

Indirect trauma exposure and secondary traumatic stress among professionals: Mediating role of empathy and cognitive trauma processing

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Summary

Aim. The aim of the study was to examine the relationship between indirect trauma exposure, empathy, cognitive trauma processing, and the symptoms of secondary traumatic stress (STS) in women who help people after experiencing violence.

Material and methods. The results obtained from 154 Polish female professionals representing three professional groups: therapists, social workers and probation officers were analyzed. The age of the respondents ranged from 26 to 67 years. The *Secondary Traumatic Stress Inventory*, the *Empathic Sensitivity Scale*, and the *Cognitive Trauma Processing Scale* were used. In addition, a survey including questions about secondary trauma exposure rates was developed (work experience, number of hours per week devoted to working with people who have experienced the trauma of violence, workload).

Results. The results found STS symptoms to be positively correlated with trauma exposure indicators, empathy and cognitive coping strategies. Moreover, cognitive strategies mediate the relationship between indirect trauma exposure and STS symptoms.

Conclusions. To reduce STS symptoms, it may be advisable to use self-care practices more often and to change the cognitive coping strategies from negative to positive.

Key words: cognitive processing of trauma, empathy, secondary traumatic stress

Introduction

Those who assist trauma victims professionally are themselves indirectly exposed to trauma as a result of talking about or listening to people describing traumatic events. Such indirect exposure to trauma results in a few side effects in nurses and therapists, and others who care for trauma victims. These symptoms used to be commonly referred to as compassion fatigue or secondary traumatization; however, the term secondary traumatic stress (STS) or secondary traumatic stress disorder (STSD) is more commonly

used. The term was first coined by Figley [1] as “the natural consequent behaviors and emotions resulting from knowing about a traumatizing event experienced by a significant other – the stress resulting from helping or wanting to help a traumatized or suffering person” [1, p. 7]. STS symptoms are similar to those of the PTSD experienced by people who have been directly exposed to traumatic events, and they fall into four categories, i.e., intrusion, avoidance, negative alterations in cognition and mood, and alterations in arousal and reactivity [2].

Many groups of professionals are involved in helping trauma victims, including trauma related to violence. A number of studies indicate high prevalence of STS among social workers, probation officers and therapists [3–8]. As indirect exposure to traumatic events is regarded as a pre-traumatic factor in the traumatization process, their indicators, i.e., years of work related to helping, treated as professional experience, the working time devoted to helping traumatized clients or the number of clients should be included in studies of STS [9, 10]. Steed and Bicknell [11] report that a heavy caseload, primarily represented as many clients and a high amount of time spent working with them, is the main environmental risk factor for secondary traumatization. The results of a meta-analysis conducted by Hensel et al. [12] showed a positive relationship of the intensity of indirect trauma exposure, expressed as the number of interactions with people after traumatic experiences and the frequency of contacts with clients, with the severity of posttraumatic symptoms in helpers. However, a negative correlation was also shown between work experience and the symptoms of STS.

When analyzing the concept of secondary trauma in relation to work-related variables, it is worth paying attention to another phenomenon that is described as a fairly frequent negative consequence of working in social service professions, i.e., occupational burnout. Despite some common elements such as emotional exhaustion, secondary traumatic stress and occupational burnout are different. Occupational burnout described as a multidimensional construct is treated rather as a consequence of chronic stress and tension occurring in the work environment; secondary traumatic stress, on the other hand, is associated with the sudden onset of symptoms and does not have to concern the work situation [8].

Empathy, cognitive trauma processing and STS

STS is strongly influenced by empathy [1, 13, 14] and the cognitive processing of trauma [8]. Davis [15] defines empathy as the reaction of one person to the observed experience of another and goes on to distinguish between two components: emotional empathy, referring to the emotional expression of compassion, and cognitive empathy referring to the ability to understand the feelings and point of view of another person. In addition, empathy itself can be regarded as a key facilitator of secondary traumatization: helpers demonstrating greater levels of empathic concern are more susceptible to STS symptoms.

