Paper 4

Psychiatric distress and symptoms of PTSD after bullying at work

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Psychiatric distress and symptoms of PTSD among victims of bullying at work

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ABSTRACT *Distress and symptoms of Post-Traumatic Stress Disorder (PTSD) were investigated among targets of experienced bullying at work, that is, the exposure to persistent or recurrent oppressive, offensive, abusive behaviour where the aggressor may be a superior or a colleague. The participants in the present study were all recruited from two associations of bullied victims (*n = *102, response rate = 57%). A high level of distress and symptoms of PTSD was revealed in the sample, both according to recommended cut point scores for HSCL-25, PTSS-10 and IES-R, and when comparing the sample with traumatised samples. Three out of four victims reported an HSCL-25 level higher than the recommended threshold for psychiatric disease. Sixty and 63% of the sample reported a high level of IES intrusion and IES avoidance, correspondingly. The level of bullying, operationalised as the frequency of negative acts the individual had been exposed to at work, showed a stronger interconnection with distress and PTSD than a more unspecified, subjective measure of bullying, as well as the time since the bullying took place and the duration of the bullying episode. Those still being pestered reported a higher level of distress and PTSD than victims in which the bullying episodes were terminated more than 1 year ago, but the findings were somewhat mixed. Positive affectivity (PA) and especially negative affectivity (NA) contributed significantly to the explained variance of distress and PTSD in various regression analysis models, but did not interact with measures of bullying. Nor were mediator effects found between bullying, PA/NA and traumatic stress reactions. Implications of the findings are discussed.*

During the last decade there has been a growing awareness of the detrimental effects on employee health and well-being caused by exposure to bullying and non-sexual harassment in the workplace (Einarsen, 1999; Einarsen *et al*., 2003; Hoel *et al*., 1999). Although studied by the use of many different concepts, such as 'emotional abuse at work' (Keasly, 1998), 'harassment at work' (Brodsky, 1976; Einarsen & Raknes, 1997), 'bullying at work' (Vartia, 1996), 'mistreatment' (Spratlen, 1995), 'mobbing' (Leymann, 1996; Zapf *et al*., 1996), 'workplace aggression' (Baron & Neuman, 1996) or as 'workplace incivility' (Andersson & Pearson, 1999), comparable conclusions seem to be reached. Exposure to systematic and long-lasting

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verbal, non-physical, and non-sexual, abusive and aggressive behaviour at the workplace may cause a host of negative health effects in the target. Although single acts of aggression and harassment do occur fairly often in everyday interaction, they seem to be associated with severe health problems when occurring on a regular basis (Einarsen & Raknes, 1997; Leymann, 1987). Bullying at work is claimed to be an extreme form of social stress at work (Zapf *et al*., 1996). It is referred to as a more crippling and devastating problem for employees than all other work-related stressors put together (Wilson, 1991).

Bullying can be described as a certain subset of conflicts (Zapf & Gross, 2001), and may be defined as the exposure to persistent or recurrent oppressive, offensive, abusive, intimidating, malicious, or insulting behaviour by a superior or a colleague. Feelings of being victimised from bullying at work seem to be associated with the experience of (a) bullying behaviours being intentional, (b) a lack of opportunities to evade it, and (c) these behaviours or sanctions as unfair or over-dimensioned (Matthiesen *et al*., 2003). To be a victim of intentional and systematic psychological harm by another person, real or perceived, seems to produce severe emotional reactions such as fear, anxiety, helplessness, depression and shock (Mikkelsen & Einarsen, 2002a,b). These reactions seem to be especially pronounced if the perpetrator is in a position of power or the situation is an unavoidable or inescapable one (Einarsen, 1999; Niedl, 1996). The workplace seems to be a setting where people are especially vulnerable when facing aggression, abuse, or harassment (Einarsen & Raknes, 1997). Victimisation, such as exposure to intense bullying at work, may change the individual's perceptions of their work-environment and life in general to one of threat, danger, insecurity and self-questioning (cf. Janoff-Bulman, 1992), which may result in pervasive emotional, psychosomatic and psychiatric problems (Leymann, 1990a).

In an interview study among 30 Irish victims, O'Moore and associates found that all subjects reported anxiety, irritability, feelings of depression and paranoia as a consequence of experiences of bullying at work (O'Moore *et al*., 1998). Also very common were symptoms like mood swings, feelings of helplessness, a lowered self-esteem, and a range of physical symptoms. Clinical observations of victims of harassment at work have also shown other grave effects such as social isolation, social maladjustment, psychosomatic illnesses, depressions, helplessness, anger, anxiety, and despair (Leymann, 1990a). A study among a representative sample of Norwegian assistant nurses showed a significant relationship between exposure to on-going workplace harassment and an elevated level of burn-out, as well as a lowered job satisfaction and a lowered psychological well-being (Einarsen *et al*., 1998).

On the basis of clinical observations and interviews with American victims of work harassment, Brodsky (1976) identified three patterns of effects on the victims. Some expressed their reaction by developing vague physical symptoms such as weakness, loss of strength, chronic fatigue, pains and various aches. Others reacted with depression and related symptoms such as impotence, lack of self-esteem, and sleeplessness. A third group reacted with psychological symptoms such as hostility,

hypersensitivity, memory problems, feelings of victimisation, nervousness, and the avoidance of social contact.

In view of the particular symptom constellation presented above, it has been argued that many victims of long term bullying at work may in fact suffer from Post-Traumatic Stress Disorder (PTSD) (Björkqvist *et al*., 1994; Einarsen & Hellesøy, 1998; Leymann, 1992). In a Finnish study of 350 university employees, 19 persons subjected to victimisation by harassment were interviewed as a follow-up study (Björkqvist *et al*., 1994). The victims experienced high levels of insomnia, various nervous symptoms such as anxiety, depression and aggression, melancholy, apathy, lack of concentration and socio-phobia, leading the authors to conclude that these victims portrayed symptoms reminiscent of PTSD. In his 1992 report, the Swedish psychiatrist Heinz Leymann argued that PTSD probably was the correct diagnosis for approximately 95% of a representative sample of 350 victims of bullying at work (Leymann, 1992).

