

THE ROLE OF EMPATHY AND COGNITIVE TRAUMA PROCESSING IN THE OCCURRENCE OF PROFESSIONAL POSTTRAUMATIC GROWTH AMONG WOMEN WORKING WITH VICTIMS OF VIOLENCE

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Abstract

Objectives: Professionals helping victims of violence trauma, in addition to a number of negative effects, may also experience positive changes in the form of vicarious posttraumatic growth (VPTG). Cognitive trauma processing and empathy seem to be important to VPTG. The aim was to determine the relationship between empathy, cognitive trauma processing and VPTG in female professionals helping violence victims. **Material and Methods:** The study included 154 women representing 3 professional groups (therapists, social workers, probation officers). The subjects' age ranged 26–67 years ($M \pm SD$ 43.98 \pm 10.83). The study used 3 standard measurement tools, i.e. the *Secondary Posttraumatic Growth Inventory*, the *Empathic Sensitiveness Scale*, measuring 3 aspects of empathy, i.e. empathic concern, personal distress and perspective taking, the *Cognitive Processing of Trauma Scale*, allowing assessment of 5 remedial strategies (positive cognitive restructuring, downward comparison, resolution/acceptance, denial, regret) and a survey developed for the use of the research. **Results:** Positive correlations were found between empathy, cognitive coping strategies and VPTG. Positive cognitive restructuring and resolution/acceptance strategies were found to mediate the relationship between empathy and VPTG. **Conclusions:** Professionals helping trauma victims may experience positive effects in the form of VPTG. The occurrence of VPTG in female professionals is enhanced by the use of empathy and positive coping strategies. *Int J Occup Med Environ Health.* 2022;35(6)

Key words:

empathy, trauma, violence, cognitive trauma processing, female professionals, vicarious growth

INTRODUCTION

When working with its direct victims, professionals such as psychologists or social workers may be also exposed indirectly to trauma and experience the selfsame symptoms as the victims themselves. This is particularly apparent among those working with victims of violence [1].

Indirect exposure to trauma is a daily occurrence that includes listening to stories of acts of violence and forming personal bonds with the victims [2]. Exposure to indirect trauma may lead to negative consequences, most commonly in the form of secondary traumatic stress (STS) [2]. The symptoms of STS includes intrusion, avoidance, neg-

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ative alterations in cognitions and mood, and alterations in arousal and reactivity [2,3]. These symptoms are similar to post-traumatic stress disorder (PTSD) symptoms, but the difference regard the source of trauma; PTSD symptoms are experienced by people directly exposed to trauma, whereas STS symptoms by people indirectly exposed to trauma [4]. Some authors treated STS like a manifestation of PTSD among individuals who help others after their experience of trauma [5–7].

Vicarious posttraumatic growth in people professionally helping trauma victims

However, the negative consequences of such exposure may also be accompanied by positive changes constituting vicarious/secondary posttraumatic growth (VPTG). This can be regarded as a phenomenon similar to posttraumatic growth (PTG), as described by Tedeschi and Calhoun [8,9], regarding people who directly experience trauma. Vicarious/secondary posttraumatic growth itself is defined as the positive changes occurring as a result of vicarious traumatic exposure [10–12]. These positive changes, as in the case of PTG, include changes in self-perception, relationships with others, and philosophy of life. Hence, engaging in meaningful interaction with people who have experienced trauma may result in more satisfying personal relationships, greater appreciation of personal security and a reconsideration of values and beliefs, which can foster personal growth, greater satisfaction with life, and a sense of meaningful connection with the world [12,13].

Calhoun and Tedeschi [12] described vicarious posttraumatic growth, like PTG, as a process of disruption in one's beliefs; however, unlike PTG, such disruption is not caused by directly experienced trauma, but by the knowledge of a traumatic event experienced by other people. They characterize VPTG as a learning process during which its participants reveal a great ability to survive in very difficult circumstances, as well as a process of con-

fronting existential matters and spirituality and greater recognition for their own lives, as well as greater concentration and deeper compassion regarding others.

When referring to people who professionally help trauma victims, the term professional posttraumatic growth is used [14]. Professionals, often inspired by positive changes occurring in clients, can increase their confidence in the world and in others, and strengthen their faith in the great remedial possibilities of people who have suffered harm.

