DISTRESSING CALLS AT CRISIS LINES AND THEIR RELATIONSHIP WITH SECONDARY TRAUMATIC STRESS AND COMPASSION LEVELS IN THE WORKERS

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Abstract

Background. Workers at crisis hotlines can immediately provide help for troubled individuals by listening to them. The callers stay anonymous, which has potentially distressing consequences for crisis line workers as they may be confronted with callers, who talk about harming other people or misuse the hotlines to sexually harass or manipulate the workers. This can drain the latter's motivation to help. These types of distressing calls may trigger secondary traumatic stress (STS) in the workers, which might eventually affect the workers' ability to be compassionate towards callers.

Aim. The aims of this study were to determine 1) how high the STS and compassion levels among the workers are, 2) how the caller characteristics "violence towards others" and "inappropriate motivations" relate to STS levels, 3) whether demographic and work-related variables are associated with STS and compassion and 4) whether STS is associated with how compassionate the workers can be to the callers.

Methods. A cross-sectional design study was conducted, measuring overall STS and compassion levels among a sample of n=586. Potentially distressing characteristics in a job demands questionnaire were combined into subscales addressing "violence towards others" and "inappropriate motivations". Ratings of occurrence and stressfulness for these subscales were correlated with overall STS scores. Further, STS scores were correlated with compassion levels to test their relationship and associations between demographic and work-related factors and STS and compassion were explored.

Results. Workers averagely had low STS levels (M = 16.3) and rather high compassion levels (M = 83.6). Encounters with callers having "inappropriate motivations" sometimes occurred, as opposed to confrontations with callers talking about engagement in "violence towards others", which only seldomly occurred. Both types of encounters were considered as "(very) stressful" by only a minority (< 20%) of the crisis line workers. STS was significantly associated with frequencies (*rho* = .17) and perceived stressfulness (*rho* = .20) of encounters with callers having "inappropriate motivations", as well as with frequencies of confrontations with callers talking about "violence towards others" (*rho* = .09), but not with their perceived stressfulness. Levels of STS and compassion towards others were significantly but only weakly related to each other (*rho* = .10). Moreover, STS was significantly associated with older age (*rho* = .17), more work experience (*rho* = .11) and more working hours per week (*rho* = .14) and female participants had a higher average STS levels (M = 16.5) than male ones.

Conclusion. The studied workers' STS levels were rather low and showed to be associated with callers having "inappropriate motivations" regarding their frequencies of occurrence and perceived stressfulness. Encounters with callers talking about "violence towards others" were only found to be related to STS with respect to their occurrence. The sample's compassion levels showed to be high and associated with STS as well. Furthermore, age, gender, years of working and working hours per week showed to be related to STS. Future research should implement a longitudinal study to clarify the development of the constructs and their relationships that were found in this study over time.

Introduction

Telephone emergency services have become a widely used and accepted method for helping people, who find themselves to be in any sort of crisis. Paid health care workers, as well as trained workers "offer emotional support, immediately accessible to any person suffering from loneliness, in a state of psychological crisis, or contemplating suicide" (IFOTES, 2020). Several studies on the effectiveness of such crisis lines have been conducted. A study by Kalafat, Gould, Munfakh and Kleinman (2007) found callers' crisis states and helplessness to have decreased during calls, as well as in the weeks following the conversations. Moreover, callers reported a reduction in levels of perceived distress, which suggests that the calls are not only of temporary help but rather serve as a basis for people to improve their coping strategies when facing crisis (Kalafat, Gould, Munfakh & Kleinman, 2007).

Talking to psychologically troubled individuals, listening to a lot of different stories about traumatic experiences, can negatively impact healthcare workers and their wish to provide care (Stamm, 2010). Negative consequences that were found in several studies among healthcare workers are burnout (Cyr & Dowrick, 1991), compassion fatigue (Figley, 1995) and secondary traumatic stress (Missouridou, 2017; Bride, 2007). Secondary traumatic stress (STS) is defined as a "negative feeling driven by fear and work-related trauma" (Stamm, 2010). Specifically, it is comprised of the behaviours and emotions that are evoked by learning about the traumatizing experiences of a significant other and the distress that results from the urge to help that traumatized person (Figley, as cited in Figley, 2002). That means that caregiving health professionals can suffer from a certain type of traumatization, which is provoked by their encounters at work with traumatized victims.