A host of studies (see e.g. Creamer, 2000) have suggested that victimisation caused by the aggressive and violent behaviour of other fellow human beings may produce high levels of distress and symptoms of post-traumatic stress even long after the event actually happened. Studies also suggest that psychological or physical abuse seems to be at least as traumatising as for example physical and criminal forms of violence. Experiencing sexual assault made a larger impact on PTSD symptomatology than combat exposure, according to a study of 160 army women after returning from the Persian Gulf (Wolfe *et al*., 1998). In another investigation, 100 victims of harassment by stalking were interviewed to assess the impact of the experience on their psychological, social, and interpersonal functioning (Pathe & Mullen, 1997). The majority of the victims were subjected to multiple forms of harassment such as being followed, repeatedly approached, and bombarded with letters and telephone calls for periods varying from 1 month to 20 years. Threats were perceived by 58%, whereas 34% were physically or sexually assaulted. Increased levels of anxiety were reported by 83%. Intrusive recollections and flashbacks were reported by 55%, while nightmares, appetite disturbances, and depressed mood were commonly experienced. The criteria for a diagnosis of Post-Traumatic Stress Disorder (PTSD) were fulfilled in 37% of the cases.

Fontana and Rosenheck (1998) studied the relative impact of stress from military duty and exposure to sexual harassment on the development of PTSD among 327 female veterans. Sexual abuse and harassment were almost four times as influential in the development of PTSD compared to other kinds of duty-related stress. Using a liberal cutoff score, Vitanza *et al*. (1995) diagnosed 73% of a group of psychological abused women as having severe symptoms of PTSD. A Swedish study of PTSD in a group of 64 victims attending a rehabilitation programme for victims of bullying at work revealed that most of these victims were troubled with intrusive thoughts and avoidance reactions (Leymann & Gustavson, 1996). A Danish study of 118 bullied victims found that 76% portrayed symptoms indicating post-traumatic disorder (Mikkelsen & Einarsen, 2002a). Interpersonal conflicts in general may also be linked to PTSD symptoms. In a

Canadian study of 51 emergency personnel, a significant relationship was found between the level of interpersonal conflicts, and symptoms of PTSD (Laposa *et al*., 2003).

Only a few studies (Leymann & Gustavson, 1996; Mikkelsen & Einarsen, 2002a) have been published on the relationship between exposure to bullying and symptoms of PTSD using a community sample. The aim of community studies is to assess specific disorders, in this case symptoms of post-traumatic stress, among a specified population, regardless of whether they have sought treatment or not (Schlenger *et al*., 1997). The aim of the present study is therefore to examine the level of psychiatric symptoms and symptoms of PTSD among former and current victims of bullying at work, who has not necessarily sought medical or psychological treatment.

The literature on post-traumatic stress focus primarily on factors such as life-threatening menaces, object loss, physical harm and how hideous the critical incident turned out to be, as the main risk elements in development of PTSD (Davidson & Foa, 1993). This notion is however somewhat different from Dahl and his colleagues (Dahl *et al*., 1994), who claim that Post-Traumatic Stress Disorder evolves if an event is perceived as threatening, scaring or awful, beyond a certain level. The risk of PTSD is claimed to increase if the incident(s) are prolonged, especially if adequate leadership is non-existent or social connections are lacking. Traumatic episodes connected to man-made aggressive acts (injustice, assaults, harassment) are argued to pose a greater risk than to incidents caused by accidents or disasters (Dahl *et al*., 1994). A study of post-traumatic stress among women abused by their husbands concluded that psychological abuse even in rather subtle forms seems to produce clear cut symptoms of PTSD (Vitanza *et al*., 1995). On the basis of case studies, Scott and Stradling (1994) argue that enduring psychosocial stress in the absence of one single acute and dramatic trauma may produce full symptomatology of PTSD.

In a theoretical framework of trauma at work, Williams (1993) argues that individual variables in personality and coping styles may have some overlap with PTSD as in regard to emotional distress. Although the causal relationship between individual differences and victimisation from bullying is a debatable one (Einarsen, 1999, 2000; Leymann, 1990a, 1996), victims of bullying at work do differ from non-bullied workers on a range of factors. For instance, Vartia (1996) found a high level of negative affectivity among a group of Finnish victims of bullying at work, while Zapf (1999) found German victims of bullying to be high on negative and low on positive affectivity compared to a control group. Experiences of negative social interactions in general seems to be associated with an increase in negative affectivity as well as low self-esteem and many dysfunctional attitudes (Lakey *et al*., 1994). While Zapf (1999) argues that these characteristic may have caused bullying in the first place, other researchers (Mikkelsen & Einarsen, 2002b) claim that negative affectivity acts as a mediator and thus accounts for the relation between the victimisation and symptomatology by explaining how bullying takes on a psychological meaning. In a study of battered women the relationship between exposure to abuse and PTSD to a certain degree depended on vulnerability factors of

psychological dysfunctions such as cognitive failure and private self-consciousness (Saunders, 1994). The former is defined as the tendency to have perception and memory failures as well as engaging in misdirected action, while the latter refers to people who tend toward a self-analysis manner, focusing on their own perceptions, feelings and thoughts. Both concepts are considered to result from the excessive worry and anxiety caused by a highly threatening situation, hence they may be seen as partial mediators of the relationship between the experience of abuse and the evolving post-traumatic stress symptoms.