Although positive associations have been found between empathy and STS among professionals working with trauma victims, especially social workers and therapists [8, 16, 17] other studies indicate that no such relationship exists [18]. In addition, the different aspects of empathy have also been found to play different roles. The cognitive aspect of empathy, i.e., perspective taking, can play a protective role [19], while the emotional aspects, i.e., personal distress and empathic concern, favor the occurrence of STS symptoms [20].

People exposed to traumatic events, either directly or indirectly, adapt to their new reality by attempting to assign meaning to the experienced trauma through the cognitive trauma processing, mainly expressed in the form of cognitive coping strategies [21]. Negative components of such coping activity, such as denial and regret, are believed to be positively correlated with PTSD symptoms, while positive components, such as positive cognitive restructuring, resolution/acceptance and downward comparison, are negatively associated [21, 22]. Denial and regret strategies strongly favor the development of PTSD [23] and STS [8]. Additionally, cognitive coping strategies mediated the relationship between empathy and STS among professionals working with trauma survivors [24].

Aim of the study

The aim of the present study was to examine the relationship between indirect trauma exposure in the form of (a) work experience with violence trauma victims, (b) number of hours per week spent on working with people after trauma of violence, workload (expressed as percentage of time spent in direct contact with victims of trauma in relation to all work performed) and the symptoms of STS among professionals who help people after experiencing violence as part of their professional duties. The study also determines whether empathy and cognitive trauma processing act as mediators in this relationship. The study is based on the Trauma Transmission Model and its modifications [1, 13], and Empathy-based Stress Model by Rauvola et al. [14] which assume that empathy has a significant influence on the negative effects of secondary exposure to trauma.

It is hypothesized that indirect trauma exposure indicators, empathy, especially its emotional aspect, and negative cognitive coping strategies will be positively correlated with the occurrence of STS symptoms, in turn cognitive aspect of empathy and positive coping strategies will be negatively correlated with STS. It was also hypothesized that empathy and cognitive coping strategies will act as mediators in the relationship between indirect trauma exposure and STS symptoms.

Material and methods

Participants and procedure

The research included 160 participants who help people experiencing traumatic events as part of their professional duties. The participants were taken from three professional groups: therapists (psychologists/psychotherapists), social workers and probation officers. The study was anonymous and voluntary. It was carried out in several centers in central Poland, including social care institutions, crisis intervention centers and courts between November 2019 and February 2020. The study was approved by the relevant Bioethics Committee. The inclusion criteria were being female, working with victims of violence and belonging to the mentioned occupational groups. Of the 160 participants who took part in the study and completed the questionnaires, 154 fully completed the provided research tools; six questionnaires were eliminated because of missing data. Most of the participants were therapists (44.8%), then probation officers (35.7%), and social workers (19.5% of all respondents). The age of the group ranged from 26 to 67 years ($M = 43.98$; $SD = 10.83$).

Instruments

The study used three standard research tools. It also used a survey designed for the study including questions about age, the trauma history of the participant and about their work assisting trauma victims: length of service with trauma victims, the number of working hours spent working with victims of violence per week, and as a percentage of all work done (workload).

Secondary Traumatic Stress Inventory

The *Secondary Traumatic Stress Inventory* (STSI) is a modified version of the PCL-5 (*Posttraumatic Stress Disorder Checklist*) developed by Weathers et al. [26]. It is a self-assessment tool for people who help trauma victims [8]. It comprises 20 statements/reactions regarding traumatic events (e.g., “Repeated, disturbing and unwanted memories of the stressful experience”) grouped in four categories: intrusion, avoidance, negative alterations in cognition and mood, and alterations in arousal and reactivity. Cronbach’s α is 0.90 for the general index (from 0.71 to 0.89 for individual factors).

Empathetic Sensitivity Scale

The *Empathetic Sensitivity Scale* (ESS) is a modification the *Interpersonal Reactivity Index*, based on Davis’s theory of empathy [15]. The ESS contains 28 items evaluated on a five-point scale and measures three aspects of empathy: (1) empathic concern, i.e., “others-oriented” feelings; (2) personal distress or “self-centered” feel-

ings – this refers to the tendency to experience fear, anxiety, annoyance or discomfort in response to strong negative experiences (i.e., the suffering) of other people; (3) perspective taking, i.e., the ability and willingness to spontaneously take someone else's point of view in everyday life situations. The first two refer to emotional empathy, and the third to the cognitive aspect [26]. Cronbach's *alpha* values are 0.78 for empathic concern, 0.78 for personal distress and 0.74 for perspective taking.

