



Trauma in the newsroom: social support, post-traumatic stress and post-traumatic growth among journalists working with terror

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ABSTRACT

Background: Journalists who cover traumatic events are at risk of developing long-term impairment, such as post-traumatic stress disorder (PTSD). The exposure may also result in perceived positive outcomes, conceptualised as post-traumatic growth (PTG). Social support (SS) at work is one factor that might affect the outcome.

Objective: To investigate the relationship between three subtypes of workplace SS (perceived support, received support, received recognition), and post-traumatic stress symptoms (PTSS) and between SS and PTG in journalists who have covered a large terror attack. Furthermore, to examine the relationship between ethical dilemmas (ED) experienced while covering the incident, PTSS and PTG.

Method: The study was performed as a web-based survey sent out eight to nine months after the incident to Norwegian journalists (N = 375) who covered the terror attack in Norway in 2011.

Results: Journalists who received more support also reported a higher level of PTSS ($r = .168$, $p = .044$). Recognition and perceived support showed no significant association with PTSS. Journalists who received more recognition also experienced more PTG ($r = .542$, $p < .001$). Neither perceived nor received support were significantly associated with PTG. More ED was positively associated with both PTSS ($r = .469$, $p < .001$) and PTG ($r = .402$, $p < .001$).

Conclusions: Journalists with more PTSS may have participated more in organised support such as debriefing activities in the aftermath of the coverage. Some journalists may have experienced stress related to a fear of causing additional harm to first-hand victims (ED). Others may have experienced PTG related to reflections and discussions about their ED in the aftermath of a coverage. Media companies may promote PTG among their journalists by developing a culture for recognition of employees' contributions during demanding missions.

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Antecedentes: los periodistas que cubren eventos traumáticos corren el riesgo de desarrollar una discapacidad a largo plazo, como el trastorno de estrés postraumático (TEPT). La exposición también puede dar lugar a resultados positivos percibidos, conceptualizados como crecimiento postraumático (CPT). El apoyo social (AS) en el trabajo es un factor que podría afectar el resultado.

Objetivo: investigar la relación entre tres subtipos de AS en el lugar de trabajo (apoyo percibido, apoyo recibido, reconocimiento recibido) y síntomas de estrés postraumático (SEPT) y entre AS y CPT en periodistas que han cubierto un gran ataque terrorista. Adicionalmente, examinar la relación entre los dilemas éticos (DE) experimentados al cubrir el incidente, SEPT y CPT.

Método: El estudio se realizó como una encuesta basada en la web, enviada ocho a nueve meses después del incidente a periodistas noruegos ($n = 375$) que cubrieron el ataque terrorista en Noruega en 2011.

Resultados: los periodistas que recibieron más apoyo también informaron un nivel más alto de SEPT ($r = .168$, $p = .044$). El reconocimiento y apoyo percibido no mostraron asociación significativa con SEPT. Los periodistas que recibieron más reconocimiento también experimentaron más CPT ($r = .542$, $p < .001$). Ni el apoyo percibido ni recibido se asociaron significativamente con el CPT. Más DE se asoció positivamente con SEPT ($r = .469$, $p < .001$) y CPT ($r = .402$, $p < .001$).

Conclusiones: Los periodistas con más SEPT pueden haber participado más en apoyo organizado, como actividades de reporte y discusión (debriefing) después de la cobertura. Algunos periodistas pueden haber experimentado estrés relacionado con el temor de causar daño adicional a las víctimas de primera mano (DE). Otros pueden haber experimentado CPT relacionado con reflexiones y discusiones sobre su DE en las repercusiones de una cobertura. Las compañías de medios podrían promover el CPT entre sus periodistas desarrollando

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关键词

记者; 社会支持; 创伤后应激; 创伤后成长; 道德困境

HIGHLIGHTS

- Journalists who had experienced more ethical dilemmas during their coverage, reported a higher level of both post-traumatic stress and post-traumatic growth in the aftermath of the assignment.
- Journalists who received more recognition at work from co-workers, experienced a higher degree of post-traumatic growth.
- Journalists who experienced more severe symptoms of post-traumatic stress received more support in the workplace.

una cultura de reconocimiento de las contribuciones de los empleados durante misiones exigentes.