In the present study we will include the concepts of negative and positive affectivity as such possible mediating factors. Research has demonstrated those two independent dispositional variables to comprise the dominant factors of emotional experience (Watson, 1988). Negative affectivity (NA) is seen as a general factor of subjective distress and comprises a broad range of aversive mood states, including distress, nervousness, fear, anger and guilt. Individuals high in negative affectivity often focus on the negative sides of life and tend to have negative views of themselves, other people and the world in general. Positive affectivity (PA) reflects one's level of pleasurable engagement with the environment. High PA is composed of terms reflecting enthusiasm, energy, mental alertness and determination (e.g. excited, active, attentive, determined). Low PA is best defined by descriptors reflecting fatigue and depression (e.g. sluggish, sad). Positive and negative affectivity correspond roughly with the dominant factors extraversion and anxiety/neuroticism (Watson *et al*., 1988).

The idea followed in many studies of work-related stress is that the tendency to experience positive and negative affect represents a stable, dispositional trait which may confound relationships between stressors and strain (Watson & Clark, 1984). However, exposure to bullying may also justify, enhance or even create a negative world-view and a negative emotional state, as proposed by the framework presented by Janoff-Bulman (1992). The core problem of bullying at work is that it undermines the target's sense of being a valuable and competent person living in a safe and caring environment (Keasly *et al*., 1997; Leymann, 1990a). Distressed and dissatisfied with themselves, victims may focus on and magnify potential threats from their surroundings. Enhanced levels of state negative affectivity, as well as a lowered state of positive affect, may then initiate increased use of maladaptive coping strategies in turn causing higher levels of reported psychological symptoms and psychosomatic complaints (Costa & McCrae, 1980). Evidence that major stressful life events may increase symptomatology by increasing negative evaluations of others and self has been presented by Lakey and Edmundson (1993) and may easily be derived from the work of Janoff-Bulman (1992) as proposed by Mikkelsen and Einarsen (2002a). The aim of this study is to examine the level of psychiatric symptoms and symptoms of PTSD among current and former victims of bullying at work using a community sample. Second, we inquire how the PTSD symptoms relate to the kinds of bullying experienced by the victim and the duration of and time since the termination of the bullying. And third, we examine the role of state negative and positive affectivity as possible mediators or moderators in this stressor–strain relationship.

Method

Procedure

The 102 participants in the study were recruited among members of two Norwegian national associations against bullying at work. In total, 180 victims of on-going or prior exposure to bullying at work were members of these associations, by the onset of the survey. They all got a survey questionnaire, distributed by the two associations (by mail). Attached to the questionnaire was a letter of recommendation from the heads of the associations. The questionnaires were anonymously returned directly to the researchers.

Subjects

Mean age of the sample was 51.6 years (range 30–74 years). Seventy-four percent of the sample were women. The major part of the participants worked or had worked in administrative or clerical jobs (38%), health services (28%), or education (13%). Only a limited part of the sample were in fact still employed (33%), whereas 17% were on sick-leave, 12% were unemployed (the unemployment rate in Norway was only some 3% at that particular time) and 10% had retired. In addition, one out of four (26%) were disabled pensioners. The sample had a high educational level, where 60% had a university degrees or college degree, mostly on an undergraduate level. Sixty-three percent of the respondents had been exposed to bullying for a period of 2 years or more. Almost one in four (22%) were still exposed to bullying, or the bullying took place less than 6 years ago (6%) when the survey was carried out. Almost one in three (30%) were hit by bullying more than 5 years ago. The most frequent kinds of bullying reported were ostracism (social isolation), being devaluated, holding back information, calumniation, and frequent attacks or criticism against one's person.

Instruments

Bullying was measured in two ways. First, the following definition of workplace bullying was introduced to the respondents:

> 'Bullying takes place when one or more persons systematically and over time feel that they have been subjected to negative treatment on the part of one or more persons, in a situation in which the person(s) exposed to the treatment have difficulty in defending themselves against them. It is not bullying when two equal strong opponents are in conflict with each other' (Einarsen *et al*., 1994).

Following this, the respondents were asked, 'Have you been exposed to bullying at work?' with three response alternatives (no, yes to some extent, and yes to a great extent). A quantitative measure of bullying, the Norwegian version of the 22-item

Negative Acts Questionnaire (NAQ; Einarsen & Raknes, 1997; Einarsen *et al*., 1994), was also used. The NAQ consists of 22 items referring to specific kinds of bullying behaviours, such as exposure to excessive teasing, insulting remarks, social exclusion, verbal abuse, threats of being fired or redundant, and slanders or rumours about oneself. The respondents were asked if they had been exposed to any of these behaviours during the time they were targets of bullying, with the following response alternatives: never, occasionally, weekly, or daily.

Factor analysis has earlier revealed that the NAQ scale consists of two distinct subfactors, which were labelled 'personal derogation' and 'work-related harassment' (Einarsen & Raknes, 1997). In the present study, however, the NAQ score of each person was summed up to a single total measure of the intensity of the experienced bullying behaviours. Cronbach's alpha for NAQ was found to be 0.85.

Symptoms of post-traumatic stress were measured by the Impact of Event Scale, IES-R, the 22-item version (Weiss & Marmar, 1997), and the Post-Traumatic Stress Scale, PTSS-10 (Raphael *et al*., 1989). The Impact of Event Scale Revised is a 22-item scale assessing three dimensions of symptoms often reported after trauma. The intrusion dimension consists of symptoms like intrusive memories, thoughts and emotions. The avoidance dimension measures symptoms related to avoiding memories and places, as well as denial. The newly added third dimension of the scale reflects hyperarousal, a strong kind of mental and bodily alertness. The four categories of IES was scored as 0, 1, 3, 5 according to standard scoring procedures (Horowitz, 1979; Weiss & Marmar, 1997). Cronbach alpha for the three subscales was found to be 0.81, 0.90 and 0.82, respectively. Horowitz (1979) divides the scores of IES (both intrusion and avoidance subscales) into three groups, with low, moderate and high level of post-traumatic stress (with respectively 0–9 points, 9–19 points, and 20 or more stress points). The cut point scoring procedures for the IES were applied, since IES-R does not have established separate cut point scores for the three subscales. In addition, the three subscales of IES were summed up to a single measure of post-traumatic stress. Here, a cut point threshold of 35 was applied, in line with Neal and associates (Neal *et al*., 1994). Cronbach's alpha for the overall summed up scale was 0.94.