Cognitive Processing of Trauma Scale

The *Cognitive Processing of Trauma Scale* (CPTS) is the Polish version of Williams et al. [22] tool developed by Ogińska-Bulik and Juczyński [21] and adapted to people indirectly exposed to trauma. The tool, consisting of 17 statements (e.g., "There is ultimately more good than bad in this event/situation"), measures five aspects of cognitive processing: (1) positive cognitive restructuring, (2) downward comparison, (3) resolution/acceptance, (4) denial, and (5) regret. The reliability of the tool, according to Cronbach's *alpha* coefficient is satisfactory: the specific values are 0.84 for positive cognitive restructuring, 0.89 for downward comparison, 0.82 for resolution/acceptance, 0.56 for denial, and 0.72 for regret.

Statistical analyses

IBM SPSS software was used to analyze the data. The examined variables are characterized by a distribution close to normal, therefore parametric tests were used for further analysis. Pearson's correlation coefficients were used to test relationships between variables. One-way ANOVA and Tukey's post hoc test were used to examine the differences between the three occupational groups in terms of the dependent variable, and the Student's *t*-test to examine the differences between the groups in terms of the self-trauma experience variable. Mediation analysis was performed by using the PROCESS [27]. "Indirect exposure to trauma" acted as independent variable and as predictor, STS as dependent variable, in turn "empathy" and "cognitive coping strategies" as mediators.

Results

Assuming 33 points as the limit criterion for the overall STS score, i.e., the cut-off point [8], 132 of the participants, i.e., 85.7%, demonstrated low intensity of STS symptoms. In contrast 22 participants, i.e., 14.3% of the total group, demonstrated a high intensity of symptoms, indicating a high probability of STSD. Regarding the type of occupational groups, the highest risk of STSD was faced by the group of social workers (26.7%), followed by probation officers (14.5%) and the therapists (8.7%). A history of personal trauma did not appear to affect the intensity of STS symptoms: $M = 18.59$; $SD = 13.18$ without trauma history; $M = 15.65$; $SD = 12.74$ with trauma history ($t = -1.38$; $p > 0.05$).

Relationships observed between the tested variables

The STS total score correlated positively with length of service ($r = 0.30$; $p < 0.01$), and to a slightly lesser extent, with the number of working hours per week ($r = 0.19$; $p < 0.05$) and workload expressed as a percentage ($r = 0.19$; $p < 0.05$). Work experience correlated with all four STS categories (r from 0.23 to 0.33). The number of working hours was found to be linked to STS symptoms in the form of avoidance ($r = 0.22$; $p < 0.01$) and negative alterations in cognition and mood ($r = 0.18$; $p < 0.05$). Workload also appeared to correlate with avoidance ($r = 0.22$; $p < 0.01$) and alterations in arousal and reactivity ($r = 0.16$; $p < 0.05$).

STS symptoms are also linked to empathy and cognitive coping strategies. All three empathy dimensions were found to correlate positively with STS symptoms (empathic concern $r = 0.21$; $p < 0.01$; personal distress $r = 0.51$; $p < 0.001$; perspective taking $r = 0.23$; $p < 0.01$) and the strongest association was revealed between personal distress and STS. Both negative coping strategies are positively related to STS total (regret $r = 0.40$; $p < 0.001$; denial $r = 0.40$; $p < 0.001$) and all symptoms of STS (r from 0.19 to 0.42). One of the three positive strategies, i.e., downward comparison, was also found to show a positive association with STS ($r = 0.24$; $p < 0.01$). However, it demonstrates a much weaker correlation than the negative strategies.

Mediators in the relationships between indirect trauma exposure and STS

The presence of such relationships identified between the variables justify the search for more complex ones which consider the role of empathy and cognitive coping strategies as intermediary variables.

Figure 1 shows that work experience is a positive predictor of total STS, one of empathy aspects, i.e., personal distress, and three cognitive coping strategies: regret, denial and downward comparison. The introduction of the latter four variables as mediators (personal distress, regret, denial, and downward comparison) was found to weaken the relationship between work experience and STS (partial mediation).