新闻编辑室的创伤：恐怖活动报道记者的社会支持，创伤后应激和创伤后增长

背景：报道创伤事件的记者有发生长期损害的风险，如创伤后应激障碍（PTSD）。暴露也可能导致感知到的积极结果，这个概念称为为创伤后成长（PTG）。工作中的社会支持（SS）是可能影响结果的一个因素。

目的：在报道了大规模的恐怖袭击事件的记者中，考察工作场所SS三种亚型（感知到的支持，获得的支持，接受认可）和创伤后应激症状（PTSS）的关系，以及SS和PTG之间的关系。此外，还要考察在报道事件时遇到的道德困境（ED）与PTSS和PTG之间的关系。

方法：这项网络调查是在2011年挪威恐怖袭击事件发生后8至9个月在挪威记者（N = 375）中进行的。

结果：报告获得更多支持的记者也报告了更高的PTSS水平（ $r = .168$, $p = .044$ ）。认可和感知支持显示与PTSS没有显著关联。获得更多认可的记者也经历了更多的PTG（ $r = .542$, $p < .001$ ）。感知和接受的支持都与PTG无显著关联。更多的ED与PTSS（ $r = .469$, $p < .001$ ）和PTG（ $r = .402$, $p < .001$ ）呈正相关。

结论：有更多PTSS的记者可能更多地参与了组织性支持，例如在报道后的汇报活动。一些记者可能担心对第一手受害者造成额外的创伤有关的压力（ED）。其他人可能在报道之后经历过PTG，这与他们的ED的反思和讨论有关。媒体公司对员工在执行严苛任务期间的贡献表示更多的认同，这种内部文化有助于在提高记者的PTG。

1. Introduction

Journalists cover potentially traumatic major events (e.g. earthquakes or terror) or smaller incidents (e.g. car accidents or criminal cases) in their line of work (Smith, Newman, & Drevo, 2015). Witnessing such events may result in long-term impairment such as PTSD, characterised by symptoms such as intrusive memories, negative mood changes and avoidance of trauma reminders (American Psychiatric Association [APA], 2013).

A central question is the degree to which first responders and journalists, exposed to trauma as part of their work, are paying a personal price in the form of psychological impairment. While a number of studies show that this is the case for first responders (Berger et al., 2012), only a few studies have focused on the prevalence of PTSD among journalists as a direct consequence of potentially traumatic assignments. An overview of studies on non-war journalists showed varying degrees of prevalence, from 4.3% in a study on U.S. print journalists to at the highest 13% among U.S. and European journalists (Smith et al., 2015). In a study on Norwegian journalists who covered the 2004 Asian tsunami, 7% were classified as suffering from probable PTSD nine months after the incident (Backholm & Idås, 2016).

During the last decades, several studies on, e.g. victims and first responders have found that exposure to traumatic events may also result in perceived positive outcomes (Backholm & Björkqvist, 2012; Chopko, 2010; Feinstein, Owen, & Blair, 2002; Paton, 2005). Tedeschi and Calhoun (1996) conceptualised this as post-traumatic growth (PTG), a cognitive process whereby negative experiences may initiate reflections on life and result in strengthened self-esteem. They divided the changes into five factors of growth; relating to others, new possibilities,

personal strength, spiritual change and appreciation of life. The initial theory was later tested and refined (Calhoun & Tedeschi, 2013; Tedeschi & Calhoun, 2004).

Few studies with journalist samples have investigated PTG following potentially traumatic assignments. A study on Australian journalists concluded that growth is 'related to personal trauma management strategies, including peer and management support and opportunities to reflect' (McMahon, 2016, p. vi). Studies on Norwegian journalists have shown that unofficial confidential talks with experienced colleagues is the coping factor that predicts the highest score on resilience and growth (Idås, 2013).

Social support (SS) is a major factor explaining why only some people experience stress, while others have a parallel experience of growth (Calhoun & Tedeschi, 2013; McMahon, 2016). SS encompasses the perception of being cared for and of being part of a supportive social network that provides assistance (Taylor, 2011).

