

## Sense of Coherence as a Protective Mechanism Among Targets of Workplace Bullying

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The present study investigated sense of coherence (SOC) as a protective factor among targets of workplace bullying. A hypothesis that strong SOC lessens the relationship between exposure to bullying and symptoms of posttraumatic stress was tested in a cross-sectional sample of 221 self-labeled targets of workplace bullying. The findings showed that SOC offers most protective benefits to targets exposed to low levels of bullying, whereas the benefits of SOC diminish as bullying becomes more severe. The results support previous findings that workplace bullying is a traumatic experience for those exposed to it, regardless of the target's available coping resources.

**Keywords:** workplace bullying, sense of coherence, posttraumatic stress

A growing body of empirical evidence shows that workplace bullying has detrimental effects on the health and well-being of the targets of such negative acts (cf. Einarsen & Mikkelsen, 2003; Rayner, Hoel, & Cooper, 2002). In view of the particular symptom constellation displayed by targets, it has even been argued that some targets may suffer from posttraumatic stress disorder (PTSD; e.g., Björkqvist, Österman, & Hjeltbäck, 1994; Leymann & Gustafsson, 1996; Tehrani, 2004). However, few studies have examined *how* bullying inflicts such long-lasting negative effects on the targets (Mikkelsen & Einarsen, 2002). Sense of coherence (SOC) has been proposed as a disposition important to the understanding of individual differences in stress reactions (Antonovsky, 1987), and it could therefore be one possible explanation. SOC is described as a global orientation to view the world and the individual environment as comprehensible, manageable, and meaningful, postulating that the way people view their life has a positive influence on their health (Eriksson & Lindström, 2005). According to Antonovsky (1987), people with a strong SOC will be more resistant to stress and have better health than people with low SOC. Thus, persons with a strong

SOC should, from a theoretical point of view, react and adapt differently to bullying than persons with a low SOC. In the present study, we tested this assumption by using SOC as a framework for understanding the relationship between bullying and health. More specifically, our aim in this study was to explore the possible role of an individual's SOC as a protective mechanism in the relationship between exposure to bullying and symptoms of posttraumatic stress.

Workplace bullying is a collective expression that includes various forms of ill treatment and hostile behavior in the workplace setting (Fox & Stallworth, 2005). In scientific definitions of the term, workplace bullying is characterized by four main criteria (Einarsen, Hoel, Zapf, & Cooper, 2003). The first criterion is that the target is exposed to direct or indirect negative acts that may range from the most subtle, even unconscious, incivilities to the most blatant, intentional emotional abuse (Fox & Stallworth, 2005). The second criterion is that the negative acts in question are repeated regularly. Bullying, therefore, is not about isolated episodes or events but rather about aggressive behavior that is repeatedly directed toward one or more employees. The third criterion is the prolonged nature of the negative experience; that is, the period of time over which the repeated events take place (Rayner et al., 2002). As for frequency and duration, Leymann (1996) has suggested that the targets must be exposed to at least one negative act on a weekly basis and that the duration of the bullying must be a period of 6 months or longer. The last characteristic of workplace bullying is a perceived imbalance of power between the bully and the target (Leymann, 1996; Niedl, 1995;

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Zapf & Einarsen, 2001). Typically, the target perceives that he or she is incapable of neutralizing or stopping the negative acts to which he or she is being subjected. Thus, bullying develops as an escalating process during the course of which the person confronted ends up in an inferior position and becomes the target of systematic negative social acts (Einarsen et al., 2003).

