies have found that an individual's positive emotions such as optimism and hope are related to psychological resilience [34].

Studies in the literature show that psychological resilience and negative emotion variables are associated with feelings of shame and guilt. However, the fact that psychological resilience and the levels of shame and guilt experienced by an individual in secondary trauma are not experienced at the same rate in every individual suggests that there may be different variables between these two variables. Because shame and guilt are emotions that regulate social behaviors that encourage compliance with certain standards. Studies in the literature show that various scales have been developed to measure secondary trauma stress disorder in individuals working in the mental health field, the health sector that provides first aid services, and rescue teams [35–38]. However, no scale has been found in the literature that aims to determine the levels of shame and guilt in secondary traumas of people who are not affiliated with any professional group. Studies show that many people who are directly or indirectly exposed to traumatic experiences experience survivor guilt. Considering this situation, the necessity of working with survivor guilt in the treatment process emerges [39]. Considering its prevalence, PTSD severity, and its relationship with psychological well-being and psychological resilience, it is understood that this concept is very important. In addition, in order to solve a problem, it is necessary to measure the degree to which it is seen. This study will contribute to the implementation of necessary precautions and therapies by determining the level of shame and guilt in secondary traumas [40]. Therefore, in order to address this deficiency, the current study aimed to develop a scale that measures shame and guilt in secondary trauma. Another aim of the current study was to test the mediating role of negative emotions in the relationship between psychological resilience and shame and guilt in secondary trauma.

Method

Research Design

The current study aims to develop a scale measuring shame and guilt in secondary traumas. The study aims to examine of the mediating role of negative emotions in the relationship between psychological resilience and shame and guilt in secondary trauma. Therefore, the current study is a relational screening study in which the relationships between research variables are examined within the framework of the structural equation model. The structural equation model is based on the ability to test the effects between observable and latent variables in a single model [41, 42]. Before the data were analyzed, data that were found to be filled out irregularly or incorrectly, and data with extreme values that could negatively affect the results of the study were removed from the analysis set. The data in the research were analyzed with SPSS package program and AMOS programs.

Participants and Procedures

The participants included in the study were determined using the convenience sampling method. Data were delivered to participants via Google Forms and all data were collected on the internet. All three participant groups in the study consist of people from different provinces of Türkiye. The first page of the form includes the voluntary participant consent form, the purpose of the study, and the age and gender of the researchers. The second page of the form contains the scales used in the research.

Pilot study; 118 participants from the general population took part in the pilot study, which was carried out during the scale development phase. Considering the sample group of the pilot application, 54 (45.76%) of the participants were female and 58 (54.24%) were male; It was determined that their ages varied between 18–50 ($\bar{x} = 27.12$).

Study 1 included 310 participants from the general population. It was determined that 149 (48.06%) of the participants in Study 1 and 161 (51.94%) were male participants. It was determined that their ages varied between 18–50 ($\bar{x} = 26.32$).

Study 2, where the mediator variable was examined, 414 participants from the general population took part. 201 (48.5%) of the participants in Study 2 were women; 213 (51.5%) of them were male participants; It is seen that their ages vary between 18–50 ($\bar{x} = 32.85$) (Table 1).

Measures

The data obtained within the scope of the research were obtained through the Shame and Guilt in Secondary Trauma Scale, the Brief Resilience Scale, the Toronto Empathy Scale, the Trait Shame and Guilt Scale, and the Positive and Negative Emotion Scale.

Shame and Guilt Scale in Secondary Traumas (SGSST)

The SGSST consists of 2 sub dimensions, "escape" and "possibilities", and a total of 8 items. Items 1, 2, 3, 4 in the escape sub-dimension; The possibilities sub-dimension consists of items 5, 6, 7, and 8. Each item in the scales is evaluated on a 5-point Likert type as never (1) to always (5), and there is no reverse scored item in the scale. A high score from each subscale indicates that the emotion in that subscale is experienced intensely. The items on the scale were "After hearing about the natural disaster, I was embarrassed to share my happy moments with other people on social media." can be given as an example. The reliability coefficient of the scale was 0.84 for the escape sub-dimension; 0.91 for the possibilities sub-dimension and 0.86 for the overall scale.

Brief Psychological Resilience Scale (BRS)

BRS, was developed by Smith et al. [43] to measure the resilience of individuals, and adapted by Doğan [44]. The BRS is a Likert-type (5- point; not at all agree-1 and totally agree-5), 6-item all of, 3 items are coded as the reverse, self-report style discharging tool. The internal reliability (α) value of the scale was found to be between 0.80 and 0.91. Test–retest reliability was found to be between 0.62 and 0.69. High scores indicate

Table 1 Demographic characteristics of participants

Participant	Pilot Study Group		Study Group 1		Study Group 2		
	N	%	N	%	N	%	
Gender	Female	54	45.76	149	48.06	201	48.5
	Male	64	54.24	161	51.94	213	51.5
	Total	118	100	310	100	414	100
		Range	$\bar{x}$	Range	$\bar{x}$	Range	$\bar{x}$
Age	Female	18–50	28.05	18–50	27.30	18–50	30.41
	Male	18–50	26.09	18–50	25.34	18–50	32.44

high psychological resilience. Cronbach's Alpha reliability was calculated as 0.80. In this study, Cronbach's Alpha reliability value was determined as 0.85.