Whether a healthcare professional suffers from STS shows in different symptoms. Some individuals report to "feel isolated from others, who do not understand the psychological distress of their work" (Simon, Pryce, Roff & Klemmack, 2006). Moreover, they may have intrusive thoughts, nightmares, disruptive sleep patterns, and may experience unnatural irritability as well as being easily scared, paired with feeling help- and hopeless (Nelson-Gardell & Harris, as cited in Simon, Pryce, Roff & Klemmack, 2006). The condition seems to be triggered by workers' empathy when engaging with traumatized clients, as well as overidentifying with their experiences and emotions while doing so (Simon, Pryce, Roff & Klemmack, 2006; Missouridou, 2017; Meadors & Lamson, 2010). Research findings on the influence of additional, sociodemographic and work-related factors on STS levels in different types of healthcare workers are mixed and contradict each other (Galek, Flannelly, Greene &

Kudler, 2011; Bonach & Heckert, 2012; Dominguez-Gomez & Rutledge, 2009).

Besides negative outcomes for the workers and their mental health, suffering from STS may also influence their ability to show compassion towards the callers. Compassion is "the feeling that arises in witnessing another's suffering and that motivates a subsequent desire to help" (Goetz, Keltner & Simon-Thomas, 2010). Being compassionate comprises an important aspect of health and social care workers' attitude towards helping troubled individuals (Crowther, Wilson, Horton & Lloyd-Williams, 2013). Especially for clients and patients, who may be afraid of certain procedures or talking about traumatizing and shocking events, it is important to perceive health professionals as caring and compassionate towards them, as well as understanding of their feelings and emotional states (de Zulueta, 2013). However, frequent exposure to traumatizing events results in deteriorating compassionate behaviour, most likely because the health professionals try to protect themselves against the emotional burden (Crowther, Wilson, Horton & Lloyd-Williams, 2013). This causes a loss in their interest to help others who suffer (Figley, 2002), which may ultimately result in a decreasing quality of their professional work (Stamm, 2010).

As opposed to other mental health professions, working at a crisis hotline demands workers to listen to all different sorts of callers anonymously and without any personal contact. Not all callers have intentions of getting immediate help and relief for their psychological stress, as some people may call hotlines with inappropriate motivations, for instance to try to gain sexual gratification from the call or to manipulate the worker. Pollock, Moore, Coveney & Armstrong (2012) found that the proportion of these manipulative and harassing calls is indeed higher than documented and that workers consider it difficult to deal with them. With regards to these types of encounters, caller's anonymity can turn out to be problematic and cause stress in the crisis line workers. Callers can call different workers with the same inappropriate intentions without being identified as such right away (Pollock, Moore, Coveney & Armstrong, 2012). This complicates correct configuration of the caller as someone, who needs help right away, which results in misjudgements of calls and leads to the workers being reluctant to hang up and therefore falling prey to these molesting callers (Pollock, Moore, Coveney & Armstrong, 2012).

Additionally, the callers' anonymity poses another problem for voluntary crisis line workers. According to Jaffe (as cited in Cyr & Dowrick, 1991), the intervention being of one-time nature and the unknown identity of the caller disallows the volunteer to find out about the conversation's success. This might apply to situations where the caller, for instance, talks about

harming other individuals, such as people or animals. As a study by Tan, Maranzan, Boone, Velde and Levy (2012) showed, callers making use of these crisis helplines are not only those, who were victims to abuse, but a small percentage of them also reported to be the perpetrator. This in turn affects the workers receiving and dealing with those calls, as they report to feel angry towards the perpetrators of assault (Kehoe & Grant, as cited in Kinzel & Nanson, 2000). A study conducted among counsellors working with both, perpetrators and victims of domestic violence showed similar results, with healthcare workers expressing feelings of anger towards the perpetrators (Iliffe & Steed, 2000). Moreover, the researchers found that hearing about traumatic material resulted in a personal impact that participants described as "feeling horrified […] by what they heard" as well as feeling "a lot of helplessness" (Iliffe & Steed, 2000).

With feelings of helplessness being a part of STS symptomatology, this raises the question whether secondary traumatization is only triggered by hearing stories about traumatic experiences told from the victim's perspective, or whether being informed about past or future acts of violence by the perpetrator may also account for a certain degree of STS in workers. Especially compassionate and empathetic people, who work at crisis lines, might additionally feel concerned for the victims of certain callers, if they are informed about the harm prior to or after the actual incident. Research found that counsellors working with traumatized clients reported feeling unable to take their mind off their client's safety if they expected them to be retraumatized (Straker & Moosa, as cited in Iliffe & Steed, 2000). A similar preoccupation and concern with another person's safety might also take place when talking to perpetrators, who talk about repeatedly abusing someone else, or planning to do so.