Despite the clear similarity of VPTG to PTG, there are some differences between these phenomena. Arnold et al. [10] indicate that people experiencing VPTG reveal slightly greater overall resilience than those with PTG, but a slightly smaller change in the sense of personal strength. Changes are also observed in the spiritual sphere: people who directly experience traumatic events report personal growth in spirituality, while those helping trauma victims report more spiritual rumination. The latter has been associated with the acceptance of spiritual beliefs, regarded as a factor conducive to posttraumatic adaptation without experiencing changes in the field of personal beliefs [10,15]. Vicarious/secondary posttraumatic growth also demonstrates some unique aspects, such as raising work awareness as values, or increasing professional capabilities and competences [16–18]. For example, Arnold et al. [10] report that many therapists have increased their religious faith by more than half while working with traumatized people.

Interviews with therapists working with trauma victims indicate that working with traumatized clients can lead to beneficial changes in the personality of the helpers, such as increased sensitivity, compassion and insight, as well as greater self-confidence, tolerance and empathy [10]. These changes are conducive to a better understanding of clients, greater acceptance of their reactions and behaviors, and the recognition of their ability to cope. Some of the surveyed therapists emphasized that, as a result of working with traumatized clients, they began

to appreciate their lives more and try to draw more from them. Although some also noted an increased awareness of the negative consequences of this type of work, this awareness led to a deeper understanding the complexity of the entire spectrum of human functioning. They also influenced their perspective regarding the violence perpetrators, whom they began to treat with greater compassion.

Such changes may also reflect the potential for helpers to be “infected” with the positive posttraumatic changes observed among their clients. Similar positive changes, underlying the rewarding nature of the work related to helping others, were observed among psychologists working with violence victims in South Africa [19], therapists and helpers working with sexual violence survivors [20], psychotherapists and psychologists working in the fields of gender-based violence [21,22] and among social workers helping victims of family violence [23]. However, trauma victims appear to display stronger positive consequences than their helpers. Comparative studies conducted by Lambert and Lawson [24] found that people affected by hurricanes showed significantly more intense posttraumatic growth than professional and volunteer helpers who provided them with assistance.

It should be emphasized that the appearance of secondary positive posttraumatic changes does not preclude the occurrence of negative consequences occurring in the form of STS. This has been underlined in a number of previous studies [11,25–27].

According to Cohen and Collens [21], the trauma experienced by the client is a shock to helpers and is a challenge for their cognitive patterns. On the one hand, this leads to them questioning basic assumptions about the world, and on the other, it forces them to attempt to understand the events experienced by the client and to give them sense and meaning. Such changes can result in the appearance of negative beliefs about the world and the individual, and the perpetuation of existing ones; however,

a more positive reaction characterized by positive posttraumatic changes can also be observed, especially if the helper witnessed the growth of the trauma victim. Either way, the starting point for the consequences of indirect trauma exposure is the empathic involvement of people in helping traumatized clients.

Empathy, cognitive trauma processing and vicarious posttraumatic growth

Trauma workers are expected to empathically engage with clients, and to be highly sensitive to the emotional needs of those they work with [19]. Therefore empathy may be one of the factors conducive to the occurrence of secondary positive posttraumatic changes.

Empathy has been defined as the reactions of an individual to the observed experiences of another [28]; however, Davis makes a distinction between emotional empathy, relating to emotional consonance and manifestation of compassion, and cognitive empathy, concerned with understanding the feelings and perspectives of another. In contrast, Omdahl and O'Donnell [29], describe empathy as empathic concern, a willingness to communicate, and as an emotional contagion. In this sense, empathy can be seen as taking an active interest in the problems of other people, leading to an attempt to solve them and improve the well-being of their bearers.

Research indicates a positive relationship between empathy and VPTG. This type of relationship has been reported primarily among therapists, where empathy was found to act as a positive predictor of VPTG and all its factors, except for changes in the spiritual sphere [11,30]. Empathy also turned out to be an important moderator of the relationship between secondary exposure to trauma and one of the VPTG factors, i.e., positive changes in relationships with others. Davis [31] stressed the existence of positive associations between empathy and VPTG among professional counselors. Positive relationships between empathy and VPTG have also been demonstrated in

Polish studies of professionals working with people after various types of traumatic experiences [27]. However, no relationship was found between empathy and VPTG in a group of telephone counselors [32].