SS can be divided into subgroups: One way is to divide between perceived support, received support and received recognition (Thoresen, 2007). Perceived support (PS) describes a person's perception of whether support is available if needed, while received support (RS) is tangible support, such as professional debriefing (Taylor, 2011). Received recognition (RR) is interpersonal acknowledgement for getting the job done, e.g. from colleagues (Thoresen, 2007). A meta-analysis on occupational groups involved in rescue efforts concluded that workplace SS is an important resilience factor (Brooks, Dunn, Amlôt, Greenberg, & Rubin, 2016). Studies on journalists have concluded that lack of SS is a significant predictor of increased PTSS (Hatanaka et al., 2010; McMahon, 2016; Weidmann & Papsdorf, 2010).

Ethical dilemmas (ED) in the line of work, i.e. dilemmas between getting the job done and acting in accordance with one's own ethical conviction, have been included in some studies on journalists. A study on Norwegian journalists and first responders assigned to the 2004 Asian tsunami showed that work-related ED was the most important peri-traumatic factor associated with PTSS among journalists¹ (Idås, 2010), though not as central for first responders (Thoresen, 2007). Other studies have reached similar findings: Journalists may experience stress as a result of an inner conflict between being emphatic and doing their job (Browne, Evangeli, & Greenberg, 2012; Englund, 2008; Newman & Drevo, 2015; Simpson & Coté, 2006).

On 22 July 2011, Norway was struck by the greatest terror attack in national history during times of peace. A bomb exploded in Oslo city centre on that Friday afternoon; two hours later, the same perpetrator embarked on a shooting rampage at a youth camp on Utøya Island outside Oslo. The two events turned out to be related, resulting in 77 fatalities, 262 hospitalisations and an unknown number of psychological impairments (22. juli-kommisjonen, 2012).

The aim of this study was to describe the prevalence of PTSS and PTG in journalists reporting on the attack. We also wanted to investigate the association between workplace SS and PTSS, expecting to find that a lack of workplace SS was associated with a higher level of stress. Moreover, we wanted to explore the effect of ED on PTSS and expected that experiencing more ED would be related to more stress. We also wanted to investigate whether SS underpinned the experience of PTG. Our hypothesis was that this would be the case. Furthermore, we aimed to explore whether the ED had an effect on PTG. This topic has, to our knowledge, never been investigated. Our hypothesis was that more ED would be associated with a higher score on PTG. Finally,

using interaction analysis, we wanted to investigate whether a combination of ED and SS predicted levels of PTSS and/or PTG. We expected that more ED, in combination with less SS, would be associated with more stress and that less ED and more SS would be associated with more growth.

The present study was based on the experiences and results of a previous research programme on first responders, and journalists assigned for the 2004 Asian tsunami, performed by the Norwegian Centre for Violence and Traumatic Stress Studies (NKVTS) (Idås, 2010; Thoresen, 2007). We used a number of questions from the tsunami-study, in combination with items developed for later surveys with journalist samples (Idås, 2013) or specifically for this study.

2. Method

2.1. Participants and procedure

The data were extracted from a web-based survey conducted by the Norwegian Union of Journalists. The shop stewards of all Norwegian news media were contacted and asked to report the contact information of journalists who had covered the terror incident on 22 July 2011, and/or the consequences of that terror attack. This resulted in 549 news journalists, who were invited by e-mail to participate in the survey. Work was defined as being on at least one of the crisis scenes in the immediate aftermath, doing work related to the crisis from an organisational office or working regionally in the field in other parts of the country at some point until the date of the survey. To obtain comparable results with those of the previous tsunami-study (Idås, 2010; Thoresen, 2007), the survey was sent out eight to nine months after the incident. Journalists could participate during a two-week period. Informed consent was obtained from all participants.

Table 1. Possible scale ranges, means, standard deviations, and correlations among study variables.