Toronto Empathy Questionare (TEQ)

TEQ is a 13-item, developed by Spreng, Kinnon, Mar, and Levine [45] TEQ was adapted into Turkish by Totan, Doğan, and Sapmaz, Accordingly, reliability (α) of the TEQ was found to be 0.79. With the test–retest method, which was carried out at two-week intervals, and the calculated reliability coefficient was found as 0.73. In this research, reliability (α) was calculated as 0.82. The scale consists of one dimension and a high score from the scale indicates a high level of empathy [45]

Trait Shame and Guilt Scale (TSGS)

TSGS was developed by Rohleder, Chen, Wolf, and Miller [46] to measure shame and guilt tendencies. The scale consists of 15 items. The scale has three sub-dimensions: shame (“I wanted to sink into the ground and disappear”), guilt (“I felt remorse and remorse”), and pride (“I felt proud of myself”). Psychometric analyzes of the scale show that the internal consistency ranges from 0.85 to 0.87 for the subscales [46]. Bugay and Demir (36) adapted TSGS into Turkish. The Cronbach Alpha (α) coefficients of the scale were calculated as 0.83 for the shame subscale, 0.81 for the guilt subscale, and 0.87 for the pride subscale [36].

Positive Negative Emotion Scale (PANAS)

PANAS was developed by Watson, Clark, and Tellegens [47] and adapted into Turkish by Gençöz and adapted into Turkish by Gençöz [33]. PANAS has two sub-dimensions, positive and negative affect. There are 10 items in each dimension. The items in the scale are calculated by scoring in a 5-point Likert type. The score that can be obtained from the scale will be between 10 and 50. Sub-dimensions of PANAS can be used alone. The Cronbach Alpha reliability of the sub-dimensions of the scale in this study was calculated as 0.84 and 0.82, respectively.

Results

Pilot Study

Appearance Validity

Expert opinion was sought for the content validity of the items in the prepared 17-item scale pool. The eight stages suggested by DeVellis [48] were followed in the scale development process. First, “what is intended to be measured” was clearly determined. The theoretical structure of the variable to be measured and related variables were presented in detail. In the second stage, an item pool was created. In the third stage, the format of the measurement tool was decided and a 5-point Likert-type scale was adopted. Then, the stage of reviewing the items by experts was followed. It is the expert opinions taken from experts

who have conducted studies on the subject in order to determine whether the items in the appearance validity measurement tool are related to the subject to be researched [49] The expressions in the item pool sent to two experts -(one a professor and the other an associate professor, who work in the field of psychological counseling and guidance in the literature)- in the literature were examined in terms of Turkish meaning, intelligibility and similarity levels. In line with the feedback from the experts, it was decided to remove the three items in the item pool from the scale because they were similar and overlapping items. Since the opinions of two experts were consulted, the Cohen Kappa validity coefficient was used for content validity. According to Büyüköztürk [49] the evaluations from the experts should be calculated in the calculation of item conformity and the items should be ≥ 0.90 . In line with this recommendation, items that should not be included in the scale were determined and the Cohen Kappa value obtained was found to be 0.91 (Table 2). Subsequently, a pilot application was carried out with 14 items. Any scale should be piloted before actual application [49]. At this stage, the processes of ensuring item validity, applying the scale, evaluating the items, and finalizing the scale were followed and the final version of the scale was created. In line with this opinion, 118 individuals participated in the pilot application. In the Exploratory Factor Analysis conducted after the pilot application, six items that were not included in any sub-dimension (each item was tested separately; the items in the sub-dimensions were examined in terms of factor loadings. 6 items that were not included in any sub-dimension were removed from the scale question list) were removed from the scale and the actual implementation process was started with 8 items. The scale is scored in a 5-point Likert type (1- Never, 5- Always). The validity and reliability analyzes of the scale are presented in Study1 in detail.

Study 1

Structure Validity

Exploratory Factor Analysis (EFA) was performed to determine the structive validity of the scale. Firstly, the Kaiser–Meyer–Olkin (KMO) value was checked for analysis. It is necessary to ensure that the KMO value is 0.60 and above [50]. It was seen that the obtained KMO value was 0.93. In addition, the Barlett Sphericity test was checked and determined that the data showed significant differences ($\chi^2 = 1974.02$, $sd = 28$, $p < 0.001$). In this analysis performed to determine the number of factors, it was observed that there

Table 2 Conformity ratios of items in the scale

Item	Appropriate (%)
i1	93.3
i2	93.3
i3	96.6
i4	100
i5	96.6
i6	96.6
i7	100
i8	93.3

Table 3 Factor structure of the scale

Item	Factor loads		Corrected item total
	Escape	Facilities	
i1	0.87		0.40
i2	0.81		0.73
i3	0.80		0.54
i4	0.76		0.58
i5		0.80	0.53
i6		0.74	0.69
i7		0.68	0.80
i8		0.65	0.66
Explained variance	52.77	14.47	
Eigenvalue	4.22	1.15	
Cronbach Alpha	0.84	0.87	

**Fig. 1** SGSST's measurement model

was a two factor structure with an eigenvalue above 1. The items in each factor is shown in Table 3, and Fig. 1.

Criterion Relevant Validity

In the criterion-related validity study of SGSST, TSGS (shame, guilt and pride), and TEQ were used. The correlation analysis performed to determine the criterion-related validity is presented in Table 4.