Further models (Figure 2) indicate that the number of hours spent per week working with people after violence experience is a positive predictor of STS, and the introduction of a strategy of regret and denial causes the relationship between variables to disappear, indicating full mediation.

The weakest dependencies were obtained for workload, which was also positively associated with STS symptoms (Figure 3). In this case, only the strategy of regret proved to be a mediator of this relationship, making it statistically non-significant (i.e., total mediation).

Discussion

The participants, all of whom were professionals involved in helping victims of violence-related trauma, were found to demonstrate a relatively low level of second-

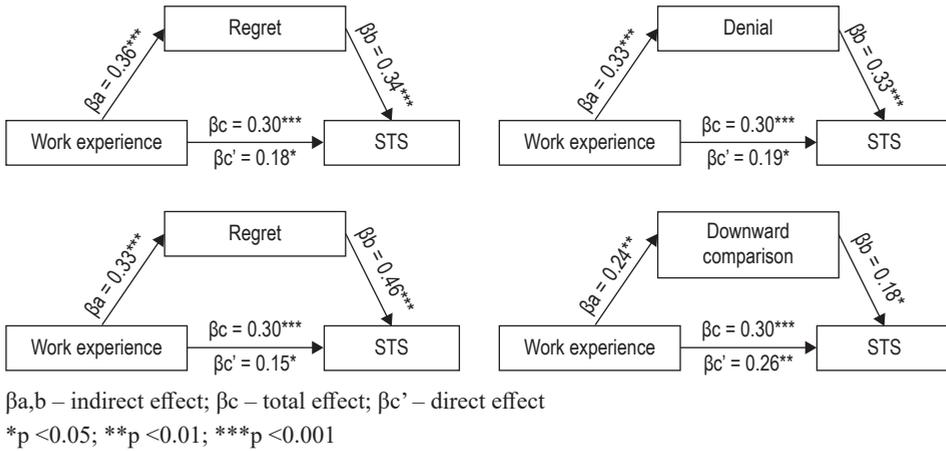


Figure 1. Model of relations between indirect trauma exposure, empathy, cognitive strategies and secondary traumatic stress

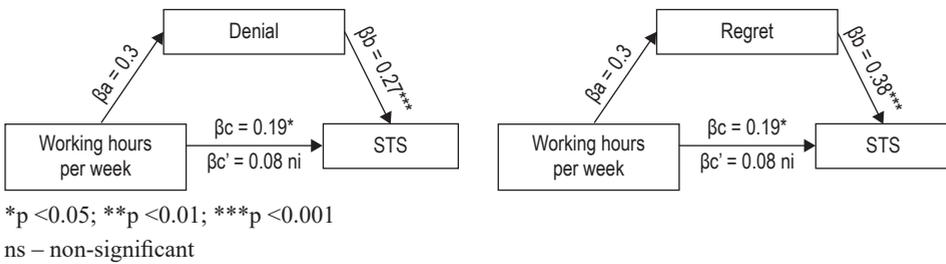
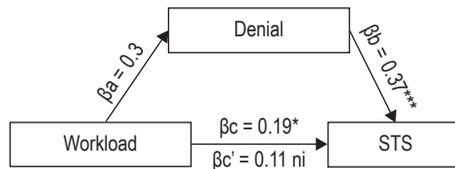


Figure 2. Model of relations between indirect trauma exposure in the form of working hours with trauma clients and cognitive trauma processing in the form of denial and regret strategies and secondary traumatic stress



ns – non-significant

Figure 3. Model of relations between indirect trauma exposure in the form of workload, cognitive trauma processing in the form of denial strategy and secondary traumatic stress

any traumatic stress symptoms. The vast majority (nearly 86%) show a low risk of secondary posttraumatic stress disorder, while slightly more than 14% were found to demonstrate a high risk. The risk of STSD was highest among the social workers and

the lowest among therapists. It is possible that therapists may demonstrate greater resistance to stress and higher coping competences than social workers. That would suggest that the latter require greater support with actions intended to improve their ability to cope with traumatic stress. Our findings correspond with those of Manning-Jones et al. [4] and Molnar et al. [28].