	Possible Scale Ranges	M (SD)	1.	2.	3.	4.	5.	6.	7.	8.
1. PTSS ¹	0–110	16.43 (14.43)								
2. INV ²	0–40	8.15 (7.12)	.907***							
3. AVO ³	0–40	6.55 (6.20)	.863***	.639***						
4. HYP ⁴	0–30	2.81 (4.16)	.838***	.719***	.579***					
5. PTG ⁵	3–18	20.78 (2.46)	.291***	.325***	.192***	.231***				
6. PS ⁶	6–30	19.87 (4.56)	-.092	-.059	-.083	-.112*	.127*			
7. RS ⁷	0–5	2.19 (1.58)	.112*	.091	.046	.154**	-.013	.238***		
8. RR ⁸	2–10	7.18 (2.00)	-.003	.074	-.064	.019	.325***	.473***	.104	
9. ED ⁹	3–15	6.61 (2.61)	.369***	.301***	.290***	.337***	.157**	-.219***	.044	-.115*

***p < .001, **p < .01, *p < .05

¹PTSS = Post-traumatic stress symptoms, total sum score

²INV = Post-traumatic invading memories

³AVO = Post-traumatic avoidance

⁴HYP = Post-traumatic hyperarousal

⁵PTG = Post-traumatic growth

⁶PS = Perceived support

⁷RS = Received support

⁸RR = Received recognition

⁹ED = Ethical dilemmas

Of those approached, 375 journalists who met the study inclusion criteria chose to participate (68.3%): 228 males (60.8%) and 145 females (38.7%). Two participants (0.5%) did not provide information about sex. Sixty-two percent ($n = 233$) were staff employees; 32% ($n = 118$) were in temporary positions; and 6% ($n = 24$) were freelancers. The participants' mean age was 36.6 years ($SD = 10.4$); female journalists were significantly younger than their male colleagues ($p < .001$). The mean score on work experience was 12.2 years ($SD = 9.6$). Altogether, 166 (44.3%) had worked at one of the crisis scenes, 160 (42.7%) participated in the coverage from national, regional or local newsrooms, and 49 (13.1%) began coverage in the days following the terror attack.

2.2. Measures

For several of the concepts included in the study, we could not find validated instruments relevant to news journalism. Thus, existing scales were adjusted when necessary, and new items were constructed for the study (Appendix 1 lists all new items). Modifications were tested in a preliminary survey among journalists and shop stewards ($N = 628$) six months before the present survey and were evaluated by experts on the topic. Further adjustments were made based on their advice. Due to the limited timetable and resources, no further pre-study validation was conducted.

Table 1 presents an overview of the possible scale ranges, means, standard deviations and correlations between all the study variables. PTSS was measured with the Impact of Event Scale-Revised (IES-R; Weiss, 2004). The survey time frame involved reactions within the last two weeks of the coverage of the attack. To obtain comparable results to those of the tsunami-study (Idås, 2010; Thoresen, 2007), four response categories from the original IES were used (0 = *not at all*, 1 = *rarely*, 3 = *sometimes* and 5 = *often*) (Horowitz, Wilner, & Alvarez, 1979), with a cut-off score of 41 for the PTSD diagnosis. The IES-R is measured with 22 items (Cronbach's $\alpha = .91$). The scale comprised the three-symptom subscales according to the DSM-IV (APA, 2000): Intrusion was measured with eight items (Cronbach's $\alpha = .84$), avoidance with eight items (Cronbach's $\alpha = .77$) and hyperarousal with six items (Cronbach's $\alpha = .80$).

The PTG scale was based on the Posttraumatic Growth Inventory (PTGI; Tedeschi & Calhoun, 2004). Since the PTGI was developed to investigate growth among primary victims of an incident, some of its parts are less relevant for journalists. Thus, the six questions from the PTGI (items 1, 4, 10, 14, 15 and 19) most relevant for investigating experiences related to work exposure were used in the PTG scale.

The items covered four of the five PTG factors mentioned above. For instance, relating to others was covered with 'I have more compassion for others', new possibilities with 'New opportunities are available which wouldn't have been otherwise', personal strength with 'I have a greater feeling of self-reliance', and appreciation of life with 'I changed my priorities about what is important in life'. Spiritual change was not covered in this survey. Five response categories were included in the survey (1 = *significant negative change*, 2 = *negative change*, 3 = *no change*, 4 = *positive change* and 5 = *significant positive change*). Posttraumatic growth rather than negative change was the main focus in the current study, and the original PTGI (Tedeschi & Calhoun, 2004) only includes response categories ranging from neutral to positive change. Thus, response categories within a similar range were used in this study (1 = *no change*, 2 = *positive change* and 3 = *significant positive change*). The number of respondents who had reported a negative change on any of the six PTG items was low (two to eleven responses per item). These responses were recoded as 'missing' before analysis. The sum scale of overall PTG was used in the analyses (Cronbach's $\alpha = .77$).