An interesting question is the mechanism by which VPTG arises. According to the revised model of post-traumatic growth (developed among individuals exposed directly to traumatic events [33]) experienced trauma causes severe distress and violates cognitive patterns and beliefs. If the experienced traumatic event is a significant challenge for the individual, it is also thought to activate cognitive processing, which may influence existing patterns. However, the event must be strong enough to force the individual to revise certain assumptions about himself or herself, and the world. By processing the trauma cognitively, the individual tries to gain sense and meaning from the experienced event and, consequently, adapt to the new, changed reality. A similar mechanism can be applied to VPTG.

Cognitive processing of trauma aimed at giving sense and meaning to the experienced event is often expressed in the form of undertaken cognitive positive (positive cognitive restructuring, downward comparison and resolution/acceptance) and negative (denial and regret) coping strategies [27,34]. Only a few studies verify assumptions about the importance of cognitive trauma processing for people exposed to indirect trauma, especially those working with victims of violence. In studies involving midwives who participated in complicated deliveries [35], positive relationships were found between the changes for key beliefs, measured by the *Core Beliefs Inventory*, and VPTG. This suggests that some kind of flexibility of cognitive patterns, expressed in readiness for change, promotes the occurrence of positive consequences of vicarious exposure to trauma. Significant correlations have been found between VPTG (measured with the *Psychological Well-Being – Posttraumatic Changes Questionnaire*) and positive cognitive strategies, such as positive cognitive

restructuring and resolution/acceptance in people helping trauma victims, including staff and volunteers from 3 domestic violence organizations, and 1 sexual assault agency; in addition, negative correlations were also found between VPTG and regret (measured with the *Cognitive Processing of Trauma Scale – CPOTS*) in the same groups [13]. Another study involving 5 professional groups (therapists, paramedics, nurses working in post-accident wards and hospice care, social workers and court probation officers) found that positive cognitive remedial strategies, i.e., resolution/acceptance, positive cognitive restructuring and downward comparison, measured also with CPOTS, are positively associated with VPTG; in addition, resolution/acceptance strategies and positive cognitive restructuring were found to play a predictive role for VPTG, primarily among medical personnel [27]. Positive cognitive structuring appeared the main predictor of vicarious growth in a research of medical staff exposed to indirect trauma [36].

Aim of the study

The aim of the study was to examine the links between empathy, cognitive processing of trauma and vicarious growth after trauma in professionals who, as part of their work, help people who have experienced violence. The indicators of cognitive processing were cognitive strategies for dealing with trauma suffered by the mentees resulting from the experience of violence. It was hypothesized that empathy and positive coping strategies would be positively associated with the occurrence of VPTG, that stronger relationships would be observed with cognitive coping strategies, and that empathy would be associated with cognitive coping strategies. It was also assumed that cognitive coping strategies will act as a mediator in the relationship between empathy and VPTG symptoms.

The adopted research model refers to the cognitive PTG model, developed by Calhoun et al. [33] and Tedeschi and Calhoun [8,9] indicating that both personal-

ity predispositions, cognitive activity and empathy, but above all traumatic cognitive activity, play a significant role in the occurrence of positive posttraumatic change. It is also in line with the Cohen and Collens model [21], which emphasizes the role of empathic involvement and undertaken remedial activity in changes in the world view of trauma workers and the occurrence of VPTG.

MATERIAL AND METHODS

Procedure and sampling

The study involved 160 professionals representing 3 professional groups, *viz.* therapists, social workers and probation officers, who as part of their professional duties, help people undergoing traumatic experiences. The study was of a voluntary nature and all participants remained anonymous. The participants were recruited from various centers in central Poland, including courts, crisis intervention centers and social welfare facilities. The inclusion criteria were: belonging to one of the occupational groups described above, working with individuals who experienced violence, being female. The study was accepted by the Bioethics Committee. The questionnaires were delivered and collected by the authors during the working hours of professionals. Helpers who provided assistance to victims of non-violent trauma, such as traffic accidents or bereavement were not included in the study. The questionnaires were delivered to people who expressed their willingness to participate in the study. In total, the analysis included results from 154 individuals who directly assist victims of violence and who fully completed the provided research tools (6 questionnaires out of 160 were dropped out due to the missing data; high rate of missing data or empty sheets prevented the results from being included in the analysis). All the respondents were female, which is to be expected as the vast majority of people employed as a therapist (psychologists/psychotherapists), social worker or probation officer are women (it is specific in Poland). With regard to profession, the study group com-

prised 44.8% therapists ($N = 69$), 35.7% probation officers ($N = 55$) and 19.5% social workers ($N = 30$). The mean age of the participants was $M \pm SD$ 43.98 ± 10.83 years, range 26–67 years.