Considering what prior studies conducted on STS and compassion in different healthcare professions found, the lack of research including crisis line workers becomes evident. This study will aim at examining levels of STS and compassion in workers at three different crisis helplines in the Netherlands. The crisis lines offer a listening ear to lonely and distressed people, those having suicidal thoughts as well as mental illnesses. Moreover, it will be explored whether caller characteristics, namely stories about violence towards others and inappropriate motivations for calling, account for STS and how STS in turn affects levels of compassion. Additionally, the impact of demographic and work-related variables will be included in research, as existing evidence for their influence on STS levels is mixed. With regards to compassion, research suggests that it stems from evolutionary theory and describes it as a means for humans to form communities with others that are not related by blood, a motivation to act altruistically for mutual benefits of both parties (Trivers, as cited in Goetz, Keltner & Simon-Thomas, 2010). However, it would be interesting to explore the influence of

demographic and work-related factors on compassion as well, to see if they account for some differences in compassion levels, which cannot be explained by STS. Based on what is already known and still unknown from literature, the following four research questions arise:

RQ 1: How high are the STS and compassion levels among crisis line workers?
RQ 2: How often do encounters with callers telling stories about violence towards other people or having inappropriate motivations occur, how stressful are they perceived and to what extent do they correlate with STS levels in crisis line workers?
RQ 3: Do sociodemographic and work-related factors influence crisis line workers levels of STS and compassion?
RQ 4: Does STS in the workers affect their levels of compassion towards the callers?

Methods

Design

A cross-sectional design using an online survey was conducted between November and December 2019 as part of a larger PhD study by Renate Willems.

Participants and procedure

Prior to conducting the study, ethical approval was obtained from the Ethical Board of the Faculty of Behavioural and Management Studies at the University of Twente (No.: 190943). Participants were mental health workers and volunteers with a bachelor's or master's degree working for three different organisations providing crisis hotlines. All 1435 workers were given a link to the survey, which was preceded by an explanation of the study and an informed consent form, before displaying the actual questionnaires. In total, 593 workers completed the survey. After checking the dataset for invalid responses, seven participants were removed from the sample, reducing the number to 586. One participant did not state their age correctly, the other six respondents were identified as outliers, which means that excluding them prevents the data from being skewed to extremes, for example when participants always chose the lowest or highest score on all items.

Materials

The online survey contained questions about person- and work-related data, as well as different sorts of questionnaires measuring the variables of interest for this study, which were secondary traumatic stress, compassion towards others and characteristics of the callers.

Personal background & work-related variables

Crisis line workers that participated in the study were asked for their demographic data and work-related factors at the beginning of the survey, such as their age and gender, but also whether they were volunteers or paid employees, which organisation they worked for and whether they had training for working at the crisis line. For an overview of all person-related data and answering options, see *table 1* in the results section.

Workplace stress and compassion

The survey included measurements for crisis line workers' workplace stress (secondary traumatic stress) as well as their capabilities, namely their compassion towards callers.

Their levels of *secondary traumatic stress* were measured with the 'Professional Quality of Life' questionnaire for secondary traumatic stress (ProQOL-SS) with 10 items (Stamm, 1995). Items are for instance phrased "I jump or am startled by unexpected sounds" and ask the respondents to evaluate how often they feel that way on a five-point scale ranging from "1=never" to "5=very often". For computing total scores, all scores are summed. The scale showed acceptable reliability for the scores of this study sample ($\alpha = 0.66$). Additionally, the test has cut off scores for STS levels, which are displayed along their frequencies in *table 3*.

To measure the workers' levels of *compassion towards the callers* we used 'The Compassionate Action and Engagement Scales – compassion to others' (TCEAS) (Gilbert et al., 2016), which was adjusted to crisis line work. Questions start with the sentence "when callers or chatters get upset or sad about things…" and are then completed by 13 items in total, for example "…I am emotionally moved by expressions of distress in others". Respondents then answer by rating how often they act in the described way on a ten-point scale ranging from "1=never" to "10=always". Three items on the questionnaire are negatively worded, meaning they describe behaviour, which is not typically compassionate. Therefore, their ratings were reversed for scoring, so "1=always" and "10=never". In order to calculate overall scores on compassion levels for all participants, scores on all items were summed and displayed acceptable reliability ($\alpha = 0.61$). As suggested by the manual, recoded items were neglected in that computation, and the original ones were used instead. The lowest possible score on this questionnaire is 13, indicating a low level of compassion, whereas the highest score of 130 hints at high compassion levels.

Perceived stressors

Characteristics of the callers' that contact the crisis hotlines acted as stressors for the workers and were measured with a self-developed questionnaire (Willems, 2019). The questionnaire contained 16 items describing potentially distressing characteristics of callers of which 6 were relevant for the current thesis. These items could be categorized into different types of callers. 2 items, namely "a caller or chatter tells a story in which children or animals are victims" and "a caller or chatter says he intends to mistreat someone (human or animal)", could reliably ($\alpha = 0.76$) be combined into a subscale encompassing accounts of "violence towards others". The other 4 items described situations, in which callers had "inappropriate

motivations" to call the crisis line and formed another reliable ($\alpha = 0.67$) subscale. The exact wording to these items can be found in *table 4*.