SS in the newsroom was measured with 13 items. The scale consisted of three subscales: PS, RS and RR. The PS-items covered the perception of workplace support in general, while the RS- and RR-items were limited to experiences during the coverage of the terror attack. PS was covered by six items, two of which were from Thoresen's tsunami-study (2007), e.g. 'To what extent can you be open about your reactions after a demanding task without this being considered as a weakness by your leaders?', and four questions developed for this study (see Appendix 1). The items contained five response categories: (1 = *not at all*, 2 = *to a small extent*, 3 = *to some extent*, 4 = *to a large extent* and 5 = *to a very large extent*). A score above 18 was considered a strong workplace culture of support in general. The sum score of the subscale was used in the study (Cronbach's $\alpha = .84$).

RS was covered by five items, which were based on the tsunami-study (Thoresen, 2007), for instance: 'Have you been offered: Individual debriefing?' There were six response categories, which, for this study, were dichotomised into having received some type of organised support or not (0 = *No*, 1 = *Yes*). A sum scale was used in the study. A reliability assessment is not presented since the sum scale reflects exposure to various types of events rather than a unified underlying construct.

RR was covered with two items extracted from the tsunami-study (Thoresen, 2007): received recognition from the leader and received recognition from colleagues. The selected items were regarded as the most relevant for the present study. They contained five

response categories: (1 = *not at all*, 2 = *to a small extent*, 3 = *to some extent*, 4 = *to a large extent* and 5 = *to a very large extent*). A score above 6 on the sum scale was considered as receiving extensive recognition at work. A sum score was used in the analyses (Cronbach's $\alpha = .77$).

ED was measured by three items, limited to experiences during the coverage of the terror attack. One was from the tsunami-study: 'My work description included tasks that went against my own personal values' (Thoresen, 2007), and two were designed specifically for this study (see Appendix 1). The item content was extracted from typologies described by the journalists in our previous studies (Backholm, 2012; Idås, 2010). The items contained five response categories: (1 = *not at all*, 2 = *to a small extent*, 3 = *to some extent*, 4 = *to a large extent* and 5 = *to a very large extent*). A sum score of ED was constructed, with considerable ED being defined as a score above 9. A reliability assessment is not presented, as the sum scale reflects exposure to various types of events rather than a unified underlying construct.

2.3. Data analysis

To investigate the dimensionality of the measures, a series of confirmatory factor analyses (CFA) were conducted. The predictive relationship between the latent constructs, i.e. PTSS, PTG, ED and SS, was investigated using structural equation path modelling (SEM). To further investigate whether a combination of ED and SS would predict levels of PTSS and/or PTG, EDxSS interaction variables for each SS subscale were included in the model. Separate analyses were run for each of the three SS subscales. The proportion of respondents with at least one missing value on one of the main variables used in the study was 9.3%. WLSMV was used as the estimator in the analyses. A goodness of fit test was considered using the conventional chi-square statistics, and the related p values, the root mean square error of approximation (RMSEA), the Tucker-Lewis Index (TLI), the Comparative Fit Index (CFI) and the standardised root-mean-square residuals (SRMR). TLI and CFI values greater than .90 or .95 are typically interpreted as reflecting an acceptable or excellent fit to data. RMSEA values smaller than .06 or .08 and SRMR values smaller than .08 or .10 are typically interpreted as reflecting a close or reasonable fit to data (Marsh, Hau, & Wen, 2004). Most of the emphasis was put on CFI, TLI, RMSEA and SRMR since chi-square statistics do not perform well with large samples (Marsh, Hau, Balla, & Grayson, 1998). All data analyses were performed with Mplus 7.4 (Muthen & Muthen, 1998–2012).

3. Results

3.1. Descriptive statistics

Nine percent ($n = 33$) of the respondents reported PTSS that was sufficiently severe to be considered as probable PTSD; 35% ($n = 116$) had a positive change in PTG experiencing a positive or very positive change towards growth in a majority of PTG-related items; and 15% ($n = 57$) experienced considerable ED.