The mean length of professional experience in the study group, *i.e.*, the time spent professionally helping victims of trauma associated with violence, was $M \pm SD$ 14.41 ± 10.04 years, ranging 1–43 years. The mean time spent helping trauma victims each week was $M \pm SD$ 23.83 ± 12.18 h, ranging 2–45 h. Finally, work input, *i.e.*, the proportion of hours devoted directly to helping victims of violence as a percentage of all duties, was $M \pm SD$ $57.94 \pm 28.97\%$, ranging 3–100%.

Measures

In addition to the 3 standard tools, the study also employed a survey specifically developed for the study. The survey included questions regarding age, professional experience, the number of hours per week working with victims of violence, and work input.

The *Secondary Posttraumatic Growth Inventory* (SPTGI), developed by Ogińska-Bulik and Juczyński [27] is intended to measure positive changes associated with indirect exposure to trauma in professionals working with trauma victims. It contains 12 statements (*e.g.* “I have learned to accept others more”) rated on the following 6-point scale: “I haven’t experienced this change at all” (0) to “I have experienced this change very deeply” (5). The inventory allows the overall result to be determined as well as 4 factors:

1. New challenges and an increase in professional competences.
2. Increase in spiritual experiences and a sense of responsibility for others.
3. Greater trust in oneself and appreciating life.
4. Increased acceptance and actions for the benefit of others.

Each factor has 3 statements. High reliability coefficients were obtained: 0.90 for the entire SPTGI, and 0.71, 0.85,

0.89 and 0.87 for each of the respective individual factors. Half reliability is 0.94 and standard error of measurement 3.84. Absolute stability was established by means of re-examination of a group of 20 social workers exposed to secondary trauma 2 months after the initial study. The obtained correlation coefficient 0.78 ($p < 0.001$) confirms high scale stability.

The *Empathic Sensitiveness Scale* was developed by Kaźmierczak et al. [37] based on the *Davis Interpersonal Reactivity Index*. The tool comprises 28 items, with the respondent marking a response on a 5-point scale (e.g. “I often have tender, concerned feelings for people less fortunate than me”). The tool measures 3 forms of empathy:

- empathic concern, i.e., “other-oriented” feelings, indicating the tendency to feel compassion for others affected by failure;
- personal distress, i.e., “self-oriented” feelings, measuring the tendency to experience fear, anxiety or unpleasantness in response to strong negative experiences (i.e. suffering) by others;
- perspective taking, i.e., the ability to spontaneously adopt another point of view in everyday life.

The tool demonstrates reliability scores between 0.74–0.78 depending on its tested aspects of empathy.

Cognitive Processing of Trauma Scale (CPOTS) – by Williams, Davis and Millsap [34] as adapted to Polish conditions by Ogińska-Bulik and Juczyński [38]. The questionnaire comprises 17 items (e.g. “Overall, there is more good than bad in this experience”). It measures 5 forms of cognitive processing: positive cognitive restructuring, downward comparison, resolution/acceptance, denial and regret. The respondents indicate answers on a 7-point scale from –3 (strongly disagree) to 3 (strongly agree). The result for each of the scales is calculated separately. The Polish version offers satisfactory reliability, as indicated by Cronbach’s α , ranging 0.89–0.56. Higher reliability is demonstrated for positive trauma processing

strategies (0.90) than negative ones (0.73). All strategies together explain 68.8% of the total variance. The study used a version adapted to study individuals indirectly exposed to trauma.

Statistical analyses

The IBM SPSS, v. 25 software was used to verify the obtained data. In the first step the mean values of the analyzed variables, and the correlation coefficients (Pearson’s correlation coefficients) between them, were determined. One-way ANOVA and Tukey’s *post hoc* test were used to identify any significant differences between the 3 examined occupational groups with regard to the tested variables. Mediation analysis was conducted using the bootstrapping procedure proposed by Preacher and Hayes [39]. This method allows a more complex structure of the model to be established, in which the independent variable, which acts as a predictor (empathy), binds to the dependent variable (VPTG) via a third variable that acts as a mediator (cognitive coping strategies). A mediating effect occurs when an intermediary variable lowers the predictive values of an independent variable into a dependent variable. A 95% confidence interval was assumed for the analysis. For each path in the mediation models standardized β coefficients were calculated with R^2 for mediator.