As seen in Table 4, it was determined that there was a low relationship between the total score of SGSST and the sub-dimension of TSGS, shame (0.25 ($p < 0.01$), medium level of guilt (0.30 ($p < 0.01$) and low level of pride (0.12 ($p < 0.05$); a low relationship between the sub-dimension of SGSST and the sub-dimension of TSGS, shame (0.23 ($p < 0.01$),

Table 4 Correlation coefficients between variables

Variables	Shame	Guilt	Pride	TEQ
SGSST-Total	0.25**	0.30**	−0.12*	0.33**
Escape	0.23**	0.25**	−0.13*	0.30**
Facilities	0.24**	0.31**	−0.11*	0.32**

** $p < 0.01$, * $p < 0.05$

low level of guilt (0.25 ($p < 0.01$)) and low level of pride (0.13 ($p < 0.05$)); a low relationship between the sub-dimension of SGSST and the sub-dimension of TSGS, shame (0.24 ($p < 0.01$)), medium level of guilt (0.31 ($p < 0.01$)) and low level of pride (0.11 ($p < 0.05$)). In other words, as the scores of shame and guilt experienced in secondary traumas increase, the scores of continuous shame and guilt also increase, while the scores of the sense of pride decrease. In addition, significant correlations were found between TEQ used for criterion-related validity study and SGSST overall 0.33 ($p < 0.01$), escape subscale 0.30 ($p < 0.05$), and possibilities subscale 0.33 ($p < 0.01$). In other words, it can be said that as TEQ scores increase, SGSST scores also increase.

Confirmatory Factor Analysis (CFA)

CFA was performed to determine whether the two-factor model determined as a result of EFA was confirmed. While doing DFA; Normed Fit Index (NFI), Incremental Fit Index (IFI), Comparative Fit Index (CFI), chi-square fit (χ^2) and ratio of chi-square to degrees of freedom, Goodness of Fit Index (GFI), Adjusted Goodness of Fit Index (AGFI), Root Mean Errors (RMR), and Root Mean Square Errors (RMSEA) are the most commonly used values. In the present study, an evaluation was made for CFA by taking these values into account.

The CFA results for the SGSST are presented in Fig. 1. It is seen that the standardized factor loads of the scale vary between 0.64 and 0.88. In the present study, some values have acceptable or good fit values in the step Table 5.

Reliability Analysis

The Cronbach Alpha reliability coefficients for the SGSST were calculated as 0.91 for the scale total score, 0.84 for the escape sub-dimension, and 0.87 for the possibilities

Table 5 SGSST'nin confirmatory factor analysis results

Measurement	Good fit	Acceptable fit	Value	Comment
χ^2/sd	≤ 3	$\leq 4-5$	2.93	Good fit
SRMR	≤ 0.05	0.06–0.08	0.028	Good fit
AGFI	≥ 0.90	0.89–0.85	0.93	Good fit
CFI	≥ 0.97	≥ 0.95	0.98	Good fit
GFI	≥ 0.90	0.89–0.85	0.97	Good fit
NFI	≥ 0.95	0.94–0.90	0.97	Good fit
RMSEA	≤ 0.05	0.06–0.08	0.068	Acceptable fit

Table 6 SGSST adjusted item total correlations and cronbach alpha internal consistency coefficient values

Sub-dimension	Items	Item Corrected Total	SD	Skew	Kurt	Cronbach Alpha	Mcdonalds ω
1-escape	i1	0.67	0.79	−1.03	1.65	0.84	0.85
	i2	0.66	0.96	−1.29	1.11		
	i3	0.53	0.83	−1.68	1.89		
	i4	0.58	0.96	−1.44	1.59		
2-facilities	i5	0.64	1.06	−1.41	0.99	0.87	0.86
	i6	0.63	0.89	−1.07	1.26		
	i7	0.72	0.88	−1.87	1.74		
	i8	0.69	0.97	−1.76	1.59		
		Cronbach Alpha (total) 0.91					
		Spearman-Brown 0.92					
		Guttman Split-Half 0.92					
		Mcdonalds ω 0.91					

sub-dimension. Corrected item-total correlation was also examined to obtain further findings regarding the reliability of the scale. The obtained values are showed there (Table 6). Values between 0.53 ($p < 0.001$) and 0.67 ($p < 0.001$) for sub-dimension 1, and between 0.63 ($p < 0.001$) and 0.72 ($p < 0.001$) for sub-dimension 2 were obtained.

In addition, Spearman-Brown and Guttman Split-Half reliability values were also examined in determining the reliability values of the study parameters. Spearman-Brown confidence value of SGSST was 0.92; the Guttman Split-Half reliability value was also calculated as 0.92. As a result, all three reliability values show that the research is a reliable means of transportation. In additon, Lambda values in Guttman Split-Half reliability ranged between 0.80 and 0.92 for 8 items. McDonald's Omega reliability coefficient of the total scale was calculated as 0.91. Reliability for the escape sub-dimension of the scale was 0.85; for the facilities sub-dimension, the reliability was 0.86.

Relationships Between SGSST, BRS, and PANAS

For the purpose of this research, the mediating role of PANAS-negative emotions in the relationship between SGSST and BRS was investigated. The data in this part of this research were obtained from the in Study 2. Before the analysis of the data, as was done in Study 2, the observed variables exhibit a normal distribution (kurtosis and skewness values $[-/+2]$). It was observed that the kurtosis and skewness of the variables were between -2 and $+2$ and showed a normal distribution [51]. Then, the descriptive statistics of the variables and the relations between the variables were revealed. Then, the mediating role of negative emotions in the relationship between BRS and SGSST was tested with the structural equation model.