Almost three of four respondents (71%, $n = 254$) had a PS score that indicated that they had a strong workplace culture of informal support, 6% ($n = 21$) had little or no support. A clear majority (81%, $n = 263$) had received at least one kind of coordinated support. Group debriefing headed by leaders/colleagues (53%, $n = 187$) and individual debriefing (53%, $n = 183$) were the two most common types. Nineteen percent ($n = 60$) had not received any kind of support. Sixty-six percent ($n = 244$) had received extensive recognition at work, 12% ($n = 45$) had received little or no recognition for their work on the terror incident (a score ≤ 4).

3.2. Confirmatory factor analyses

To examine the dimensionality of the measures, CFAs were performed on the included items. The constructs were examined separately, before fitting the full model to the data. The model fit for the PTG factor did not satisfy the goodness of fit indices and displayed strong covariance between two items; 'I have more compassion for others' and 'I have changed my perspective about what is important in life due to the coverage of this case'. Since the two items are conceptually closely related, their residual variances were allowed to correlate, resulting in a mostly acceptable model fit ($\chi^2(8) = .734$, $p < .001$; $\Delta \chi^2(1) = 41.90$, $p < .001$; $CFI = .944$; $TLI = .895$; $RMSEA = .136$; and $SRMR = .067$).

A three-factor model of SS (PS, 6 items; RS, 5 items; RR, 2 items) indicated strong covariance between three pairs of items covering openness about stress reactions in the newsroom. Each pair was closely related, as they covered the same topic, though in relation to two groups of co-workers (colleagues or leaders; see Appendix 1). Thus, the residual variances for each pair were allowed to correlate. The model reached an acceptable model fit ($\chi^2(59) = 169.900$, $p < .001$; $\Delta \chi^2(3) = 286.20$, $p < .001$; $CFI = .927$; $TLI = .904$; $RMSEA = .071$; and $SRMR = .047$).

A CFA on two factors of the model, ED (three-factor indicators) and SS (RS, PS, RR), indicated an acceptable model fit ($\chi^2(95) = 200.337$, $p < .001$; $CFI = .938$; $TLI =$

.922; $RMSEA = .054$; and $SRMR = .046$). Finally, the model fit for the main model was investigated, including all the latent constructs (ED, SS, PTG and PTSS). To reduce the number of parameters to be estimated, composite scores of the subscales of PTSS (intrusion, avoidance and hyperarousal) were used instead of individual items. Preliminary analyses of the items indicated an acceptable model fit for the subscale constructs. The CFA showed that while the $CFI (.901)$ and $TLI (.884)$ were at the lower end of the recommended values, the $\chi^2 (256) = 458.554$, $p < .001$, $RMSEA (.046)$ and $SRMR (.065)$ reached an acceptable level of model fit. As this main model includes several factors with items constructed specifically for the study, it was decided that no further modifications were needed. After this, a CFA of the main model fit when adding two control variables, sex and age, was conducted. The model fit declined to below acceptable level, and thus these control variables were not used in the model.

3.3. Predictors of PTSS and PTG

An SEM analysis was conducted to investigate the predictive effects of ED, RS, PS and RR on PTSS and PTG. The analysis (Figure 1) showed that experiencing ED was significantly associated with PTSS ($p < .001$), indicating that journalists who had dealt with ED experienced a greater degree of stress reactions. RS (e.g. debriefing) was also positively associated with PTSS ($p = .044$), while RR and PS were not. Twenty-eight percent of the variance in PTSS was predicted by the model ($R^2 = .28$).

The analysis (Figure 1) also revealed that ED predicted PTG ($p < .001$). Having more dilemmas was associated with a higher level of PTG. A higher level of RR predicted a higher level of PTG ($p < .001$), indicating that newsrooms with a culture of recognition for work done underpinned personal growth

among employees. The two other SS subscales were not significantly associated with growth. The model explained 36% of the variance on PTG ($R^2 = .36$).

The analyses of whether a combination of ED and SS would predict levels of PTSS and/or PTG indicated that neither EDxPS nor EDxRR were significantly associated with the latent factors. EDxRS failed to converge in the model.