The PTSS-10 is a questionnaire assessing 10 common symptoms of PTSD (Raphael *et al*., 1989). The measure range is from 1 (never/seldom) to 7 (very often). Cronbach's alpha was found to be 0.91 in the present study. Raphael *et al*. operationalise PTSD to be a PTSS-10 score of four or more on at least four items.

Psychiatric symptoms was measured by the Hopkins Symptom Checklist, HSCL (25-item version) originally developed by Derogatis and his co-workers (Derogatis *et al*., 1974). The scale measures psychological symptoms of anxiety, depression and somatisation and was used as a measurement for psychiatric distress in the present study. The items in this scale are scored on a 4-point scale ranging from not at all, a little bit, quite a bit and very much. The scale had a very high internal stability in the present study with a Cronbach's alpha of 0.96. A convention is to use 1.75 as the cut point threshold of 'cases', indicating severe psychological distress (Winokur *et al*., 1984).

Positive and negative affect was investigated by the use of the Positive and Negative Affectivity Scale (PANAS), which consist of respectively 10+10 items to measure the two affect concepts (Watson *et al*., 1988). Both of the two affectivity scales had a Cronbach's alpha of 0.90. The respondents were asked about their reactions for the last couple of weeks. Hence, the inventory measured a state condition of positive and negative affectivity.

Comparison groups

The level of post-traumatic stress and psychiatric symptoms among victims of bullying was compared with several other contrast samples, by the means of IES and HSCL. The contrast samples were:

a. A contrast group of medical students, exposed to a high level of temporary stress (their first autopsy); 96 students (58% female) participated (Eid *et al*., 1999). Eid and his associates conducted their study to establish a Norwegian control group which can be contrasted against other groups. They argue that their sample is stressed, but not traumatised.
b. Postal employees ($n=144$, 88% female), all affected by a organisational downsising process (Myrvang & Stokke, 1997).
c. Recently divorced persons living in five different counties in Norway received a six pages questionnaire along with their official divorce decree during a period of 4 months. In total, 658 separated persons (58% female) participated (Thuen, 2000).
d. A population study, in which 2,015 individuals were personally interviewed (53% female) from a borough in Oslo and the islands of Lofoten in northern Norway (Sandanger *et al*., 1998). Out of these, 797 (40%) were classified as 'possible psychiatric cases', after a HSCL-25 recommendation of 1.55+ (Richels *et al*., 1976). Of these, 617 participated in a follow-up study. Thus, the follow-up study comprise the comparison group for the present study.
e. Thirty-six parents (50% female) of children in a major bus disaster, in which 12 school children and three accompanying parents died (Winje, 1996). The post-traumatic stress responses of these parents 1 year after the accident will be compared with the victims of bullying.
f. War zone personnel ($n=213$, United Nation observers/medical helpers), all from Norway, interviewed about 1 year after their service in the Bosnia conflict (Andersen & Tysland, 1998).

The bullied victims were compared to group (a) on PTSS-10, groups (b)–(d) on HSCL-25, and to groups (e)–(f) by the use of IES-R.

Statistics

The statistical analyses were conducted by the use of SPSS, version 8. The following statistical procedures were used: frequency, one way ANOVA, correlation and partial correlation analysis, and multiple linear regression.

Results

Mean PTSS item stress scores of the bullied victims is compared with the comparison group of medical students (Fig. 1, part A). The bullied victims score markedly higher on all items ($p < 0.001$ for all t-test comparisons). It is also worthwhile to note that post-traumatic symptoms with the highest scores are depressive thoughts, isolation tendencies, fluctuating feelings, fear for reminding situations and general bodily tension.

Level of psychiatric distress in the bullied sample, as measured by the HSCL-25, was then compared with postal employees experiencing organisational transition, a sample of separated/divorced persons, and a group of possible psychiatric cases (Myrvang & Stokke, 1997; Raphael *et al.*, 1989; Sandanger *et al.*, 1998). Bullied victims reported higher levels of psychiatric distress than the three contrast groups (part B of Fig. 1). The bullied group reported a mean HSCL-25 level of 2.25, whereas the mean scores for the other three groups were 1.51, 1.43 and 1.30, correspondingly. Parts C and D of Fig. 1 comprises mean post-traumatic stress scores for Impact of Event Scale (intrusion and avoidance sub-indexes). The victims of bullying were compared with the parents of school children involved in a bus