RESULTS

The professionals present an overall moderate level of VPTG (Table 1), according to the standards developed for the *Secondary Posttraumatic Growth Inventory* [27]. A more detailed analysis showed that 47 women (30.5%) revealed low, 52 (33.8%) medium and 55 (35.7%) high VPTG level. The most frequently reported form of posttraumatic growth was greater trust in oneself and appreciating life, the least to an increase in spiritual experiences and a sense of responsibility for others. The analyzed groups of professionals differ in terms

Table 1. Correlation coefficients among analyzed variables in therapists, social workers and probation officers (N=154)

Variable	Correlation													M±SD	
	1	2	3	4	5	6	7	8	9	10	11	12	13		
1. VPTG total	-														30.82±12.85
2. VPTG.1	0.72***	-													8.13±3.43
3. VPTG.2	0.70***	0.29***	-												4.83±4.35
4. VPTG.3	0.83***	0.48***	0.43***	-											9.54±4.30
5. VPTG.4	0.85***	0.58***	0.41***	0.65***	-										8.31±4.38
6. CPOT.1	0.34***	0.23**	0.25**	0.31***	0.29***	-									6.86±4.36
7. CPOT.2	0.06	-0.09	0.14	0.11	-0.01	0.48***	-								17.78±3.28
8. CPOT.3	0.28***	0.31***	0.21*	0.17*	0.20*	0.42***	0.32***	-							13.05±4.94
9. CPOT.4	0.04	-0.20*	0.26**	0.09	-0.08	0.11	0.25**	-0.14	-						3.88±3.16
10. CPOT.5	-0.01	-0.14	0.08	0.09	-0.08	0.04	0.23**	-0.07	0.46***	-					4.46±3.85
11. Empathy.1	0.30***	0.04	0.27***	0.31***	0.29***	0.21*	0.20*	0.15	0.06	0.26**	-				31.97±4.85
12. Empathy.2	-0.01	-0.19*	0.16	0.03	-0.07	0.12	0.36***	-0.02	0.28***	0.49***	0.45***	-			20.34±4.94
13. Empathy.3	0.31***	0.18*	0.18*	0.31***	0.28***	0.22**	0.21**	0.25**	0.05	0.21*	0.53***	0.31***	-		29.03±4.94

CPOT – cognitive processing of trauma; VPTG – vicarious posttraumatic growth.

CPOT.1 – positive cognitive restructuring; CPOT.2 – downward comparison; CPOT.3 – resolution/acceptance; CPOT.4 – denial; CPOT.5 – regret; Empathy.1 – empathic concern; Empathy.2 – personal distress;

Empathy.3 – perspective taking; VPTG.1 – new challenges and an increase in professional competences; VPTG.2 – increase in spiritual experiences and a sense of responsibility for others;

VPTG.3 – greater trust in oneself and appreciating life; VPTG.4 – increased acceptance and actions for the benefit of others.

* p < 0.05; ** p < 0.01; *** p < 0.001.

Table 2. Results of one-way ANOVA analysis among analyzed groups

Variable	Participants (N = 154)						F	p
	therapists (N = 69)		probation officers (N = 55)		social workers (N = 30)			
	M	SD	M	SD	M	SD		
Vicarious posttraumatic growth	35.20	12.21	28.56	11.99	24.90	12.79	8.86	<0.001

F – F-test.

of VPTG prevalence. Most of those with a high level of VPTG (53.6%) were in the therapist group, followed by probation officers (23.7%), and the least among social workers (16.7%). Statistically significant differences in VPTG were found between the 3 occupational groups (due to the small numbers of participants in each group, particularly the social workers, the results should be interpreted with caution) (Table 2). The level of empathy for working with victims of violence is slightly lower compared to the results of standardization studies; $M = 40.54$ for empathic concern, $M = 24.46$, for personal stress and $M = 32.66$ for perspective taking. The mean scores obtained by the representatives of the 3 occupational groups correspond to 3 sten for empathic concern, and 4 sten for personal distress and perspective taking. The results of the cognitive coping strategies, measured with CPOTS, are similar to those obtained in standardization studies involving people who directly experienced trauma [38]. Table 1 showed the relationship between empathy, cognitive coping strategies and the severity of the positive consequences of secondary trauma exposure. It was found that the VPTG changes were significantly associated with 2 aspects of empathy, *viz.* empathic concern ($r = 0.30$, $p < 0.001$) and perspective taking ($r = 0.31$, $p < 0.001$), and 2 positive coping strategies, *viz.* positive cognitive restructuring ($r = 0.34$, $p < 0.001$) and resolution/acceptance ($r = 0.28$, $p < 0.001$). Both strategies correlate with all areas of VPTG. Other cognitive coping strategies, including 1 of a positive nature, *i.e.*, downward comparison,