A number of studies have established that targets of such systematic and long-lasting psychological harm, be it real or perceived, experience several symptoms of lowered well-being (Lapierre, Spector, & Leck, 2005) and psychological and somatic health problems (Bowling & Beehr, 2006; Einarsen & Mikkelsen, 2003; Zapf, Knorz, & Kulla, 1996). Among the observed individual consequences are psychosomatic and psychological symptoms such as depression, fatigue, sleep difficulties, and even symptoms of posttraumatic stress (Leymann & Gustafsson, 1996; Matthiesen & Einarsen, 2004). PTSD is a formal diagnostic category used to describe a pattern of symptoms that may develop in individuals who have been exposed to severe traumatic stress (American Psychiatric Association, 2000). Although it is debatable whether workplace bullying can be considered to constitute an event that involves life threat, serious injury, or death, as required by the *Diagnostic and Statistical Manual of Mental Disorders* criteria for PTSD (American Psychiatric Association, 2000), the symptoms found among targets of workplace bullying have been argued to be compatible with those of posttraumatic stress (Tehrani, 2004).

The relationship between exposure to bullying and symptoms of posttraumatic stress has been explored in several recent studies. In a Norwegian survey among 102 targets of bullying, 75% of the sample reported levels of such symptoms above recommended cutoff thresholds (Matthiesen & Einarsen, 2004). This finding corresponds with previous research (Björkqvist et al., 1994; Leymann & Gustafsson, 1996; Tehrani, 2004). Another study reported that, even 5 years after the bullying had come to an end, 65% of the targets had symptoms associated with posttraumatic stress (Einarsen, Matthiesen, & Mikkelsen, 1999).

Only a few studies have examined possible explanations for the relationship between bullying and symptoms of posttraumatic stress (Mikkelsen, 2001; Mikkelsen & Einarsen, 2002). In a study that tested the effect of positive and negative affectivity, both variables were found to contribute significantly to the explained variance of posttraumatic stress but they did not interact with measures of bullying (Mat-

thiesen & Einarsen, 2004). Janoff-Bulman's (1992) theory about shattered basic assumptions has also been tested as a possible explanation. In a Danish study, in which 118 targets of bullying were compared with a matched nontarget control group, significant group differences were found for six of eight basic assumptions (Mikkelsen & Einarsen, 2002). The targets considered themselves to be less worthy, less capable, and unluckier than the control group. In addition, the targets perceived the world as less benevolent, other people as less supporting and caring, and the world as less controllable and just. Altogether, 76% of the targets in the study displayed symptoms of posttraumatic stress, thus indicating a relationship between basic assumptions and such symptoms.

In a somewhat analogue manner to the idea of basic assumptions and affectivity, SOC has been proposed, but so far not empirically tested, as a possible explanation of the relationship between exposure to bullying and symptoms of posttraumatic stress (Nielsen, Matthiesen, & Einarsen, 2005). SOC is formally defined as a global orientation that expresses the extent to which one has a pervasive, enduring (although dynamic) feeling of confidence (Antonovsky, 1987) and describes a personality disposition in terms of a "stress resistance resource" (p. 241; Albertsen, Nielsen, & Borg, 2001). Thus, SOC bears a close resemblance to concepts such as hardiness, self-esteem, dispositional optimism (Bengel, Strittmatter, & Willmann, 1999), and negative affectivity (Strümpfer, Gouws, & Viviers, 1998). It is a complex disposition, with three central components: comprehensibility—the sense that stimuli are predictable and structured; manageability—the sense that available resources (whether one's own or someone else's) are adequate to deal with demands from the environment (stimuli); meaningfulness—the sense that the demands have significance and are worthy of investment (Antonovsky, 1987). It is assumed that SOC is shaped by life experiences. It stabilizes as a personality disposition in early adulthood, thus making fundamental change in SOC limited in adults (Antonovsky, 1987; Bengel et al., 1999). Individuals with a high SOC will, according to Antonovsky (1987), have better general health and will also experience greater well-being and less stress than people with low SOC. The more pronounced a person's SOC, the healthier he or she will be and the more quickly that person will regain health and remain healthy. A pronounced SOC enables an individual to react flexibly to demands. Hence, he or she can activate the appropriate resources needed to cope in a

variety of specific situations. In contrast, persons with a weak or undeveloped sense of coherence will react more strongly to demands and in a rigid manner, as they perceive themselves as having fewer coping resources available (Bengel et al., 1999).