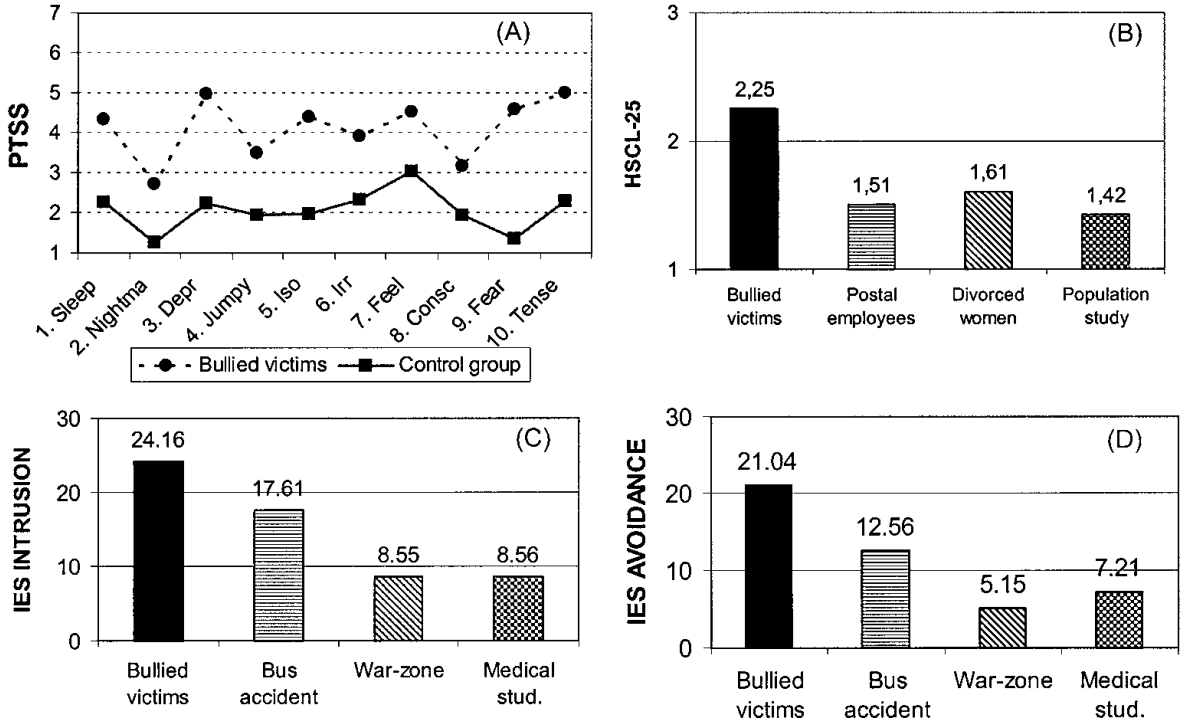

FIG. 1. PTSD symptoms (PTSS-10, IES intrusion IES avoidance) and psychiatric symptoms (HSCL-25) among bullied victims, as compared with several other Norwegian samples.

accident, United Nation personnel 1 year after returning from war zone, and the group of medical students (Andersen & Tysland, 1998; Eid *et al*., 1999; Winje, 1996). Bullied victims report a mean intrusion and avoidance level of 24.16 and 21.05, respectively. The post-traumatic stress scores among victims of bullying were higher than for all the other three groups.

Table 1 constitutes an estimate of how many of the bullied victims who are troubled with psychiatric distress and PTSD, according to critical cut point scores. The overall picture given by HSCL-25, PTSS-10 and IES-R is quite the same. A majority of the sample, between 60% and 77%, score above the cut point threshold, indicating severe psychiatric distress and PTSD (scores of distress indicating PTSD). Using IES as an overall measure (the three subscales added together) revealed that 72% of the respondents exceeded the recommended cut point threshold.

The second aim of this article was to investigate the association between characteristics of the bullying experience, and the level of reported psychiatric distress and PTSD (Table 2).

Weak interrelationships were found between the subjective feeling of being victimised, number of reported bullies, if one were bullied by a leader or not, the length of the bullying episode and the chosen post-traumatic stress indicators ($r =$ varies between 0.19 and 0.05, $p =$ ns for all of the correlations). However, the amount and kind of specific behaviours experienced in connection with bullying (summed up to an index) showed stronger interrelationship with psychiatric distress and PTSD. Victims reporting the highest exposure to specific negative acts during the bullying episode reported more post-traumatic stress and psychiatric distress than respondents exposed to fewer negative acts (all rs are significant, and varied between 0.28 and 0.41). Victims with the longest time interval since the bullying occurred were troubled the least ($r = -0.24$, $p < 0.05$).

Exposure to negative acts was more thoroughly investigated, correlating each of the 22 specific negative acts with psychiatric distress and PTSD (Table 3). Seven of the negative acts correlated significantly with the stress indices. Ridiculing, hostile or dismissive attitude, ignoring, downgrading or declaring the person incapable due to age or gender, exploitation and sanctions due to working style (working to much or

TABLE 1. Estimated PTSD and psychological distress among bullied victims; conventional cut point scores for IES-R, PTSS-10 and HSCL-25

Scales		*n*	%
HSCL-25	Low	23	23.5
	High	75	76.5
PTSS-10	Not PTSD	26	25.5
	PTSD	76	74.5
IES intrusion	Low	12	12.0
	Moderate	25	25.0
	High	63	63.0
IES avoidance	Low	14	14.0
	Moderate	26	26.0
	High	60	60.0

TABLE 2. The relationship between bulling, post-traumatic stress and mental distress (Pearson's *r* correlations)

	PTSS-10	IES intrusion	IES avoidance	IES hyperarousal	HSCL-25
Feeling of being bullied[a]	0.15	0.19	0.12	0.16	0.12
Negative acts[b]	0.39***	0.41***	0.36**	0.35**	0.28*
Number who bullied	0.20	0.14	0.15	0.19	0.08
Bullied by leader(s)[c]	0.15	0.06	0.05	0.09	0.09
Length of bullying	0.08	0.09	0.16	0.09	0.05
Time period since bullying	−0.21	−0.24*	−0.14	−0.29*	−0.21

Note: *$p < 0.05$, **$p < 0.01$, ***$p < 0.001$.

1) Feeling of being bullied is a dummy-variable, and comprises two levels: bullied to a certain extent, and strongly bullied.

2) Negative acts consists of 22 negative acts, summed to an index.

3) Dicotimised variable (bullied exclusively by leader(s) vs. bullied by others).

to little) were the only negative acts that were significantly linked to the psychiatric distress and PTSD (rs varied between 0.21 and 0.37). Downgrading or declaring the person incapable due to gender had the most consistent relation with the measures of psychiatric distress and PTSD ($p < 0.01$ for all of the correlations).

Time passing by

The possible effect of the passing of time is an interesting one in relation to PTSD. Only one in five (22%) of the sample reported to be bullied at present. This group was compared with victims exposed to bullying more than 1 year ago (66%). The group in between (bullied less than 1 year ago but not being bullied at present) was excluded from this analysis.