were not found to be associated with secondary positive changes. Empathic concern is positively associated with 3 coping strategies: regret ($r = 0.26$, $p < 0.01$), downward comparison ($r = 0.20$, $p < 0.05$), and positive cognitive restructuring ($r = 0.21$, $p < 0.05$). Personal distress positively correlates with downward comparison ($r = 0.36$, $p < 0.001$), regret ($r = 0.49$, $p < 0.001$) and denial ($r = 0.28$, $p < 0.001$). Perspective taking is associated with almost all coping strategies ($r = 0.21$ – 0.25), with the exception of denial ($r = 0.05$, $p > 0.05$).

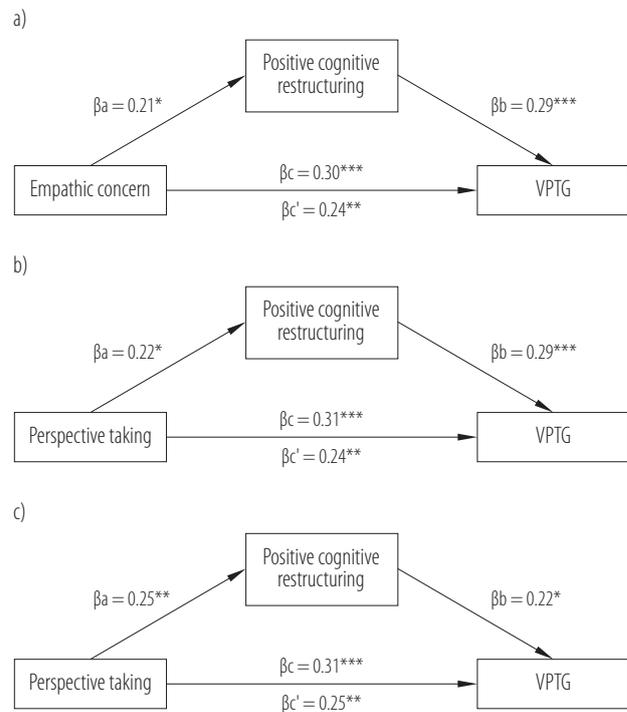
The existing relationships between VPTG, empathy and cognitive trauma processing justify the search for more complex relationships, including the mediating role of cognitive coping strategies. A total of 15 models were tested, *i.e.*, for each aspect of empathy and each coping strategy. As a result, 3 statistically significant models were obtained (Figure 1). The first (Figure 1a) indicates that empathic concern is a predictor of VPTG and the strategy of positive restructuring, and that positive restructuring itself is a predictor of VPTG. The introduction of this coping strategy as a mediating variable was found to weaken the relationship between empathic concern and VPTG, which indicates partial mediation. It means that the links between empathic concern and VPTG is partially explained by the role of positive cognitive restructuring. Both empathic concern and positive cognitive restructuring play a role of VPTG predictors.

In the second model, positive cognitive restructuring was found to be a partial mediator in the relation-

ship between the empathy aspect of perspective taking and VPTG (Figure 1b). Resolution/acceptance was found to mediate in the relationship between perspective taking and VPTG; however, as in previous cases, this is partial mediation (Figure 1c). The effect of perspective taking on VPTG was reduced after implementing these 2 aspects of empathy as mediators.