Considering the correlations between the variables, it was determined that there was a negative relationship between escape and BRS in the sub-dimensions of SGSST ($r = -0.14$, $p < 0.01$) and a positive relationship between negative emotion ($r = 0.33$, $p < 0.01$). a negative relationship between facilities from the SGSST sub-dimensions and BRS ($r = -0.12$, $p < 0.01$); It was determined that there was a positive

Table 7 Correlation values between observed variables

Variables	1	2	3	4	$\bar{X}$	<i>SD</i>	Skew	Kurt
1- escape	1	0.77**	-0.14**	0.33**	17.71	2.94	-1.65	1.31
2- facilities		1	-0.12**	0.32**	17.69	3.19	-1.85	1.61
3- BRS			1	-0.15**	20.09	2.88	0.98	0.24
4- neg.emot				1	16.33	4.31	-0.17	-0.25

** $p < 0.01$

relationship between negative emotion ($r = 0.32$, $p < 0.01$). The data obtained are presented in Table 7. Considering the correlations between the variables, a negative relationship ($r = -0.14$, $p < 0.01$) between escape and BRS in the sub-dimensions of SGSST ($r = 0.33$, $p < 0.01$) is between negative emotion ($r = 0.33$, $p < 0.01$). A positive relationship was found. a negative relationship between facilities from the SGSST sub-dimensions and BRS ($r = -0.12$, $p < 0.01$); It was determined that there was a positive relationship between negative emotion ($r = 0.32$, $p < 0.01$). The data obtained are presented in Table 7.

Study 2

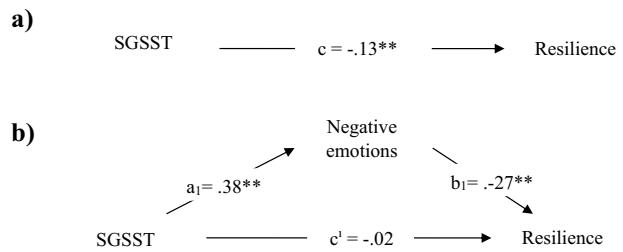
Test of the Structural Model

Baron and Kenny [52] state that in order to test the mediator variable with the structural equation model, there should be a significant relationship between dependent (guilt and shame in secondary traumas), independent (resilience) and mediator (PANAS-negative emotion) variables. As seen in Table 7, there are significant relationships between the variables. Considering the findings-Table 7, it can be said that the results obtained are suitable for structural equation analysis [53] (Table 8). According to the structural equation model analysis for the mediating effect of negative emotions ($\chi^2/df = 2.53$, $p < 0.001$, RMSEA = 0.06, SRMR = 0.05, GFI = 0.97, AGFI = 0.94, IFI = 0.96, CFI = 0.96) results were found to have good fit indices. Structural models for the analysis are presented in Fig. 2.

Table 8 Bootstrapping process for the full mediator model

Model pathways	Coefficient	%95 CI	
		Bottom	Top
Direct effect			
SGSST → negative emotion	0.38**	0.30	0.47
Negative emotion → Resilience	-0.27**	-0.41	-0.13
SGSST → Resilience	-0.13**	-0.32	0.09
Indirect Effect			
SGSST → negative emotion → Resilience	-0.02	-0.16	0.08

Fig. 2 Indirect effects of negative emotions on the relationship between SGSST and Resilience (Figure a, b)



Bootstrapping Process

The significance of the direct and indirect effects of the variables in the model was examined by Bootstrap analysis and the number of 2000 recommended by Arbuckle [54] in the literature was entered for the number of repeated sampling. The coefficients of the direct and indirect paths that emerged as a result of the bootstrap analysis and the average effects at the 95% confidence intervals for these coefficients are presented in Table 5.

As a result of the analysis, it was seen that SGSST positively predicted negative emotions ($\beta = 0.38$, $p < 0.01$) and negatively predicted resilience ($\beta = -0.27$, $p < 0.01$). The inclusion of negative emotions as a mediator variable in the model decreased the SGSST's predictive power of resilience ($\beta = -0.02$, $p < 0.01$). In other words, SGSST significantly predicts resilience through negative emotions ($\beta = -0.02$, $p < 0.01$). Accordingly, it can be stated that all direct path coefficients are significant. It is seen that the indirect path coefficient, which allows the intermediary role to be understood, is also found to be significant. Considering these results, it can be said that negative emotions have full mediating role in the relationship between SGSST and resilience.

Discussion, Conclusion, and Suggestions

The present research was carried out for two purposes. One of these aims is to develop a scale to determine the levels of shame and guilt feelings experienced in the general population in secondary traumas. The other aim of the study is to determine the mediating effect of negative emotions in the relationship between feelings of shame and guilt experienced in secondary traumas and psychological resilience.

In the study, the first aim of the research was achieved and the SGSST was developed to determine the levels of shame and guilt feelings experienced in the general population in secondary traumas. As a result of the EFA conducted during the scale development process, it was seen that the scale items were at high values in the sub-dimensions (escape and facilities) of the scale. For this, the item coefficients must be 0.30 and above. The fact that the factor loadings are high indicates that that item is in a strong relationship with those factors (sub-dimension) [55]. As can be seen, in the present study, it was determined that the values of all items were well above this value. While in the first dimension of the scale, escape, the individual feels uncomfortable and negative emotions due to negative emotions, in the second dimension, facilities, the individual experiences negative emotions due to the inadequacy of his/her means and nothing he/she can do.

According to the results of the correlation analyzes performed to determine the criterion-related validity of the scale, the total score of SGSST and its sub-dimensions and the sub-dimensions of TSQS were positive with shame and guilt; It is seen that it is negatively associated with pride and its relationship with TEQ is positive and significant.