Participants responded to items describing different types of situations with callers by stating their frequencies of occurrence and evaluating their stressfulness, resulting in two separate scores for each item. For example, an item was phrased as "a caller or chatter has sexual intentions with the conversation". The first question "how often do you have to deal with that situation?" could be answered on a five-point scale, ranging from "1=never" to "5=very often". Secondly, the respondents were asked "do you find that situation stressful?", which they could indicate on another five-point scale, ranging from "1=not stressful at all" to "5=very stressful". Two separate scale scores, namely occurrence and stressfulness, for each of the subscales were calculated. That means, first, all scores on the question asking for the occurrence of items on the subscale "violence towards others" were summed and then divided by the number of items, so that average scores could be obtained. The same was done for ratings of stressfulness on that subscale. For the second subscale "inappropriate motivations", the procedures were repeated, ultimately eliciting four different average scores for that questionnaire in total.

Data analysis

All data was analysed using IBM SPSS Statistics 24. To examine the respondents' levels of STS and compassion, descriptive statistics of overall scores on ProQOL-SS and TCEAS questionnaires were computed, i.e. the mean, standard deviation, maximum and minimum scores, as well as the range. Moreover, frequencies for the different STS levels were calculated as well.

To answer the question whether certain caller characteristics have an impact on STS levels in the workers, Spearman correlation tests were conducted. Average scores for the frequencies of occurrences and ratings of stressfulness of items on the second subscale to the job demands questionnaire ("violence towards others") were correlated with sum scores on the STS questionnaire (ProQOL-SS). Next, this same procedure was repeated with average occurrence and stressfulness scores on the fourth subscale ("inappropriate motivations") and sum scores on ProQOL-SS.

To explore whether demographic and work-related factors influence STS and compassion levels in crisis line workers, Kruskal-Wallis and Spearman correlation tests were conducted. Categorical variables (i.e. gender, training and nature of work) were tested for

differences between their groups with regards to average levels of STS and compassion by using a Kruskal-Wallis test. Means and standard deviations for each category among the three variables were computed as well, to visualize the differences between their average levels with numbers (see *table 6*). Variables that were measured on a scale (i.e. age, time of working and working hours per week) were correlated with overall STS and compassion scores by using a Spearman correlation test.

Lastly, to determine whether STS in the workers affects their levels of compassion towards the callers, the sum scores on both questionnaires were correlated with each other, again by using a Spearman correlation test.

Results

Demographics and job-related characteristics

Table 1 illustrates demographic and work-related characteristics of this study's sample. The vast majority of participants were female (71.7%) and indicated to be working for "The Listen Line" (91.5%). Moreover, almost all respondents were working for the organisation voluntarily (94.9%), with more than half of them stating that they had not received special training for working at the crisis line (60.4%) except for their prior education in different healthcare fields.

Table 1.

Demographic and work-related variables (N=586).

Variable	Category	n	Percentage
Age	18 to 25	18	3.1
	26 to 35	25	4.3
	36 to 45	21	3.6
	46 to 55	80	13.7
	56 to 65	179	30.5
	66 and older	263	44.9
Gender	Male	165	28.2
	Female	420	71.7
	Other	1	0.1
Nature of work	Voluntary	556	94.9
	Paid	30	5.1
Organisation	The Listen Line	536	91.5
	113 Suicide Prevention	39	6.7
	MIND Correlation	11	1.9
Training	Yes	232	39.6
	No	354	60.4
Experience	Less than a year	132	22.5
	1-3 years	201	34.5
	3-6 years	93	15.9
	6-10 years	63	10.8
	More than 10 years	97	16.6
Working hours per week	Less than 4 hours	103	17.6
	4 to 6 hours	409	69.8
	6 to 8 hours	34	5.8
	8 to 10 hours	9	1.5
	More than 10 hours	31	5.3

Workers' secondary traumatic stress and compassion levels

Tables 2 and 3 display the STS and compassion levels of the participants in this study. The mean score for compassion levels deviates almost equally as much from the lowest and highest scores, suggesting that the scores are almost equally distributed on the range. The mean score of STS lies within the range for low STS levels.

Table 2.

Descriptive statistics on STS and compassion scores (N=586).

Questionnaire	*M*	*SD*	min	max
STS [10-50]	16.3	3.5	10	27
Compassion [13-130]	83.6	9.6	51	114

Table 3.

Frequencies of STS levels (N=586).

STS Level	score [1]	N	Percentage
Low	10-22	553	94.4
Middle	23-41	33	5.6
High	42-50	0	0.0

Note. [1]cut scores were based upon Stamm (2009).