DISCUSSION

Working with traumatized clients can be a source of positive post-traumatic changes for professionals, especially in terms of greater appreciation of life. The results showed that 30.5% of professionals working with victims of violence reveal low VPTG levels, while 33.8% demonstrated moderate levels and 35.7% high levels. The highest level of VPTG (53.6%) was associated with therapists and the lowest with social workers (16.7%), suggesting that therapists, most of whom were psychologists, are a professional group for whom helping others represents a source of new challenge; it also serves as an opportunity for the development of professional competence, building a greater appreciation of life, increased acceptance and action for others, while also, to a lesser extent, acting as a source of spiritual experience and sense of responsibility for others. Ogińska-Bulik and Juczyński [27] report that therapists revealed significantly lower levels of STS compared to representatives of other professional groups working with trauma victims; however, they also note that these positive changes are much less pronounced for social workers, which may be due to the slightly different nature of their work, and they displaying lower competence in dealing with the trauma experienced by others. This difference may also be influenced by the rather low level of job satisfaction and increased risk of burnout found to be associated with social work [40]. This may be related to the depletion of the resources of those who help in the process of dealing with the traumas suffered by the residents, as indicated by the *Conservation of Re-*



$\beta_{a,b}$ – indirect effect; β_c – total effect; $\beta_{c'}$ – direct effect.

R^2 for DV (resolution/acceptance – mediator) = 0.14.

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

Figure 1. Model of relations between empathy in the form of a) empathic concern, b) perspective taking, positive coping strategy in the form of positive cognitive restructuring and vicarious posttraumatic growth and c) perspective taking, positive coping strategy in the form of resolution/acceptance and vicarious posttraumatic growth

sources Model [41,42] as well as the depletion of labor resources, including social support [40]. It is also important to consider some of the factors that are associated with preparing professionals for their professional roles. A group of therapists may manifest somewhat better preparation for working with individuals experiencing trauma due to having been through personal therapy, supervision, specialized courses or therapeutic training [22,30,43]. The work of the therapist is mainly related to individual discussion of the client's difficulties; social workers work in complex social systems that often exert considerable pressure and can contribute to the overall depletion of personal resources.

However, it is worth noting that the results obtained are not consistent with those obtained by Manning-Jones et al. [25] among 5 professional groups from New Zealand: nurses, doctors, psychologists, counsellors and social workers. Of these, the psychologists achieved the lowest VPTG level and social workers the highest. Cultural factors may be responsible for these differences. In addition, the VPTG level may be the result of a previously experienced STS: a positive relationship between STS and VPTG was found among psychologists, which may be associated with some unique aspects of the work of this group [25]. This issue therefore requires further research.

The authors' present findings indicate positive links between VPTG and 2 aspects of empathy: empathic concern and perspective taking. They are consistent with literature data showing positive links between empathy and the occurrence of secondary positive posttraumatic changes [11,27,30]. A positive relationship was observed between cognitive coping strategies, in the form of positive cognitive restructuring and resolution/acceptance, and VPTG. This finding is confirmed by a previous study conducted among 5 professional groups working with trauma victims: therapists, paramedics, nurses working in accident wards and hospice care, social workers and probation officers [27]. In this study, all 3 positive cognitive coping strategies (also measured by CPOTS) were found to play a role in the occurrence of VPTG, especially among medical personnel. The research also found empathy to be positively related to the use of cognitive coping strategies; however, the nature of these relationships is varied. Empathic concern proved to be positively correlated with the 3 coping strategies, i.e., regret, downward comparison and positive cognitive restructuring. Personal distress positively correlates with downward comparison, regret and denial. Perspective taking is linked to almost all coping strategies, except denial. The empathy revealed by professionals, depending on its

aspect, may therefore foster both negative and positive coping strategies.

From the point of view of effective trauma processing, positive strategies are more beneficial, which means that those aspects of empathy that favor the use of positive strategies, such as empathic care and perspective taking, are more desirable. It is worth pointing out that female professionals helping people after trauma related to violence tend to make less use of strategies of regret, associated with blame ($M \pm SD$ 8.92 \pm 5.78) and denial ($M \pm SD$ 7.03 \pm 5.44), evaluated with CPOTS, compared to women who were victims of violence themselves [44]. On the other hand, the mean results of positive strategies are similar for victims of violence in the case of positive cognitive restructuring – $M \pm SD$ 6.92 \pm 5.23 or resolution/acceptance – $M \pm SD$ 13.62 \pm 6.51