In the analyzes performed for CFA, a sample group other than the sample in EFA was used. In the literature, it is argued that testing EFA and CFA with different samples is a very healthy and reliable method [56]. The model was tested and modification suggestions were taken into account for the fit values. In the literature, Byrne [57] recommends starting the process with the substances that can provide the highest improvement. In line with this suggestion, the correction suggestions for the error variances of the items were taken into consideration while performing the procedure, and modifications were made between the items in the same sub-dimension. In line with the proposed modifications, a total of four modifications were made, one modification in the first and third sub-dimensions and two modifications in the second sub-dimension. Although multiple values are used in CFA, the most frequently used and preferred values in the current research are; χ^2/sd , IFI, NFI, CFI, GFI, AGFI, RMR and RMSEA are the most commonly used values. In the model obtained, it is seen that these values meet the acceptable or good fit values. The Cronbach Alpha internal consistency reliability coefficient values of the scale were calculated as 0.91 for the overall scale and 0.84 and 0.87 for the physiological, emotional and behavioral response sub-dimensions, respectively. A Cronbach Alpha value of 0.70 and above indicates acceptable values in terms of reliability [58]. Therefore, it is seen that the scale in the current study meets the reliability condition. In addition, Spearman-Brown and Guttman Split-Half reliability values were also examined. Spearman-Brown coefficient value of SGSST was 0.92; the Guttman Split-Half reliability value was also calculated as 0.92. As a result, all three reliability values show that the scale is a reliable values. In addition, Lambda values in Guttman Split-Half reliability ranged between 0.80 and 0.92 for 8 items. McDonald's Omega reliability coefficient of the total scale was calculated as 0.91. Reliability for the escape sub-dimension of the scale was 0.85; for the facilities sub-dimension, the reliability was 0.86.

In line with the second purpose of the research, the mediating role of negative emotions in the relationship between the feelings of shame and guilt experienced in the general population in secondary traumas and psychological resilience was determined, and it was observed that negative emotions had a full mediating role. At this point, no research has been found in the literature on the relationship between feelings of guilt and shame in secondary traumatic events and the negative emotions that are assumed to be related. Therefore this part of the discussion; It has been tried to be written by including the results of research on the feelings of guilt and shame in the traumatic experiences experienced by the individual.

Guilt and shame are distressing emotions felt as a result of personal mistakes, failures or behaviors contrary to social values. It acts as a punishment for negative mood and behavior caused by these emotions [59]. Thus, these moral feelings play a central role in guiding our social behaviors in Daily [60, 61]. In addition, both emotions arise with the feeling of distress and stress caused by personal mistakes. Therefore, these two emotions open the way for the individual to regulate himself. Thus, feelings of guilt and shame become an important factor in leading people to prefer behaviors accepted by society. As a matter of fact, a study showed that guilt is more effective than shame in motivating people to choose moral paths [8]. People who feel guilty experience a feeling of guilt, remorse and tension due to any behavior. These feelings of tension and regret motivate behaviors to confess,

apologize, and somehow correct mistakes [62–64]. Along with these similarities, different behavioral characteristics have been observed in individuals prone to shame and guilt. In counterfactual thinking, in which participants were asked how the negative consequences of any given scenario could be different, the difference in the behaviors of individuals prone to guilt and shame emerges clearly. For example, saying "I wish I had told the truth" in order to change the negative effects that will occur after a lie indicates a tendency to guilt, and saying "I wish I was brave enough to tell the truth" indicates a tendency to shame [65]. Cohen [18] also showed that there is a negative relationship between guilt scores and antisocial behaviors such as anger, vandalism, and theft. At the same time, a positive relationship was found between guilt scores and moral decision making, and it was determined that people with high guilt scores were more honest in negotiations. Cohen et al. [66] also showed that people with high guilt scores are more conscientious, modest and accommodating as personality traits.

In another study, participants aged 10–12 were observed in a longitudinal study comparing the tendencies to guilt and shame and their behavioral consequences. These participants were interviewed again when they reached the age of 18–21, and it was observed that the number of sexual partners, illegal drug and alcohol use were less in people who were prone to delinquency in childhood, and it was stated that these people committed less crimes [8]. There are also studies showing that trauma-induced psychopathologies are associated with guilt and shame predisposition [18, 21, 23, 67–70]. Since the feeling of shame and guilt is a painful and distressing experience for the individual, when individuals feel this emotion, they look for a way to get rid of this emotion instead of empathizing and showing some compensatory behaviors. For this, they can try to hide their mistakes or they do not go back and reevaluate the mistake they made. Shame and guilt can cause the offender to avoid confronting their mistakes, excuse their actions, be aggressive, or engage in self-destructive, unconstructive behavior. Considering the emotional intensity of shame and guilt, it is assumed that the short experience of shame has a motivating effect that can lead the individual to prosocial behaviors. The feelings of shame and guilt experienced by the individual regarding an event are attributed to the whole self and the individual sees himself as a bad person, thus having a more painful emotional experience [71] negative emotions are also related to the psychological resilience of the individual.

As a result, in the current study, a scale was developed that can be used to determine individuals' feelings of shame and guilt in secondary traumas. It has been determined that SGSST is a valid and reliable measurement tool. It can shed light on the theoretical and applied studies of many psychological symptoms and diagnoses that may be associated with SGSST. However, it can be said that there is a need for various studies that also deal with the relationship between the relationships in large sample groups with different characteristics and with different variables.

The current research has some strengths. The currently developed measurement tool differs from other scales of shame and guilt developed in the literature, as it is a scale that allows determining the feelings of shame and guilt experienced by the general population in secondary traumas. In addition, the use of different sample groups while developing the scale is another strength of the study. However, there are some limitations of the study. The highest age of the participants in the sample is 50. The absence of participants older than 50 is an important limitation of the study. In addition, the absence of individuals under the age of 18 in the age group is another important limitation of the age group. Another limitation of the current study is the application of both EFA and CFA to the same sample. While there are possible different versions of the order of application of exploratory and confirmatory factor analysis in the process of developing a new test, if it is possible to

reach a large sample, it seems to be the most frequently recommended and applied method to perform exploratory factor analysis on half of the data and confirmatory factor analysis on the other half. In cases where this is not possible, both EFA and CFA can be applied to the same sample [50, 56].