Those bullied at present reported a higher level of IES intrusion and IES hyperarousal than those bullied more than 1 year ago ($p < 0.05$ for the two *t*-tests). No significant differences were found in PTSS-10, HSCL-25 or IES avoidance (Table 4). An interesting point is that the mean levels of psychiatric distress and PTSD pass the critical cut point score for both the dichotomised groups of bullied victims (HSCL-25, IES intrusion, IES avoidance). Multivariate analyses were also conducted, to achieve an overall picture of the association between PTSD symptoms and the time variable (consisting of six categories, not dichotomised). The three IES measures were added as dependent variables. The overall association was not found to be significant ($p > 0.05$).

The final issue addressed in this study is whether positive and negative affectivity (state PA and state NA) may moderate or mediate the association between bullying and psychiatric distress/PTSD. The possible moderating effects of state PA and state NA were investigated by the use of multiple regression, whereas the mediator effects were examined by partial correlation analysis. Table 5 gives an overview of a series of regression models, in which psychiatric distress and PTSD were applied as

dependent variables. Time since bullying and negative acts is stepwise entered into various regression models as predictors, followed by PA and NA.

Time since bullying occurred and the specific negative acts explain between 8% and 12% of the variance in the criteria variables. Positive and especially negative affectivity gives substantial contribution to the regression models (all beta values for NA were in the range 0.34 to 0.57, the amount of explained variance increased between 13 and 53%, when PA and NA was added to the models). Reversed multiple regression models were also conducted, that is, with positive and negative affectivity entered into the models as step 1 and the two bullying variables as step 2. Controlled for the positive and negative affect, the variable combination amount of bullying and time since bullying took place gave a significant increase in the regression models predicting post-traumatic stress symptoms: IES ($p < 0.05$, R^2 change, all three subscales) and PTSS. Bullying did not, however, predict psychiatric distress measured by HSCL-25. At most, the two bullying predictors added 9% increase to the models (IES avoidance). All five regression models were tested for an interaction between PA and NA and the two measures on bullying (all combinations). Only one interaction turned out to give a significant contribution to explain variance. The interaction effect between PA and time since bullying occurred gave a 2% increase in the explained variance of psychiatric distress.

Zero-order and second-order partial correlation analysis (*pr*), respectively, were conducted to examine possible mediator effects of PA or NA related to the link between bullying and traumatic stress reactions. The partial control thus consists of the PA and NA variables in the second-order partial analysis. A considerable difference between the two correlation coefficients may be interpreted as mediator effects of PA and NA. The difference between zero-order and second-order correlations were found to be modest, however: PTSS ($r = 0.27$, $pr = 0.23$), IES avoidance ($r = 0.31$, $pr = 0.28$), IES intrusion ($r = 0.24$, $pr = 0.19$), IES hyperarousal ($r = 0.26$, $pr = 0.22$) and HSCL-25 ($r = 0.20$, $pr = 0.14$). Thus, in sum our study does

TABLE 3. The relationship between various negative acts, psychological functioning and post-traumatic stress; zero-order correlations (Pearson's *r*)

	PTSS-10	IES intrusion	IES avoidance	IES hyperarousal	HSCL-25
Ridiculing	0.33**	0.12	0.09	0.15	0.31**
Hostile/dismissive attitude	0.21*	0.23*	0.20	0.28**	0.07
Ignoring	0.15	0.20	0.11	0.24*	0.10
Downgrading due to age	0.20	0.20	0.10	0.08	0.23*
Downgrading due to gender	0.32**	0.33***	0.37***	0.27**	0.37**
Exploiting	0.26**	0.22*	0.21*	0.21*	0.36**
Negative reactions because of working too much/too little	0.28**	0.21*	0.05	0.18	0.22*

Note: *$p < 0.05$, **$p < 0.01$, ***$p < 0.001$; *n* varies between 90 and 100.

TABLE 4. Post-traumatic stress and psychological distress; comparison of victims bullied at present vs. victims bullied one year ago or later (Student's *t* tests)

	Bullied now		Bullied before		*t*	df	*p*
	M	SD	M	SD			
HSCL-25	2.45	0.49	2.15	0.69	1.79	1/83	ns
PTSS-10	45.81	14.74	39.00	16.27	1.74	1/86	ns
IES intrusion	27.04	6.44	20.76	10.90	2.55	1/85	<0.05
IES avoidance	22.61	9.24	19.52	10.12	1.24	1/85	ns
IES hyperarousal	25.07	7.72	18.97	11.01	2.35	1/85	<0.05

TABLE 5. Multiple regression models with time since bullying occurred, negative acts, positive affectivity (PA) and negative affective (NA) as predictors, and with measures of psychological distress and post-traumatic stress as criteria variables; strongest (if significant) interactional term is included in each model

	beta	R^2	R^2 Change	F^{Change}
PTSS-10				
Time	−0.23	0.05	0.05	5.73*
Amount of bullying	0.29	0.12	0.07	9.61**
PA	−0.43	0.30	0.18	26.06***
NA	0.50	0.49	0.19	37.66***
IES intrusion				
Time	−0.17	0.02	0.02	2.96
Amount of bullying	0.33	0.12	0.10	12.31***
PA	−0.20	0.16	0.04	4.58*
NA	0.35	0.24	0.08	11.74***
IES avoidance				
Time	−0.38	0.06	0.06	7.72**
Amount of bullying	0.11	0.11	0.05	6.13*
PA	−0.11	0.21	0.10	13.96***
NA	0.34	0.43	0.22	37.66***
IES hyperarousal				
Time	−0.25	0.05	0.05	6.87**
Amount of bullying	0.28	0.12	0.07	8.92**
PA	−0.34	0.24	0.10	15.09***
NA	0.57	0.48	0.24	46.63***
HSCL-25				
Time	−0.24	0.05	0.05	6.09*
Amount of bullying	−0.20	0.09	0.04	4.37*
PA	−0.57	0.36	0.27	44.24***
NA	0.57	0.61	0.25	62.44***
PA × time	−0.44	0.64	0.03	6.69*

*p <0.05, **p <0.01, ***p <0.001.

not confirm moderating or mediating effect of state PA and state NA regarding the bullying–traumatic stress connection.