Research supports the claim that SOC is related to mental health. Lundberg (1997) estimated that the risk of psychological problems in persons with low SOC was 3.5 times higher than in persons with high SOC. This relationship was found to be independent of age and gender. According to a review of several studies by Bengel et al. (1999), the relationship between SOC and anxiety, as well as between SOC and depression, is evident, with negative correlation coefficients as high as  $-.85$ . SOC has also been found to be negatively correlated to symptoms of posttraumatic stress, indicating that persons with high SOC display a low symptom score for posttraumatic stress (Frommberger et al., 1999).

Although the effect of SOC on the relationship between exposure to workplace bullying and stress reactions has yet to be investigated empirically, studies in adjacent research areas have shown that SOC may have both moderating and mediating effects on the associations between various work-related stressors and indicators of well-being (Albertsen et al., 2001). In studies that have found SOC to interact with work-related stressors and well-being (e.g., Krantz & Östergren, 2000; Richardson & Ratner, 2005), a high SOC has been shown to reduce the relation between the investigated predictors and the outcomes. For instance, in a study among Finnish employees, Feldt (1997) found that employees with a strong SOC were better protected from the adverse psychological effects of certain stressful work conditions than were employees with a weak SOC. On the other hand, evidence of a mediating effect has also been found in several studies (e.g., Albertsen et al., 2001; Feldt, Kinnunen, & Mauno, 2000). In a large-scale cross-sectional study of the Danish workforce, SOC acted as a mediator between exposure to violence and psychological, psychosomatic, and cognitive stress reactions, whereas no evidence for moderation was found (Høgh & Mikkelsen, 2005)—that is, violence was found to reduce the target's SOC, which again was associated with an increase in stress reactions.

However, from a theoretical perspective, it can be argued that SOC should have a moderating effect on the relationship between bullying and symptoms of posttraumatic stress. As people with a high SOC are presumed to regain health and remain healthy after experiencing stressors (Antonovsky, 1987), SOC

should have a buffering, or protective, effect on the targets of bullying. Given their tendency to perceive the world as meaningful and manageable, individuals with a strong SOC may be less likely to be threatened by aggressive behavior such as bullying, less vulnerable after it has occurred, and more able to cope with potential future attacks (Høgh & Mikkelsen, 2005). Thus, targets with a high SOC may display fewer symptoms of posttraumatic stress than individuals with a weak SOC. In the present study, we hypothesized that SOC functions as a moderating, protective factor in the relationship between workplace bullying and symptoms of posttraumatic stress. Furthermore, we expect that targets of workplace bullying with a high SOC will display fewer symptoms of posttraumatic stress than targets with low SOC.

## Method

### *Sample and Procedure*

The 221 participants in the present study were recruited among members of two Norwegian support associations for targets of bullying at work. Approximately 560 questionnaires were distributed by the associations to their members by mail and 221 were anonymously returned directly to the researchers (estimated response rate 39%). Parts of the data, based on subgroups of the present sample, have been published in two previous articles (cf. Glasø, Matthiesen, Nielsen, & Einarsen, 2007; Nielsen et al., 2005).

The mean age in the sample ( $N = 221$ ) was 50.5 years ( $SD = 9.04$ ), with a range from 28 to 75 years. The sample consisted of 141 women and 80 men. The most frequent work tasks were related to administrative/executive work (27%) and health care (26%). About 40% were in a full-time (29.8%) or part-time (9.6%) position at the time of the survey, whereas the majority of participants were on sick leave, on disability pensions, on rehabilitation benefit, or unemployed. All participants claimed that they were or had been subjected to severe and specific workplace bullying according to the definition provided by Einarsen, Raknes, Matthiesen, & Hellestøy (1994).