The following suggestions can be made by experts who will conduct research on this subject in the future: Researches can be conducted to determine the relationship between SGSST and different variables.

Appendix

Shame and Guilt Scale in Secondary Traumas ((English)

In the list below, there are statements about the emotional lives of people who have experienced a natural disaster (earthquake, flood, fire, etc.), who are affected by the negative living conditions of individuals, BUT who have not experienced this natural disaster. Please read each statement and indicate how often you have experienced the stated situation in the last thirty (30) days by circling the relevant number.

- 1-Never.
- 2-Very Few.
- 3-Sometimes.
- 4-Frequently.
- 5-Always.

1-After hearing about the natural disaster (earthquake, flood, landslide, etc.), I was embarrassed to share my happy moments with other people on social media.

2-I felt guilty for eating after hearing about the natural disaster (earthquake, flood, landslide, etc.).

3- When I thought of the disaster victims, I was ashamed to have fun.

4- When I think of the disaster victims, I felt guilty for doing activities such as games/music/sports to entertain myself.

5-After hearing about the natural disaster, I felt guilty for not being able to go to the disaster site.

6- When I saw the disaster survivors, staying in tents, I felt guilty for not being able to do anything.

7- When I saw the survivors, getting cold in the cold, I felt guilty for being in a warm environment.

8-When I think of the disaster victims, I am ashamed of my past dissatisfaction.

İkincil Travmalarda Suçluluk ve Utanç Ölçeği (Turkish)

Aşağıdaki listede doğal afet (deprem, sel, yangın, vb.) yaşamış bireylerin içinde bulunduğu olumsuz yaşam koşullarından etkilenen, ANCAK bu doğal afeti YAŞAMAMIŞ kişilerin duygusal yaşantılarına ilişkin ifadeler yer almaktadır. Lütfen her bir ifadeyi okuyunuz ve son otuz (30) gün içerisinde belirtilen durumu ne sıklıkta yaşadığınızı, ilgili sayıyı yuvarlak içine alarak belirtiniz.

- 1-Hiçbir Zaman
- 2-Çok Az

3-Bazen

4-Sık Sık

5-Her zaman

1-Doğal afeti (depremi, seli, heyelan, vb.) duyduktan sonra mutlu anlarımı sosyal medyada diğer insanlarla paylaşmaktan utandım.

2-Doğal afeti (depremi, seli, heyelan, vb.) duyduktan sonra yemek yediğim için suçluluk hissettim.

3-Afetzedeleri düşündüğümde eğlenmekten utandım.

4-Afetzedeleri düşündüğümde kendimi eğlendirecek oyun/müzik/spor gibi etkinlikleri yaptığım için suçluluk hissettim.

5-Doğal afeti (depremi, seli, heyelan, vb.) duyduktan sonra afet yerine gidemediğim için suçluluk hissettim.

6-Afetzedelerin çadırlarda kaldığını gördüğümde elimden bir şey gelmediği için suçluluk hissettim.

7-Afetzedelerin soğukta üşüdüğünü gördüğümde sıcak bir ortamda olduğum için suçluluk hissettim.

8-Afetzedeleri düşündüğümde geçmişteki memnuniyetsizliklerimden utandım

Declarations

All procedures performed in studies involving human participants were in accordance with the ethical standards and with the Helsinki Declaration and its later amendments or comparable ethical standards. Before starting the research, ethical permission was obtained from the Pamukkale University Social and Human Sciences Ethics Committee in accordance with the letter dated 03.05.2023 and numbered E.360488.

Informed Consent Informed Consent Informed consent was obtained from all individual participants included in the study. I did not receive any financial support for the research, authorship, and/or publication of this article.

Conflict of interest The authors no conflict of interest.

References

1. American Psychological Association [APA], Diagnostic and Statistical Manual Of Mental Disorders: DSM-5. NewYork: American Psychiatric Association. 2013.
2. Figley C. Compassion fatigue: psychotherapists' chronic lack of self care. J Clin Psychol. 2002;58:1433–41.
3. Chamberlain J, Miller M. Evidence of secondary traumatic stress, safety concerns, and burnout among homogeneous group of judges in a single jurisdiction. J Am Acad Psychiatry Law. 2009;37:214–24.
4. Fimiani R, Gazzillo F, Dazzi N, Bush M. Survivor guilt: Theoretical, empirical, and clinical features. Int Forum Psychoanalysis. 2022;31:376–190.
5. Kubany E, Manke F. Cognitive therapy for trauma-related guilt: conceptual bases and treatment outlines. Cogn Behav Pract. 1995;2:23–61.
6. Kubany E, Watson B. Guilt: elaboration of a multidimensional model. Psychol Rec. 2003;53:51–90.
7. Norman S, Haller M, Kim H, Allard C, Porter K, et al. Trauma related guilt cognitions partially mediate the relationship between PTSD symptom severity and functioningamong returning combat veterans. J Psychiatr Res. 2018;100:56–62.
8. Tangney J, Stuewig J, Mashek D. Moral emotions and moral behavior. Annu Rev Psychol. 2007;58:345–72.
9. Anderson D, Prioleau P, Taku K, Naruse Y, Sekine H, Maeda M, et al. Post-traumatic stress and growth among medical student volunteers after the March 2011 disaster in Fukushima, Japan: implications for student involvement with future disasters. Psychiatry Q. 2016;87(2):241–51.