Caller characteristics and their stressfulness

Table 4 shows the descriptive statistics for the subscales "violence towards others" and "inappropriate motivations", as well as the frequencies of participants' ratings for occurrence and stressfulness of the separate items. Means and percentages for occurrence suggest that crisis line workers in this sample are more often confronted with callers having inappropriate motivations and that encounters with those callers talking about doing violence towards others seldomly occur. Stressfulness ratings moreover indicate that respondents mostly did not experience the situations described by the items as very stressful.

Table 4.

Percentages of participants' ratings of occurrence and stressfulness of items on subscales of the job demands questionnaire with subscales' respective means and standard deviations (N=586).

		Occurrence							Stressfulness						
subscale	**Items**	**1**	**2**	**3**	**4**	**5**	***M***	***SD***	**1**	**2**	**3**	**4**	**5**	***M***	***SD***
Violence towards others	"A caller or chatter tells a story in which children or animals are victims"	29.5	60.4	8.4	1.4	0.3	1.6	0.4	28.3	31.2	21.0	15.9	3.6	2.3	1.1
	"A caller or chatter says he intends to mistreat someone (human or animal)"	72.2	26.8	1.0	0.0	0.0			47.4	13.0	14.7	17.6	7.3		
Inappropriate motivations	"A caller or chatter tells a bizarre story that's probably not true."	1.9	68.9	25.8	3.6	0.2	2.2	0.4	58.5	34.8	5.3	1.4	0.0	1.9	0.7
	"A caller or chatter manipulates, scolds, discriminates, shocks, judges or seeks quarrel"	3.2	75.9	15.7	2.7	0.3			17.9	38.1	21.3	18.4	4.3		
	"A caller or chatter has sexual intentions with the conversation"	8.0	72.9	16.9	2.0	0.2			44.9	30.7	11.1	9.9	3.4		
	"A caller or chatter is under the influence of alcohol or drugs and cannot come out of words properly"	5.3	75.9	15.7	2.7	0.3			52.2	33.4	9.9	2.7	1.7		

Note. Means and standard deviations apply to the subscales, not the separate items. Frequencies of ratings of occurrence and stressfulness ratings are given in percentages. Ratings 1-5 on occurrence mean "1=never", "2=sometimes", "3=regularly", "4=often" and "5=very often". Ratings 1-5 on stressfulness mean "1=not stressful at all", "2=a bit stressful", "3=somewhat stressful", "4=stressful" and "5=very stressful".

Relationship of secondary traumatic stress with caller characteristics and compassion

Table 5 summarizes the correlation coefficients and their respective significances for STS with compassion levels and caller characteristics. They indicate that compassion levels are significantly but weakly associated with STS levels. Moreover, they show that occurrence of both, callers that talk about violence towards others and having inappropriate motivations are significantly related to STS, whereas only the perceived stressfulness of encounters with callers having inappropriate motivations are significantly associated with STS levels.

Table 5.

Spearman correlation coefficients (rho) of STS with compassion and subscales on job demands questionnaire (N=586).

		Violence towards others		Inappropriate motivations	
	Compassion	Occurrence	Stressfulness	Occurrence	Stressfulness
STS	0.10**	0.09**	0.06	0.17*	0.20**

Note. *p < .05 **p < .01

The associations of demographic and work-related factors with STS and compassion levels

Associations of demographic and work-related variables with STS and compassion levels are illustrated in *table 6*. As can be seen in *table 7*, groups among gender differed significantly in STS levels and age, time of working for organisation and working hours per week showed to be significantly associated with STS in crisis line workers of this sample. No influence of any sort was found for compassion levels.

Table 6.

Spearman correlation coefficients (rho) of demographic and work-related variables with STS and compassion levels (N=586).

Variable	STS	Compassion
Age	0.17*	0.08
Time of working for the organisation	0.11*	0.08
Working hours per week	0.14*	0.05

Note. *p < .01

Table 7.

Results of the Kruskal-Wallis test for differences between categories of demographic and work-related items per variable (N=586).

		STS		Compassion	
variable	**category**	***M (SD)***	***p***	***M (SD)***	***p***
Gender[1]	Male	15.8 (3.8)	0.035*	83.1 (9.4)	0.273
	Female	16.5 (3.4)		83.8 (9.6)	
Nature of work	paid	16.2 (3.5)	0.066	83.1 (7.1)	0.960
	voluntary	17.8 (4.4)		83.6 (9.7)	
Training	Yes	16.7 (3.5)	0.441	83.9 (9.3)	0.475
	No	16.4 (3.6)		83.4 (9.7)	

Note. *significance at .05 level. p-values apply to the variables, not separate categories.