### *Instruments*

Data were collected by means of anonymous self-report questionnaires. Exposure to bullying at the workplace was measured in two ways. First, using the Negative Acts Questionnaire (NAQ; Einarsen & Hoel, 2001; Einarsen & Raknes, 1997), we measured self-reported exposure to specific bullying behavior.

The version of the NAQ applied in this study consisted of 28 items (Cronbach's  $\alpha = 0.91$ ) describing different kinds of behavior that may be perceived as bullying if they occur on a regular basis. All items were formulated in behavioral terms, with no reference to the term *bullying*. The NAQ contains items referring to both direct behavior, such as openly attacking the target (e.g., "Being humiliated or ridiculed in connection with your work") and indirect behavior such as social isolation or slander (e.g., "Spreading of gossip and rumors about you"). For each item, the respondents were asked how often they had been exposed to the behavior at the present workplace when being bullied. Response categories were "never," "now and then," "about monthly," "about weekly," and "about daily." The NAQ deals with the frequency and duration of bullying but not with perceived differences in power. Therefore, following the NAQ, a formal definition of bullying at work was introduced, and the respondents were asked to indicate whether they considered themselves as targets of bullying at work according to this definition:

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 equally strong opponents are in conflict with each other. (Einarsen et al., 1994, p. 20)

The response categories were "no," "to a certain extent," and "yes, extremely."

The Impact of Event Scale—Revised (IES-R; Weiss & Marmar, 1997) is a self-report measure designed to assess current subjective distress for any specific life event. The questionnaire assesses three categories of posttraumatic stress symptoms: hyperarousal (sample item: "I was jumpy and easily startled"), avoidance behavior (sample item: "I stayed away from reminders about it"), and intrusive thoughts and/or feelings (sample item: "Any reminders brought back feelings about it"). In the version of the questionnaire used in the present study, the respondents were asked to rate each item in the IES-R on a scale on which 0 = *not at all*, 1 = *seldom*, 3 = *a little bit*, and 5 = *often*, with reference to the past 7 days. Weiss and Marmar (1997) recommended that the scale should be scored by using the mean of nonmissing items rather than computing the sum of the item scores. Internal consistency for the total IES-R scale was high in the present study (Cronbach's  $\alpha = 0.95$ ).

We assessed SOC using the Orientation to Life Questionnaire (OLQ; Antonovsky, 1987). This 29-item self-report measure reflects the degree to which an individual views his or her world as being comprehensible (11 items; e.g., "When you talk to people, do you have the feeling that they don't understand you?"), manageable (10 items; e.g., "Has it happened that people whom you counted on disappointed you?"), and meaningful (8 items; e.g., "Do you have the feeling that you don't really care about what goes on around you?"). Respondents indicate the extent to which they agree or disagree with the items, and responses to all items are made by means of 7-point, Likert-type scales. Higher scores indicate a stronger SOC. According to Amirkhan and Greaves (2003), factor analysis has shown that the three facets of the SOC are so highly intercorrelated that they are adequately represented by one general factor. In fact, the use of one single score is recommended (cf. Antonovsky, 1993; Frenz, Carey, & Jorgensen, 1993; Frommberger et al., 1999). In accordance with previous research (e.g., Amirkhan & Greaves, 2003), the internal consistency of this total scale was satisfactory (Cronbach's  $\alpha = 0.90$ ).