4. Discussion

The study adds to the understanding of how journalists' working conditions affect psychological well-being and promote growth after potentially traumatic assignments. This is the first quantitative study to investigate ED and SS as predictors of PTSS and PTG among journalists who covered a single traumatic event.

Nine percent ($n = 33$) of the journalists reported PTSS severe enough to be considered as probable PTSD. The PTSD-score is two percent above the level found among Norwegian journalists who covered the 2004 Asian tsunami (Backholm & Idås, 2016). Both studies were conducted approximately nine months after the incident. Although not directly comparable, Lassemo, Sandanger, Nygård, and Sørgaard (2017) reported a 1.3% 12-month PTSD prevalence in a study representative for the general Norwegian adult population in year 2000, eleven years before the terror incident. The higher prevalence of PTSD among the participants in this and the tsunami-study indicates that journalists are at risk of developing long-term impairment due to their professional role, a result media actors should take seriously (Feinstein et al., 2002; McMahon, 2016; Smith et al., 2015).

In accordance with our hypotheses and previous research, experiencing more ED was associated with more PTSS. Journalists who experienced that they may have caused additional harm in first-hand

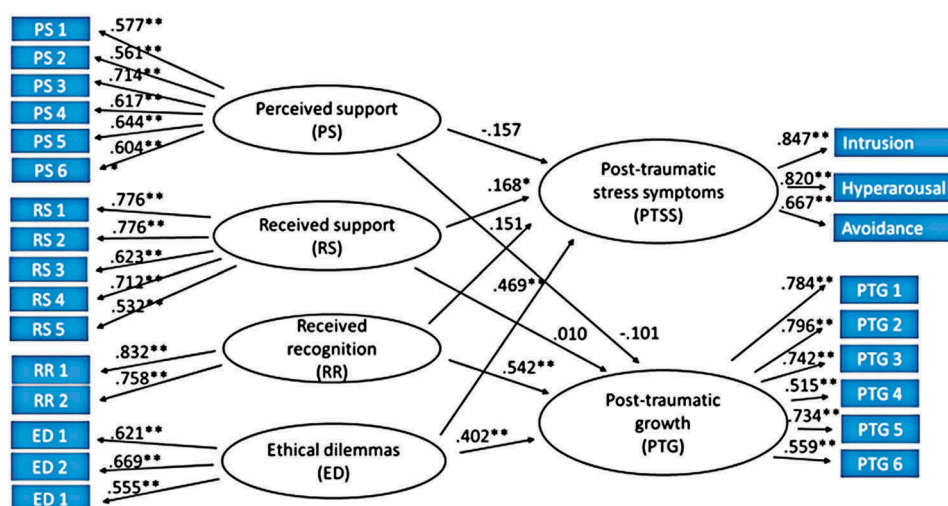


Figure 1. The effect of social support and ethical dilemmas on posttraumatic stress symptoms and posttraumatic growth. $\chi^2(256) = 458.554$, $p < .001$; $CFI = .901$; $TLI = .884$; $RMSEA = .046$; $SRMR = .065$, * $p < .05$, ** $p < .001$

victims, or who acted in conflict with their personal ethical code during the incident, may thus also afterwards have felt more psychological stress due to their experiences (Browne et al., 2012; Idås, 2010; Simpson & Côté, 2006). To get a better grasp of the ED journalists may face when doing their job, future studies with a qualitative research design could investigate the topic in more detail.

The study indicates that most Norwegian newsrooms had a functioning culture for SS after the terror incident. Almost three out of four respondents reported that they, in general, have a strong culture for informal support at work (PS), four out of five had received at least one kind of coordinated support (RS), while two out of three had received an extensive amount of recognition from colleagues and leaders (RR). In extension of these uplifting results, there is a paradox in that the study did not support the hypothesis that a higher level of SS is associated with a lower level of PTSS (Hatanaka et al., 2010; McMahan, 2016). In this study, more RS was significantly associated with more PTSS. The association might indicate that journalists with more stress participated more in organised debriefing activities in the aftermath of the coverage.