[1]Gender with n=585 (category "other/prefer not to say" was removed because n=1).

Discussion

To our knowledge, this is the first study to examine the relationship between distressing calls and STS in crisis line workers, as well as the association between STS and compassion towards the callers. The main findings are that STS levels in our sample were not high, but caller characteristics partly showed to be associated with STS levels, with regard to their frequencies of occurrence and perceived stressfulness and STS showed to be related to the workers' levels of compassion towards the callers.

Levels of secondary traumatic stress and compassion. Our results showed that only 5.6% of all participants reported moderate levels of STS and that the sample's average scores lied in the score range of low STS levels, meaning that crisis line workers in this sample do not or only slightly suffer from STS. Although a lot of research has examined STS in healthcare workers, those working or volunteering at a crisis line have barely been the subject of research. O'Sullivan and Whelan (2011) conducted a study among a sample of telephone counsellors, who are regularly confronted with traumatized individuals sharing their stories. The researchers studied the participants' levels of compassion fatigue, a concept closely related to STS and sharing a lot of symptoms (see Stamm, 2010) and found that around 78% of the counsellors suffered from at least problematic levels of compassion fatigue (O'Sullivan & Whelan, 2011). These findings contradict ours, which could be explained by the types of encounters that the respondents in our study had with callers. The vast majority of the sample was working at "The Listen Line", which is an organisation that mostly deals with people feeling lonely and distressed, rather than traumatized individuals. In contrast, a much smaller percentage of the workers worked for the other organisations, that talk to individuals contemplating suicide or suffering from psychological problems. After all, as several researchers and authors suggest, specifically the exposure to traumatized individuals and their experiences trigger STS in healthcare workers (Figley, 1995; Bride, 2007; Galek, Flannelly, Greene & Kudler, 2011; Missouridou, 2017). However, this study did not deliberately include assessments of confrontations with these types of trauma, which does not mean that workers could have never been confronted with traumatized individuals on the phone throughout their time of working for the organisations. Accordingly, the relationship between confrontations with traumatized individuals and responding crisis line workers STS levels was not examined.

The average compassion levels of this sample can be interpreted as high, even though no literature could be found for comparison purposes. Looking at this sample's minimum score

tells us that it is almost five times higher than the lowest possible score of 13, whereas the highest score of this sample is only slightly smaller than the highest possible score of 130. The minimum score moreover indicates that in general, all workers are at least somehow compassionate towards the callers. This finding is not surprising, as it is in line with the general definition of compassion as a drive to help others in need and ease their pain (Goetz, Keltner & Simon-Thomas, 2010). Furthermore, research suggests that compassion comprises an important aspect of the attitude that healthcare workers have (Crowther, Wilson, Horton & Lloyd-Williams, 2013; de Zulueta, 2013). This desire to help is also reflected by the very high percentage of voluntary workers in this sample, who deal with the various problems of the callers without getting paid for it. Therefore, it can be concluded that the high levels of compassion found for this sample are not surprising and are part of the motivation to start working in these professions.

Relationship between callers telling stories about violence towards other people or having inappropriate motivations and secondary traumatic stress levels. After computing frequency statistics for the occurrence and perceived stressfulness of both types of caller characteristics it became evident that encounters with callers talking about engaging in "violence towards others" mostly "never" or "sometimes" occurred. Accordingly, they were perceived as "not stressful at all" or "a bit stressful" by more than half of the participants, as opposed to less than a quarter that indicated them to be "stressful" to "very stressful. It must be noted that the stressfulness ratings should be considered with caution, as some respondents might have evaluated the perceived stressfulness of these situations, even if they had never occurred to them. One would rather speak of 'imagined' stressfulness in this case.

Confrontations with callers having "inappropriate motivations" were said to occur "sometimes" to "regularly" by the majority. Stressfulness ratings for these types of callers varied for the separate items. Situations in which callers told a bizarre story, had sexual intentions or were intoxicated were rated as "not stressful at all" to "a bit stressful" by three-quarters of the sample. On the contrary, encounters with a caller that "manipulates, scolds, discriminates, shocks, judges or seeks quarrel" were overall perceived as a bit more stressful. This latter type of callers was rated as "stressful" to "very stressful" by almost a quarter of all workers, which is at least twice as much compared to the frequencies of same ratings for the other situations.