The mediation analysis confirmed that both aspects of empathy are predictors of VPTG. It also indicated the predictive role played by cognitive coping strategies in the occurrence of secondary positive posttraumatic changes, and above all positive cognitive restructuring and resolution/acceptance. Positive cognitive restructuring proved to be a partial mediator in the relationship between empathic concern and VPTG. Similarly, both positive cognitive restructuring and resolution/acceptance are partial mediators in the relationship between perspective taking and VPTG. This indicates that the positive cognitive processing of trauma, expressed in the form of coping strategies, plays a slightly greater role in the occurrence of VPTG than the empathy revealed by professionals. It also means that more empathic professionals are more inclined to process clients' trauma positively and are better able to incorporate the events experienced by their clients into their worldview, thus promoting the development of secondary positive posttraumatic changes. The obtained results confirm the theory that individual properties, and above all the cognitive activity of the individual, supports PTG [9,33], and suggests that it can also

apply to secondary posttraumatic growth. The results are also consistent with the model proposed by Cohen and Collens [21], which emphasizes the importance of both empathy and changes in cognitive functioning in the occurrence of secondary positive posttraumatic changes. However, it should be stressed that in individuals who were indirectly exposed to the traumatic event, the relationship between cognitive activity and VPTG should be considered as weaker than the one between cognitive activity and PTG in victims of direct trauma. It is possible that the growth resulting from indirectly experienced trauma involves cognitive processes to a lesser extent than that experienced directly. This may also be due to the specific nature of the work of professionals helping trauma victims as they typically help people who have experienced a variety of traumatic events. This diversity can hinder the process of cognitive involvement in trauma processing, especially when dealing with a large number of clients. In addition, they usually have little time to become cognitively involved in processing the trauma experienced by others. It should also be remembered that the presence of positive consequences of secondary trauma exposure does not exclude its negative effects. Although a number of studies have noted a co-occurrence between STS and VPTG, not all have found this to be the case [25,27].

Limitations

The study has some limitations. The research was cross-sectional, which does not allow conclusions to be drawn regarding cause-effect relationships; in addition, all participants were female. Furthermore, the survey did not record the clients with whom the surveyed professionals worked (i.e., children, teenagers or adults), the types of violence experienced or if the professionals themselves had also experienced personal trauma. In addition, none of the indirect trauma exposure indicators that were not found to be associated with VPTG were included. More-

over, the selection of the sample may cause bias, therefore results should therefore be interpreted with caution. The impact of such variables as institutional or group support (e.g., supervision, team meetings, work support groups), place of work, level of skills, career development and education (e.g., masters degree, additional courses and training) were also not analyzed.

Despite its limitations, the results of the conducted research bring new content to the scope of links between empathy, cognitive processing of trauma and the positive consequences of secondary exposure to trauma. An important advantage of the study is its use of a new measurement tool to assess secondary positive traumatic changes among professionals working with trauma victims. The vast majority of studies use the Posttraumatic Growth Inventory, which was originally developed for people who directly experienced trauma. Given the aforementioned differences between PTG and VPTG, it was important to develop a specific tool to study secondary positive posttraumatic changes.

The conducted research may be an inspiration for further research; however, this should consider other indicators of cognitive trauma processing, such as disruptions in basic beliefs or ruminating about events experienced by clients. It would also be worth extending the study to include a group of men. Longitudinal studies that capture changes in VPTG symptoms also seem desirable.

Implications for practice

The authors' findings can also be used in practice to develop prevention programs to promote VPTG. Such programs should aim to extend of competences in dealing with trauma, taking into account primarily the change of cognitive coping strategies from negative to positive; they should also address the development of empathy, especially its cognitive aspect, i.e., taking the perspective of others. It would also be valuable to undertake self-care practices. Self-care is an important factor which supports

the ability of helping professionals to effectively assist others and may improve the quality of their work and personal lives [26,40].

CONCLUSIONS

Working with traumatized clients can be a source of vicarious posttraumatic growth for professionals working with violence victims. The most posttraumatic changes were revealed by the group of therapists and the least by the group of social workers. There were a positive associations between VPTG changes and 2 aspects of empathy, *viz.* empathic concern and perspective taking, and 2 positive coping strategies, *viz.* positive cognitive restructuring and resolution/acceptance. In addition, empathy positively correlated with some cognitive coping strategies. Positive cognitive restructuring and resolution/acceptance strategies were found to mediate the relationship between 2 aspects of empathy (empathic concern, taking perspectives) and VPTG. Both, empathy and cognitive processing of trauma play an important role in occurrence of vicarious posttraumatic growth.

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