The results confirmed our assumptions that indirect trauma exposure, empathy and negative trauma coping strategies are positively associated with the occurrence of STS, with stronger relationships identified for empathy and coping strategies. Our findings also indicate that empathy and cognitive coping strategies can act as mediators in the relationship between indirect trauma exposure and secondary traumatic stress symptoms. The obtained results are consistent with most of the data presented by other researchers: they indicate a positive correlation between indirect trauma exposure and its negative effects [9, 10]. It should be stressed, however, that the obtained relationships are weak, which suggests that other variables have a stronger influence on the occurrence of STS symptoms. In addition, some studies have failed to confirm the existence a relationship between indirect trauma exposure and symptoms of secondary traumatization [29, 30]; in fact, it has been proposed that the impact of indirect trauma exposure on the consequences of secondary trauma exposure may be overestimated [31].

Our findings indicate that greater importance should be assigned to the subjective (personal) variables, such as empathy and difficulties in cognitive processing of trauma, which is expressed in the form of negative coping strategies, when predicting the risk of STSD. Both negative coping strategies, i.e., regret and denial, and one positive strategy, downward comparison, are positively linked to STS. This may suggest that the roots of such problems may lie in the cognitive attempts made by professionals to cope with the trauma experienced by the client by comparing their position with that of the client.

All three aspects of empathy were found to be positively related to the severity of STS symptoms, with the highest correlation coefficients referring to personal distress, which is directly associated with emotional empathy. It is believed that this aspect of empathy plays a key role in trauma transmission. Fear, anxiety and a sense of discomfort appearing in response to the patient's/client's suffering and contained in the experience of personal distress may increase the likelihood of secondary traumatic stress symptoms. These findings are in accordance with previous studies [20, 32]. Our results confirm the importance of empathy in the development and maintenance of STS symptoms, although empathy seems to play a smaller role than suggested by Figley [1]. However, one should not forget that empathy is a key resource for establishing relationships with the client and thus effectively helping. Researches available in the literature [8, 19] also show that empathy, especially cognitive empathy, described as the ability to take the perspective of another person, can act as a factor protecting against the negative effects of trauma or contribute to the occurrence of positive posttraumatic changes.

Our findings indicate that the risk of secondary posttraumatic disorders may be increased also by the cognitive coping strategies in the form of regret and denial. The role of these variables in the occurrence of STS symptoms is significantly greater than indirect exposure to trauma, as expressed in the form of length of professional work experience, the number of hours per week allocated to work with people after experiencing violence, and the percentage workload allocated to helping victims of such trauma.

Limitations and strengths

The study has some limitations. The nature of the study was cross-sectional, and hence the findings cannot be used to draw conclusions on causal relationships. The study did not analyze the type of clients that the professionals worked with (e.g., children, adolescents, adults), nor the types of violence that their clients experienced. In addition, due to the small number of participants, particularly among the group of social workers, no separate analyses were carried out for each of the three groups, moreover, the individual groups were not of equal size. Finally, the study did not include other professionals helping victims of non-violent trauma as a comparative group, and the study group was composed of only female participants. Due to limitations, study results should be interpreted with caution.

Despite these limitations, our findings provide new information on the prevalence of STS among the studied groups of professionals and offer a new perspective on the influence of indirect exposure to trauma on the development of secondary posttraumatic disorders, and on the mediating effects of empathy and cognitive processing. The raised issue seems to be of particular importance at the moment because, due to the war in Ukraine, the demand for professional help for people after trauma related to war, torture or rape is increasing. The results of current study may help to develop certain intervention strategies to deal with the effects of indirect trauma exposure. These interventions should be employed to improve cognitive strategies and behavioral approaches, including self-care practices.

Conclusions

The professionals involved in helping survivors of violence-related trauma generally demonstrate a relatively low level of secondary traumatic stress symptoms. Following indirect trauma exposure, empathy and negative trauma coping strategies are positively associated with the occurrence of STS. The relationship between indirect trauma exposure and STS is mediated by empathy and cognitive coping strategies. To decrease STS symptoms, it may be advisable to use self-care practices more frequent and to employ positive cognitive coping strategies rather than negative ones.

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