Conducting two separate Spearman correlation analyses for the occurrence and stressfulness of situations as described in the items on the subscale "violence towards others" elicited two different results. The frequencies with which the situations had occurred showed

to be positively, but weakly associated with STS levels in crisis line workers. A possible explanation for that could be that workers indicated that these situations hardly ever occur and that their STS levels are also low. Computing the correlation coefficient for ratings of stressfulness of these situations and STS showed them to not be significantly associated, meaning that the perceived stressfulness of being confronted with these callers is not related to STS levels at all. Generally, as has already been mentioned, being confronted with these accounts of violence from the perpetrator's perspective is not a typical predictor for STS (see Figley, 1995; Galek, Flannelly, Greene & Kudler, 2011), and has been found to rather trigger feelings of anger, guilt and frustration (Iliffe & Steed, 2000; Kinzel & Nanson, 2000). The relationship was tested as it was anticipated that talking to perpetrators of violence might evoke feelings of concern and would still have an impact as it is traumatic material. However, stressfulness ratings of these situations might also vary, if more workers would have actually experienced them, which has not been the case for this sample. Therefore, future research interested in the association between confrontation with traumatic material, especially by perpetrators, might want to include those crisis lines that are targeted by these types of callers more often than those chosen for this study.

For callers having inappropriate motivations for calling the crisis line, two Spearman correlation coefficients were computed as well. Interestingly, both showed to be significantly associated with STS levels. First, occurrence and STS were positively, but weakly correlated, meaning that more frequent confrontations with these types of callers are connected to higher STS levels. Moreover, stressfulness ratings of the same showed a slightly stronger positive association with STS levels. These findings are rather surprising as the situations described by these items do not include confrontation with traumatic material by a victim, which is why no correlation rather than an at least weak one would have been expected. A possible explanation for the correlations may be that workers in this sample are rather primarily traumatized by these types of calls. Figley (2002) suggests that STS and posttraumatic stress disorder (PTSD) indeed share a lot of symptoms, which is why it can be cautiously hypothesized that PTSD accounts for the STS scores to some extent. However, future research assessing the consequences of confrontation with inappropriately motivated calls could include a PTSD questionnaire and/or look at other possible outcomes, such as high levels of distress.

The influence of sociodemographic and work-related factors on STS and compassion levels. To test the influence of person- and work-related variables on STS, two different tests were conducted for categorical and scale variables. First, a Kruskal-Wallis test was used to search for differences among groups of the variables *gender*, *nature of work* and

training related to STS levels. Only differences among the gender categories showed to be significant, and associated means showed that men had slightly lower average STS levels than women. This finding is similar to those of a study by Dominguez-Gomez and Rutledge (2009) among nurses that found men to report lower STS scores as well. However, both scores are considered to indicate low STS levels and do not differ very much, which is why it is just a minor finding.

Secondly, the continuous and ordinal variables *age*, *time of working for the organisation* and *working hours per week* were correlated with STS levels. All three variables showed to be significantly associated with STS levels in this sample. Age showed a positive but weak correlation with STS levels. Other research that explored STS among other healthcare professions reported mixed findings on that relationship. The study conducted among nurses by Dominguez-Gomez and Rutledge (2009) found a positive correlation between age and STS symptoms, whereas Kellogg, Knight, Dowling, and Crawford (2018) suggest that this contradicts findings of other studies conducted among nurses. Additionally, a study conducted by Bonach and Heckert (2012) among forensic interviewers working with traumatized children showed that lower levels of STS were found to be correlated with older age of the workers, so the exact opposite to the findings of this current study. An explanation for this contradiction might be that age cannot unquestionably be associated with work experience, as about three-quarters of the respondents in this study were 56 years and older. Nonetheless, Bonach and Heckert (2012) did that by suggesting that forensic interviewers in their sample might have adapted their coping mechanisms to the demands of their work over the years of working in it. Therefore, it could be that older crisis line workers in this sample are more prone to be secondarily traumatized by certain caller characteristics due to their age and not being able to handle stressful encounters as well as younger participants.

As *time of working for the organization* has already been mentioned, it is interesting that our study showed this factor to be weakly positively correlated to STS levels in workers. Dominguez-Gomez and Rutledge (2009) did not find any connection between years of working and STS levels in their study and Bonach and Heckert (2012) suggested quite the opposite when they explained their finding that older forensic interviewers in their sample had lower STS levels, because they got used to dealing with traumatic experiences in their job. It does seem plausible that in our study, those individuals having worked for the organization for a longer time may be more secondarily traumatized, as they probably had more traumatizing confrontations with callers.

Lastly, *working hours per week* showed to be positively, but weakly associated with

STS, indicating that more working hours would go with higher STS levels. This contradicts other findings in literature as Dominguez-Gomez and Rutledge (2009) found that STS was not correlated with working hours per week in their study among nurses. It is indeed possible that frequent exposure to the same distressing situations would trigger higher STS levels, as Galek, Flannelly, Greene and Kudler (2011) found that counselling hours with traumatized persons are directly related to STS in workers. Therefore, it is indeed possible that more working hours per week are related to slightly higher STS levels.