More than one-third of the journalists experienced PTG after the coverage. RS and PS were not significantly associated with PTG, while these associations have been significant in previous studies (Chopko, 2010; McMahan, 2016; Tedeschi & Calhoun, 2004). Recognition from colleagues and leaders was significantly associated with growth. This finding supports previous results (Idås, 2013; McMahan, 2016; Taylor, 2011), and indicates that informal reward mechanisms provided by one's peers are important after large crisis assignments.

Taken together, the results regarding SS indicate that the associations between the SS subtypes, PTSS and PTG in journalists clearly need further attention in future studies. For instance, more studies with a longitudinal design are needed to investigate the associations over time in more detail. In addition, further development of relevant questionnaires is needed. In the current study, four of the six RS/PS items were designed for the study due to the lack of existing scales.

To our knowledge, the relationship between ED and PTG has never been investigated. In this study, more ED was associated with the experience of more PTG. This result might have more to do with the possible post-assignment reflections about dilemmas than the actual number of experienced dilemmas. According to PTG theory, the experience of growth is a result of a learning process characterised by reflections and discussions in the aftermath of the incident (Tedeschi & Calhoun, 2004). The media coverage of July 22 was widely discussed, both in public and in newsrooms, in the weeks and months following the incident. There is a reason to

believe that journalists with personally demanding experiences followed the debate closely and reflected on their own handling of different aspects of the coverage. To investigate this further, future studies should, along with ED and PTG, measure the potential effect of post-assignment reflections about dilemmas.

The study does present some practical implications. First, news journalists, editors and news organisations have a potential to underpin personal growth after traumatic assignments by developing a culture for discussions, reflections and recognition. For instance, newsrooms could emphasize a culture for peer-to-peer recognition, as this at least in the current study was associated with personal growth.

Second, this study showed that ED was linked to more PTSS. Therefore, strategies aiming at preventing ED and preparing journalists for work on crisis scenes are important (Pedersen, Gjerland, Rund, Ekeberg, & Skogstad, 2016). For instance, practical training and discussions in the newsrooms, where experienced journalists share how they handled a situation, can function as preparation for journalists who are yet to experience their first demanding assignment. In addition to this, is it important that the schools of journalism prepare young journalists in covering crises, catastrophes and trauma.

The results of the study should, however, be interpreted with caution, as the findings ought to be verified in future studies. Furthermore, some study limitations should be taken into account. One such limitation is the cross-sectional study design. We lack information about the participants' situation before the incident. Thus, we cannot determine causality between the included factors. Another limitation lies in the instruments used. Several items and scale cut-off scores were adjusted or constructed for the study, as mentioned in the methods section.

A third limitation is the lack of information about how exposed the participating journalists had been to gruesome details during their coverage of the incident or similar peri-traumatic factors usually related to more stress reactions. Non-response bias might also have affected the results. We have no information about the journalists who chose to leave parts of the survey blank, which were treated as missing data in parts of the analyses, and about those who declined to participate in the study.

Note

1. The study also included witnessing experiences and working conditions as risk factors.

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No potential conflict of interest was reported by the authors.

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Appendix 1.

Overview of items and subscales used in the study. Items developed for this study are included in full, while information about items provided by other authors are included as references and as example items in the methods section.

Post-traumatic stress symptoms (PTSS)

22 items from the IES-R (Weiss, 2004).

Post-traumatic growth (PTG)

6 items from the PTGI (Tedeschi & Calhoun, 2004).

Perceived support (PS)

2 items from the tsunami-study (Thoresen, 2007)

4 items constructed for the study:

- (1) As colleagues, we are good at taking care of each other after coverage of crises and catastrophes.
- (2) As colleagues, we are good at taking care of other after coverage of accidents, crime, etc.
- (3) Our leaders are good at following up on us after coverage of crises and catastrophes.
- (4) Our leaders are good at following us up on us after coverage of accidents, crime, etc.

Received support (RS)

5 items from the tsunami-study (Thoresen, 2007).

Received recognition (RR)

2 items from the tsunami-study (Thoresen, 2007)

Ethical dilemmas (ED)

1 item from the tsunami-study (Thoresen, 2007), 2 items constructed for the study:

- (1) I was insecure about how to carry out simple work tasks because I wasn't sure about our rules of conduct.
 - (2) I found myself in ethically challenging situations caused by factors I could not plan for/that were beyond my control.
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