## Results

The means, standard deviations, and intercorrelations for all measures used in the present study are reported in Table 1. In a similar manner to previous research (e.g., Leymann & Gustafsson, 1996; Mathiesen & Einarsen, 2004; Tehrani, 2004), the targets of workplace bullying scored high on the scale measuring symptoms of posttraumatic stress. SOC correlated with both symptoms of posttraumatic stress

Table 1  
*Means, Standard Deviations, Intercorrelations (Pearson's  $r$ ) and Cronbach's Alphas for Continuous Measures*

Variable	<i>M</i>	<i>SD</i>	1	2	3	4
1. Age	50.47	9.04	—			
2. Bullying behaviors	2.56	0.68	-.16*	<b>.91</b>		
3. PTS total	2.93	1.33	.04	.41**	<b>.95</b>	
4. SOC	4.37	0.79	.17*	-.14*	-.41**	<b>.90</b>

*Note.*  $N = 221$ . Cronbach's alphas are presented in boldface along the diagonal. Measures are interdependent. PTS = posttraumatic stress; SOC = sense of coherence.

\* $p < .05$  (two-tailed). \*\* $p < .01$  (two-tailed).

( $r = -.41, p < .01$ ) and exposure to bullying behavior ( $r = -.14, p < .05$ ). A moderately strong correlation was also found between bullying and symptoms of posttraumatic stress ( $r = .41, p < .01$ ).

To examine the hypothesis that SOC functions as a protective factor in the relationship between workplace bullying and symptoms of posttraumatic stress, we tested for linear and interaction effects by utilizing a hierarchical regression analysis (see Table 2). The recommendations provided by Baron and Kenny (1986) were followed and, in accordance with Aiken and West (1991), the predictor variables were centered prior to the two-way interaction analysis. For the linear effect, the independent variables explained a total of 27% of the variance in the symptoms of posttraumatic stress ( $R^2 = .27, p < .001$ ). Exposure to bullying as measured by the NAQ ( $\beta = 0.35, p < .001$ ) and SOC ( $\beta = -0.34, p < .001$ ) yielded significant contributions. When adding the interaction term to the regression, the amount of explained variance increased significantly by 4% ( $R^2 = .31, p < .001$ ). Furthermore, the interaction term made a significant contribution to the explained variance ( $\beta = 0.20, p < .01$ ). Thus, SOC was found to interact with exposure to bullying and symptoms of posttraumatic stress.

To further examine the form of the interaction, we created a graphical display based on the recommendations by Cohen et al. (2003) and Frazier et al. (2004). Scores were plotted at the mean, low (1 standard deviation below the mean), and high (1 standard deviation above the mean) values on the predictor variables. As shown in Figure 1, the results indicate a stronger relationship between bullying and symptoms of posttraumatic stress for the mean and high SOC groups than for the low SOC group. Follow-up analyses of simple slopes revealed that higher

levels of exposure to bullying were related to significantly elevated symptoms of posttraumatic stress among targets with a mean ( $\beta = 0.74, p < .001$ ) and high ( $\beta = 1.19, p < .001$ ) SOC but not for targets with a low SOC ( $\beta = 0.30, p > .05$ ).

Discussion

The purpose of the present study was to examine the hypothesis that SOC functions as a protective mechanism with regard to health effects among persons exposed to workplace bullying. The findings show that low levels of bullying have a stronger effect on targets with a low SOC than for targets with higher SOC. However, increased levels of bullying have a greater relative effect on targets with a mean and high SOC than on targets with a low SOC. Thus, our findings suggest that SOC offers most protective benefits when bullying is mild; however, the benefits diminish as bullying becomes more severe. Therefore, our hypothesis that SOC has a protective effect was not confirmed but partially contradicted as increasing levels of bullying have a stronger relative effect on targets with higher levels of SOC. Hence, the finding indicates a reverse buffering effect (cf. Beehr, 1995), and our results contradict previous findings in adjacent research in which SOC has been shown to clearly reduce the relation between the investigated predictors and outcomes (e.g., Feldt, 1997; Krantz & Östergren, 2000; Richardson & Ratner, 2005). However, the findings support studies that have found workplace bullying to be a traumatizing stressor (cf. Leymann & Gustafsson, 1996; Matthiesen & Einarsen, 2004; Tehrani, 2004).