10. Galovski T, Lyons J. Psychological sequelae of combat violence: a review of the impact of PTSD on the veteran's family and possible interventions. *Aggression Violent Behavior*. 2004;9(5):477–501.
11. Murray H, Medin E, Brown G. Treatment of survivor guilt after trauma using imagery rescripting: a proof-of-concept study. *Behav Cogn Psychother*. 2021;49(1):124–8.
12. Ting L, Jacobson J, Bride B, Harrington D. The secondary traumatic stress scale: confirmatory factor analyses with a national sample of mental health social workers. *J Hum Behav Soc Environ*. 2005;11(3/4):177–94.
13. Murray H, Pethania Y, Medin E. Survivor guilt: a cognitive approach. *Cogn Behav Ther*. 2021;14:e28.
14. Miller M, Wolf E, Kilpatrick D, Resnick H, Marx B, Holowka D, et al. The prevalence and latent structure of proposed DSM-5 posttraumatic stress disorder symptoms in. *Psychol Trauma Theory Res Pract Policy*. 2013;5(6):501–12.
15. Eisma M, Lenferink L, Chow A, Chan C, Li J. Complicated grief and post-traumatic stress symptom profiles in bereaved earthquake survivors: a latent class analysis. *Eur J Psychotraumatol*. 2019;10(1):1558707.
16. İme Y, Kama R, Arslan N. Pathway from earthquake fear to post-traumatic growth: the roles of resilience, self-efficacy, and positive childhood memories among survivors of the 2023 Türkiye Earthquakes. *Psychiatr Q*. 2025;96:169–82. <https://doi.org/10.1007/s11126-025-10113-1>.
17. Browne K, Trim R, Myers U, Norman S. Trauma-related guilt: conceptual development and relationship with posttraumatic stress and depressive symptoms. *J Trauma Stress*. 2015;28(2):134–41.
18. Cohen T. Moral emotions & unethical bargaining: the differential effects of empathy and perspective taking in deterring deceitful negotiation. *J Bus Ethics*. 2010;94:569–79.
19. Herman J. Trauma and recovery. Literature Publications. 2022.
20. Ewer P, Teesson M, Sannibale C, Roche A, Mills K. The prevalence and correlates of secondary traumatic stress among alcohol and other drug workers in Australia. *Drug Alcohol Rev*. 2014;34(3):252–60.
21. Feiring C, Taska L. The persistence of shame following sexual abuse, a longitudinal look at risk and recovery. *Child Maltreat*. 2005;10(4):337–49.
22. Perez L, Jones J, Englert D, Sachau D. Secondary traumatic stress and burnout among law enforcement investigators exposed to disturbing media images. *J Police Crim Psychol*. 2010. <https://doi.org/10.1007/s11896-010-9066-7>.
23. Raccanello D, Rocca E, Vicentini G, et al. Eighteen months of COVID-19 pandemic through the lenses of self or others: a meta-analysis on children and adolescents' mental health. *Child Youth Care Forum*. 2023;52:737–60. <https://doi.org/10.1007/s10566-022-09706-9>.
24. Schwartz R. Working conditions and secondary traumatic stress. *Doctoral thesis*. New York: Yeshiva University;2008.
25. Henderson N, Milstein M. Resiliency in schools: making it happen for students and educators. California: Corwin Press; 2003.
26. Bonanno G, Galea S, Bucciarelli A, Vlahov D. What predicts psychological resilience after disaster? The role of demographics resources and life stress. *J Consult Clin Psychol*. 2007;75(5):671–82.
27. Masten AS, Reed MJ. Resilience in Development. C. Snyder, & S. Lopez içinde, *The handbook of positive psychology*. Oxford University Press;2002.
28. Kammeyer-Mueller J, Judge T, Scott B. The role of core self-evaluations in the coping process. *J Appl Psychol*. 2009;94(1):177–95.
29. Matud M. Gender differences in stress and coping styles. *Pers Individ Differ*. 2004;37:1401–15.
30. Folkman S, Moskowitz J. Coping: pitfalls and promise. *Annu Rev Psychol*. 2004;55:745–74.
31. Dearden J. Resilience: a study of risk and protective factors from the perspective of youth people with experience of local authority care. *Support Learn*. 2004;19(4):187–93.
32. Ehlers A, Clark D. A cognitive model of posttraumatic stress disorder. *Behav Res Ther*. 2000;38(4):319–45.
33. Gençöz F, Gençöz T, Bozo Ö. Hierarchical dimensions of coping styles: a study conducted with Turkish university students. *Soc Behav Pers*. 2006;34(5):525–34.
34. Kokou-Kpolou CK, Jumageldinov A, Park S, et al. Prevalence of depressive symptoms and associated psychosocial risk factors among French university students: the moderating and mediating effects of resilience. *Psychiatr Q*. 2021;92:443–57. <https://doi.org/10.1007/s11126-020-09812-8>.
35. Akıncı İ, Cesur AM. Psychometric properties of Turkish compass of shame scale. *Studies Psycholog*. 2019;40(2):361–83.
36. Bugay A, Demir A. Psychometric properties of the Turkish version of trait shame and guilt scale. *Eurasian J Educ Res*. 2011;45:17–30.
37. Cırhınlioğlu F, Güvenç G. Utanç eğilimi, suçluluk eğilimi ve psikopatoloji. *J Human Sci*. 2011;8(1):248–60.