Generally, it is important to note that weak correlations between *age*, *time of working for the organisation* and *working hours per week* with STS levels, as well as the generally low STS levels in this sample do not hint at very meaningful connections between these factors. A longitudinal study including these variables could give more insight into how they are linked to STS in crisis line workers over time.

The same analyses, Kruskal-Wallis and Spearman correlation test were conducted in the same manner with the same demographic and work-related variables with compassion levels among the crisis line workers. However, they did not elicit any significant findings, which could be anticipated. According to Goetz, Keltner and Simon-Thomas (2010), compassion is an evolutionary construct, which is therefore less likely to be dependent on certain person- and work-related variables. Moreover, crisis line workers in this study had high average compassion levels and most possibly have been motivated to start working in that profession by their feelings of compassion in the first place.

Relationship between levels of secondary traumatic stress and compassion towards callers. Analysis showed that STS levels are weakly positively associated with levels of compassion towards callers for the crisis line workers participating in this study, meaning that higher compassion levels are related to higher levels of secondary traumatic stress. This finding is interesting since STS was anticipated to reduce healthcare workers' interest in helping troubled individuals and thereby lead to a decreasing willingness to engage in compassionate care (Figley, 2002; Crowther, Wilson, Horton & Lloyd-Williams, 2013). However, without high compassion levels, an individual would be unlikely to feel for traumatized individuals enough to become secondarily traumatized by their stories. Furthermore, the relationship is weak, which explains why high compassion levels are still significantly associated with low STS levels. Conducting a longitudinal study, seeing how STS and compassion levels develop over time and with respect to each other might clarify their relationship, and whether it changes at some point.

Strengths and limitations

The strengths of this study are the large sample size, as well as the inclusion of different types of organisations. Moreover, the fact that demographic variables were considered with regards to STS levels makes exploration of the data possible. The rating system of the job demands questionnaire enabled the participants to state the frequencies of occurrence and stressfulness of certain situations and allowed to further explore which caller characteristics were typical for the work at the examined organisations.

However, there are also a number of limitations. Participants were allowed to rate their experienced distress in situations, that they have never been confronted with, which is why their ratings of stressfulness might have been based on imagination rather than actually experienced distress. Therefore, especially levels of STS for the subscale "violence towards others" had to be interpreted with caution and may have flawed the results. Additionally, encounters with traumatized individuals, which previous literature found to trigger STS levels, did not make up the typical content of conversations the workers at these crisis lines were having. Therefore, if examining the prevalence of STS in individuals working in this type of caregiving profession is of interest, future research should focus on crisis lines that are targeting callers with different problems, such as emergency hotlines for victims of violence and harassment. Then, the impact of working hours per week, years of working and age of the workers on STS levels could also be explored, as this study did not elicit results that could be meaningfully interpreted. It is also important to note that this study focuses on crisis line volunteers, whereas also paid workers were included since they make up only 5.6% of the whole sample. As the analyses show, there was no difference between paid and voluntary workers among STS or compassion levels, indicating that including also paid workers did not alter the results of this study. As volunteers are still workers at the crisis lines, they were consistently called workers throughout the study, so that it would not seem like any distinctions were made between the two types of employees.

Lastly, another limitation is that this was a cross-sectional study, which means that data was collected at a specific point in time, making it impossible to determine if and how crisis line workers' STS and compassion levels change over time for the same individuals. Conducting longitudinal studies might be an option to find out more about their relationship over time and might also be helpful to further examine the relationship between person- and work-related variables and levels of STS in the workers.

Conclusion

Overall, the crisis line workers in this sample showed not to suffer from STS. Their compassion levels were rather high. The two constructs showed to be significantly associated with each other, however, the study does not measure how the STS and compassion levels develop over time and in relation to each other. The demographic and work-related variables age, gender, years of working at the crisis line and working hours per week were related to STS levels in the workers. Different types of caller characteristics, their occurrence and perceived stressfulness, showed to be more or less related to STS levels in the workers. Encounters with callers talking about harming other people showed to be associated with STS with regard to their frequencies of occurrence only, albeit they seemed to be seldomly experienced by the participants in this study. Perceived stressfulness of these situations was not associated with STS, however, those ratings had to be considered carefully, as they not always stemmed from actual experiences, but rather evaluations of imagined amounts of stress in these situations. Ratings of frequencies and perceived stressfulness of encounters with callers having inappropriate motivations towards the crisis line workers were unexpectedly positively related to STS levels. There might be a different reason for that, for instance a general level of traumatization due to confrontation with manipulation and sexual harassment over the phone.

Future research in this field should consider conducting longitudinal studies to find out more about the development of the different variables and their relationships with each other, for instance how STS and compassion change over time or the way that age, work experience and working hours are associated with STS in the workers.

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