Discussion

Information about the prevalence of PTSD among victims of bullying may be useful in order to inform health care professionals as well as the legal system of the possible extreme consequences of such experiences. The description of specific symptoms may also benefit victims directly by informing them of symptoms experienced by others. In itself this may reduce any anxiety and fear of 'going crazy' (Saunders, 1994). Practitioners also need to be informed of the symptoms displayed by victims of bullying, thus preventing the misdiagnosis that often seems to occur when victims seek medical or psychological treatment (Einarsen, 2000; Leymann & Gustavson, 1996). Many victims may be incorrectly diagnosed by professionals receiving diagnoses such as paranoia, manic depression, or character disturbance (Leymann & Gustavson, 1996) which may give rise to further stigmatisation. The frequency and intensity of post-trauma symptoms diminish gradually over time, although the symptoms may never completely disappear (Foa & Riggs, 1995). This decline was demonstrated in two research studies examining changes in the prevalence of PTSD following assault (Foa & Riggs, 1995; Rothbaum *et al*., 1992). In both studies female victims of rape and non-sexual assault were assessed repeatedly over a period of 3 months, with the onset of assessment starting about 14 days after the traumatic event. It was found that 94% of rape victims and 76% of non-sexual assault victims met symptom criteria for PTSD at the initial assessment, diminishing to, respectively, 47% and 22% after 11 weeks.

Several studies have demonstrated that bullying at work poses a serious threat to the health and well-being of those at the receiving end (Einarsen *et al*., 1996; Zapf *et al*., 1996). Delayed injuries of bullying, in which the victim perhaps has retired from active work, has been investigated to a very limited extent so far. The notion that victims of bullying are exposed to such health hazards causing Post-Traumatic Stress Disorder has, with a few exceptions (see e.g. Leymann & Gustavson, 1996; Mikkelsen & Einarsen, 2002a), not been investigated. The present study indicates that psychiatric distress and PTSD may be widespread among victims of bullying at work. Some three out of four respondents scored above the recommended IES and PTSS threshold for PTSD. Comparison with a host of other samples, like separated or divorced people, war zone personnel, postal employees after an organisational downsize, and a sample of possible psychiatric cases, indicates that our sample of bullied victims portrays an especially high level of stress. The findings should not be interpreted as indicating that exposure to bullying is worse than the aftermath of losing your kids in a bus accident, or being traumatised in a war zone.

According to Janoff-Bulman (1992), post-traumatic stress following victimisation is largely due to the shattering of basic assumptions victims hold about themselves and the world, in which the feeling of personal invulnerability constitutes an important part. The sense of invulnerability is tied to the three core beliefs: (a) the

world as benevolent, (b) the world as meaningful, and (c) the self as worthy. Also, the just world hypothesis (Lerner, 1980), that is, our need to believe that we live in a world where people get what they deserve and deserve what they get, seems to be shattered by the experience of being bullied. The belief in a just world and the three core beliefs enables the individual to confront the physical and social environment as if it were stable, orderly, coherent, safe and friendly. A traumatic event presents information that is incompatible with these existing mental models, or schemas (Horowitz, 1975, 1979).

This incongruity gives rise to stress responses requiring reappraisal and revision of the schemas. The person tends to use avoidance strategies in order to ward off distressing thoughts, images and feelings caused by the incident, thus giving the control system tolerable doses of information. Phases of intrusion and avoidance occur as the person attempts to process or 'work through' the experience (Horowitz, 1975). The bullied victim may repeatedly re-experience the most humiliating or frustrating aggressive events for his/her 'inner eye', or the person may systematically avoid certain work situations, be it lunch breaks, meetings or other people while at work. They may even experience it as difficult to approach or pass a former workplace, as described in one particular case study (Einarsen & Hellesøy, 1998). A traumatised and stigmatised person may, due to excessive bullying at work, have a strong shattered experience of the world as not being a just, meaningful and benevolent place, with a strong anticipation of future misfortune to come. These experiences can be induced later on, for instance, after the person has ended his/her job or even the job career. Following may be a state of extreme anxiety and hyperarousal, in the long run causing a breakdown of basic psycho-biological systems.

It is tempting to assume that the bullied victims are particularly hit by the shattering of the world as not being a benevolent place, and poor self-esteem after the devastating incidents. Another important assumption is the just world hypothesis (Lerner, 1980). People have a need to believe that they live in a world where people get what they deserve and deserve what they get. The belief in a just world enables the individual to confront the physical and social environment as if it were stable and orderly. A traumatised person experiencing bullying at work may have a strong shattered experience of the world as not being a just place, with a strong anticipation of future misfortune to come (Mikkelsen & Einarsen, 2002a). Traditionally, PTSD is regarded as a postponed negative health effect after the exposure to one shocking, stultifying stressor, e.g. an accident. The traumatic event can usually not be predicted, with natural disasters, mechanical failures or human errors typically being the triggering factors.

Bullying, at work or at school, is a somewhat different phenomenon, since it is a cumulative trauma (type 2 trauma). Jarring personal chemistry, escalating conflict episodes and dismissive interpersonal behaviour may gradually turn into mortifying bullying (Einarsen, 1999). The disaster is socially created, and at least on the psychologically level the victim feels that s/he cannot escape from this devastating traumatic situation. Other studies have demonstrated that being forced to stay in a life situation filled with traumatic episodes for a long time may result in PTSD, e.g.

study findings from concentration camp survivors (Eitinger & Strøm, 1973). Learned helplessness (Seligman, 1975), a sense of being unable to cope with destiny, may be a reaction bullied victims and concentration camp prisoners have in common, with PTSD as a negative health after effect.