The finding of a reverse buffering effect of SOC resembles findings in stress research in which higher levels of social support were found to make the

Table 2  
*Testing the Moderator Effect of Sense of Coherence (SOC) on the Relationship Between Bullying (Predictor) and Symptoms of Posttraumatic Stress (Outcome) Using Hierarchical Multiple Regression*

Step and variable	<i>B</i>	<i>SE B</i>	$\beta$	$R^2$	$\Delta R^2$
Step 1					
Bullying behaviors	.73	.13	.35**	.27**	
SOC	-.57	.11	-.34**		
Step 2					
Bullying behaviors	.75	.13	.36**	.31**	.04**
SOC	-.59	.11	-.35**		
Bullying Behaviors $\times$ SOC	.57	.18	.20**		

Note.  $N = 187$ .

\*\* $p < .01$ .



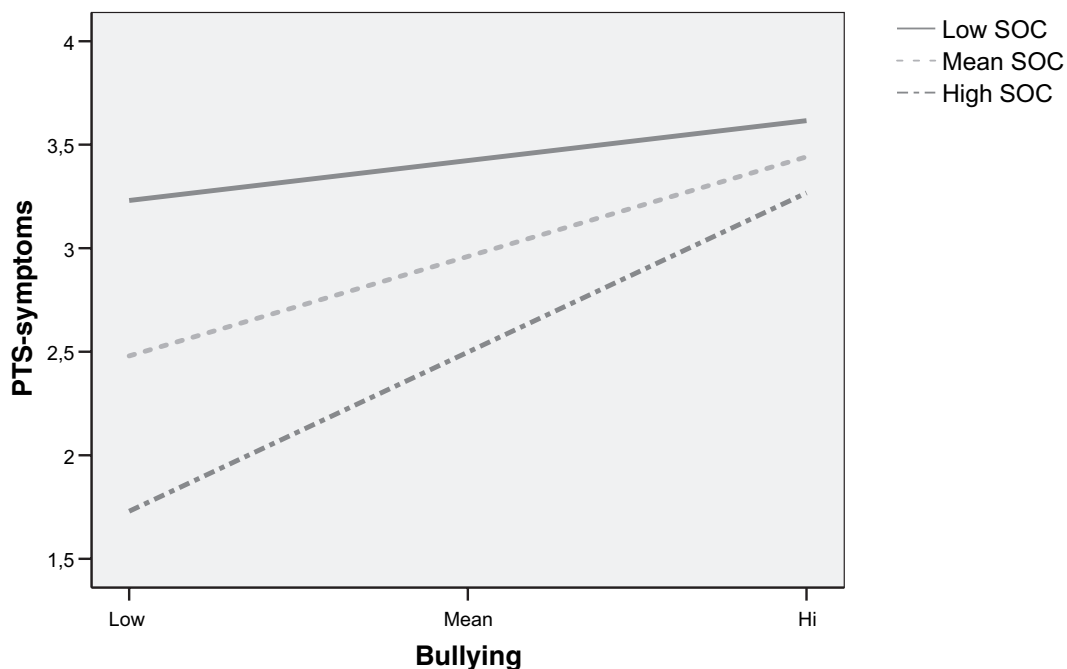


Figure 1. The interaction between sense of coherence and bullying with regard to symptoms of posttraumatic stress. Low =  $-1$  standard deviation below mean,  $M$  = at mean, High =  $1$  standard deviation above mean.