38. Sarıçam H, Akın A, Çardak M. The study on the validity and reliability of the Turkish form of Offence-related feelings of shame and guilt scale. *Civilacademy J Soc Sci*. 2012;10(1–2):235–47.
39. Wang W, Wu X, Tian Y. Mediating roles of gratitude and social support in the relation between survivor guilt and posttraumatic stress disorder, posttraumatic growth among adolescents after the Ya'an earthquake. *Front Psychol*. 2018;9:2131.
40. Perloff T, King JC, Rigney M, Ostroff JS, Johnson Shen M. Survivor guilt: the secret burden of lung cancer survivorship. *J Psychosoc Oncol*. 2019;37(5):573–85.
41. Fraenkel JR, Wallen NE, Hyun HH. How to design and evaluate research in education. New York: McGraw-Hill Higher Education; 2012.
42. Meydan CH, Şeşen H. Structural equation modeling Amos applications. Ankara: Detay Publishing; 2015.
43. Smith B, Dalen J, Wiggins K, Tooley E, Christopher P, Jennifer B. The brief resilience scale: Assessing the ability to bounce back. *Int J Behav Med*. 2008;15:194–200.
44. Doğan T. Adaptation of the brief resilience scale into Turkish: a validity and reliability study. *J Happiness Well-Being*. 2015;3(1):93–102.
45. Totan T, Tayfun D, Sapmaz F. The Toronto empathy questionnaire: evaluation of psychometric properties among Turkish university students. *Eurasian J Educ Res*. 2012;46:179–98.
46. Rohleder N, Chen E, Wolf J, Miller G. The psychobiology of trait shame in young women: extending the social self preservation theory. *Health Psychol : Official Journal of the Division of Health Psychology*. 2008;27(5):523–32.
47. Watson D, Clark L, Teligan A. Development and validation of brief measures of positive and negative affect: The PANAS scales. *J Personal Soc Psychol*. 1988;54(6):1063–70.
48. DeVellis RF. Scale development theory and applications (Second Edition). SAGE Publication, Inc.2003.
49. Büyüköztürk Ş. Manual of data analysis for social sciences. Ankara: PEGem Publishing; 2016.
50. Worthington R, Whittaker T. Scale development research: a content analysis and recommendations for best practices. *Counsel Psychol*. 2006;34:806–38.
51. Morgan G, Leech N, Gloeckner G, Barrett K. *SPSS for introductory statistics: Use and interpretation*. Mahwah: NJ: Lawrence Erlbaum Associates. 2004.
52. Baron R, Kenny D. The moderator–mediator variable distinction in social psychological research: conceptual, strategic, and statistical considerations. *J Pers Soc Psychol*. 1986;51(6):1173–82.
53. Şimşek Ö. Introduction to structural equation modeling (basic principles and LISREL applications)]. Ankara: Ekinoks Publishing; 2007.
54. Arbuckle JA. 16.0 user's guide. Spring House: Amos Development Corporation; 2007.
55. Tabachnick B, Fidell L. Using multivariate statistics. Boston: Allyn and Bacon; 2001.
56. Henson R, Roberts J. Use of exploratory factor analysis in published research: Common Errors and some comment on improved practice. *Educational Psychological Measurement Educational Psychological Measurement*. 2006;66(3):393–416.
57. Byrne B. Structural equation modeling with AMOS, EQS, and LISREL: comparative approaches to testing for the factorial validity of a measuring instrument. *Int J Test*. 2001;1(1):55–86.
58. Field A. Discovering statistics using SPSS. London: Sage Publications Ltd; 2009.
59. Leary M, Tangne J. Handbook of self and identity. New York: Guilford Press; 2012.
60. Moll J, De Oliveira-Souza R, Eslinger P. Morals and the human brain: a working model. *NeuroReport*. 2003;14:299–305.
61. Schulkin J. Bodily sensibility: intelligent action. New York: Oxford University Press; 2004.
62. De Hooge I, Zeelenberg M, Breugelmans S. Moral sentiments and cooperation: differential influences of shame and guilt. *Cogn Emot*. 2007;21:1025–42.
63. Ketelaar T, Au W. The effects of feelings of guilt on the behaviour of uncooperative individuals in repeated social bargaining games: an affect-as-information interpretation of the role of emotion in social interaction. *Cogn Emot*. 2003;17:429–53.
64. Sheikh S, Janoff-Bulman R. The, “shoulds” and “should nots” of moral emotions: A self-regulatory perspective on shame and guilt. *Pers Soc Psychol Bull*. 2010;36:213–24.
65. Niedenthal P, Tangney J, Gavanski I. ‘If Only I Weren’t’ Versus ‘If Only I Hadn’t’: distinguishing shame and guilt in counterfactual thinking. *J Pers Soc Psychol*. 1994;67(4):585–95.
66. Cohen T, Wolf S, Panter A, Insko C. Introducing the GASP scale: a new measure of guilt and shame proneness. *J Pers Soc Psychol*. 2011;100(5):947–66.
67. Dorahy M, Corry M, Shannon M, Webb K. Complex trauma and intimate relations hips: the impact of shame, guilt and dissociation. *J Affect Disord*. 2013;147(13):72–9.
68. Dyer K, Dorahy M, Hamilton G, Corry M, Shannon M, Macsherry A, McElhill B. Anger, aggression, and self-harm in PTSD and complex PTSD. *J Clin Psychol*. 2009;65(10):1099–114.

69. Lee D, Scragg P, Turner S. The role of shame and guilt in traumatic events: a clinical model of shame-based and guilt-based PTSD. *Br J Med Psychol*. 2001;74(4):451–66.
70. Platt M, Freyd J. Trauma and negative underlying assumptions in feelings of shame: an exploratory study. *Psychol Trauma Theory Res Pract Policy*. 2012;4:370–8.
71. Fisher M, Exline I. Moving toward self- forgiveness: removing barriers related to shame, guilt, and regret. *Soc Personal Psychol Compass*. 2010;4(8):548–58.

Publisher's Note Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

Springer Nature or its licensor (e.g. a society or other partner) holds exclusive rights to this article under a publishing agreement with the author(s) or other rightsholder(s); author self-archiving of the accepted manuscript version of this article is solely governed by the terms of such publishing agreement and applicable law.