Respondents who reported exposure to many different kinds of specific negative acts are troubled the most with post-traumatic stress. A somewhat surprising finding was the modest relationship between 'being bullied by leaders' and post-traumatic stress. Other studies have found that individuals to a great extent are struck by health complaints when bullied by their superiors (Björkqvist *et al*., 1994). Leaders are influential and possess more power than colleagues, which means that they can exert sanctions against the victim as part of a conflict process. Bullying by superiors seems to be widespread among the participants of this study. It is possible that modest interrelationships between leadership harassment and post-traumatic stress was due to a relatively homogenous sample. Length of bullying was not associated with post-traumatic stress, which could be explained with a homogeneous sample, with low between subject variance.

Victimisation from bullying comprises a subjective experience. All types of situations can in principle be experienced as conflict episodes, according to Thomas' (1976) conflict definition. Most kinds of behaviours perceived as negative and directed at a person with a perceived aim to be hurtful may also lead to a perception of being bullied, at least if they are exhibited over a prolonged period of time (Einarsen *et al*., 2003). Irrespective of this is it of crucial importance to gather information about negative acts that causes perceptions of being bullied, and PTSD in the next round. In his work Leymann (1990b) lists 47 negative acts potentially to perceived as precursors of bullying, whereas this survey maps 22 negative acts (the measure of NAQ), chosen from clinical and empirical experience. It is possible, however, that certain kinds of negative acts are experienced as more stressful than others. In the present study downgrading or incapasiting due to gender correlates quite strongly with post-traumatic stress. An adjacent finding is the revealed link between working style and traumatic stress. Downgrading due to gender and bullying because of working style could be seen as different expressions of tension between male and female employees at work.

Post-traumatic stress implies that the health weakening symptoms persist, or emerge with new intensity long after the actual trauma has ceased. Although this survey revealed that symptoms weakened somewhat as time goes by, the effect of time relationship was moderate. The small differences between victims exposed to present bullying and victims in which the bullying ceased more than a year ago support a notion that time only to a limited extent heals all wounds. The relationship between bullying and positive and negative affectivity has been demonstrated in previous research (Mikkelsen & Einarsen, 2002a). Negative affectivity has been seen as an important source of 'emotional dissonance' in organisations, and is linked to role conflict (Abraham, 1998). It has been found, furthermore, that negative affectivity also co-varies with interpersonal conflicts (Spector & O'Connell, 1994). Positive affectivity corresponds with, for example, organisational commitment (Cropanzano *et al*., 1993) and prosocial behaviour (Lawton *et al*., 1997). It has

been argued that negative affectivity should be applied as a control variable within stress research, because NA could reveal spurious relationship between strain and stress reactions, as stated by Watson and Clark (1984) in their seminal work. An example of such interrelationships could be the perception of exposure to negative acts at work, as seen in bullying. In this study it was unveiled that weak (non-significant) interaction effects between all combinations of PA, NA and the most important bullying predictors related to post-traumatic stress. The mediator effects of PA and NA were also modest. These findings stultify the notion that NA modifies most interconnections between strain and reaction measures, and is in line with Mikkelsen and Einarsen (2002b).

Still, NA seems to have a stronger direct effect on the PTSD-indicators than does PA. These findings support previous research, where NA co-varies the most with stress and health indicators, and PA with satisfaction and well-being indicators (Watson, 1988). Also found is a stronger interrelationship between post-traumatic avoidance and hyperarousal reactions, compared with post-traumatic intrusional thoughts and flashbacks. This could indicate that it is particularly bullied victims characterised by an evasive behaviour, and strong stress arousal, who are struck by PTSD problems.

Conclusion

Using established tests of PTSD, a very high level of post-traumatic stress symptoms was revealed in the present study. This finding corresponds with previous research (Leymann & Gustavson, 1996; Mikkelsen & Einarsen, 2002a). A majority of the respondents exceed recommended threshold-values indicating PTSD. It is important to underline that our findings are only indicators of PTSD problems among the victims, since we did not undertake diagnostic interviews with the respondents. It remains a debatable question whether PTSD is an appropriate psychiatric diagnosis in the case of bullying at work, at least according to the criteria of DSM-IV. In our opinion, one should evaluate this aspect in an open-minded manner, since the PTSD diagnosis and DSM have undergone several revisions over the course of time.

Other methodological constraints must also be considered in the interpretation of the present findings. The participants comprise a selected group: they have all been recruited from two associations of bullied victims. The sample could consist of more injured people than what is typical for victims of bullying. It is reasonable, on the other hand, to assume that many individuals exposed to bullying at work do not have sufficient go-ahead spirit or strength to seek allies, e.g. by forming or contacting a bullying association. Many bullied victims express feelings of emotional constriction after being a victim of bullying. They refuse to confide in someone what they experience at work, male victims in particular (Einarsen *et al*., 1994). The present sample consists on average of quite educated people, most women, working in white collar professions. However, an other study revealed that blue collar workers are more exposed to bullying than others (Einarsen & Skogstad, 1996). Hence, the participants of this study may not comprise a representative sample. Social

desirability (Crowne & Marlowe, 1964) represents another issue to be taken into consideration. Sceptics may claim that it is reasonable to assume that the participants in the present study, being members of bullied victims associations, consciously or unconsciously will express their feelings in a particularly negative light, in order to finally gain the attention their problems deserve.

As illuminated by this article, PTSD related to bullying at work constitutes a research field with scarce research attention so far. The field deserves follow-up studies. Longitudinal research should be conducted in particular, since the time factor is essential for our understanding of the progress of PTSD. A suggestion for follow-up studies, also, is that diagnostic interviews are implemented as part of the research design, as, for instance, performed by Dyregrov and associates in their studies among war children (Dyregrov *et al*., 2000, 2002).

Irrespective of PTSD, the topic of bullying at work lacks longitudinal research designs, which should be applied during the forthcoming years. Particularly, personality issues should be investigated. Some victims of bullying may be more vulnerable than others, as indicated in a previous study (Matthiesen & Einarsen, 2001). Correspondingly, the strong direct link found between negative affectivity and PTSD symptoms in this study may indicate that there is a strong personality component in the phenomenology of bullying.

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