relationship between job stressors and individual strains more positive instead of less positive (Beehr, 1995). One explanation for the reversed effect could be that negative events such as bullying may be more salient when interpreted against a backdrop of a positive view of oneself and the world (cf. Walen & Lachman, 2000). Hence, for a person with an overall pervasive and enduring feeling of confidence (i.e., a high SOC), a severe negative event may have particularly detrimental effects because it is unexpected and creates cognitive dissonance in the target. Thus, being exposed to repeated bullying over a long period of time may result in an incongruity between how persons with a high SOC perceive themselves and how they feel they are treated by the bullies, which is related to the central components of SOC, (i.e., meaningfulness, comprehensibility and manageability). Most targets of bullying consider themselves to be decent, worthy, and capable people who make valuable contributions to the organization in which they work (Thylefors, 1987; Zapf, 1999). When experiencing continued bullying, the targets may find it hard to understand why they are exposed to such

undeserving negative acts, and they may therefore experience the world as less meaningful (Mikkelsen & Einarsen, 2002). Furthermore, the world also becomes less comprehensible, as being exposed to bullying does not make sense to the targets. By definition, bullying will also affect the target's ability to manage the situation. A central feature of bullying is that the target experiences that he or she lacks resources to handle the exposure to persistent negative acts. In consequence, the stigmatizing effects of bullying, along with their escalating frequency and intensity, make the targets constantly less able to cope with their daily tasks and the cooperation requirements of the job, thus becoming continually more vulnerable (Einarsen, 2000). This may be particularly stressful for targets with a high level of SOC.

Such an explanation, emphasizing threats to cognitive schemas, is also in line with Janoff-Bulman's (1992) theory of shattered basic assumptions, in which it is assumed that events are traumatic to the extent that they threaten to shatter our most basic cognitive schemas about the world, other people, and ourselves (Mikkelsen & Einarsen, 2002). Insofar as

we need stability in our conceptual system, abrupt changes in core schemas are deeply threatening and may result in traumatization (Janoff-Bulman, 1992).

Another possible explanation is that being exposed to severe and extreme levels of bullying may be traumatizing for everyone, even those with well-developed coping resources such as a stronger SOC. In an attributional perspective, exposure to intensive and systematic psychological harm, both real and perceived, could be experienced as a stable and uncontrollable situation (Nielsen et al., 2005). Both these attributions are features of learned helplessness (Peterson & Seligman, 1984), which is the experience of being in a position in which there is no possible way to escape from harm or pain and in which an overall fatalism and resignation make one believe that there is no point in trying to improve the situation. Research indicates that an attributional style as described earlier is related to both clinical depression and symptoms of posttraumatic stress (cf. Gray, Pumphrey, & Lombardo, 2003; Peterson & Seligman, 1984).

### *Methodological Limitations*

There are some obvious limitations that should be considered when interpreting the results of the present study. First, in line with most previous research on workplace bullying, this study does not account for the cause and effect relationship between the variables. To indicate causality, longitudinal studies on workplace bullying, SOC, and symptoms of posttraumatic stress are needed in future research.

The self-selected nature of the targets means that there is reason to assume that the participants in this study may not be typical of all Norwegian targets of bullying. The fact that all the targets were recruited from two associations for self-labeled targets of bullying could suggest that they differ from other targets with respect to certain characteristics, such as degree of exposure to bullying. Thus, the results must be generalized with caution. However, with an estimated prevalence rate of severe bullying in the area of 4% in Norway (Einarsen & Skogstad, 1996), a representative target sample of more than 200 would have needed a total sample size of 8,000 respondents given a response rate of 50%. Furthermore, it is important to distinguish between representative studies that aim to demonstrate the frequency and nature of bullying at work and studies that attempt to demonstrate the phenomenology of bullying or its underlying mechanisms (Matthiesen & Einarsen, 2001), which was the aim of the present study.

The targets in this study reported a noticeable high level of posttraumatic stress symptoms. Although this finding corresponds with previous research (Leymann & Gustafsson, 1996; Matthiesen & Einarsen, 2004), it is necessary to emphasize that the findings are only indicators of PTSD problems among the targets of bullying, as they have not been assessed in a formal diagnostic interview. Moreover, the IES-R inventory focuses only on symptom criteria for posttraumatic stress (*DSM-IV* criteria B, C, & D), ignoring criteria related to the traumatic event, symptom duration and degree of impairment (*DSM-IV* criteria A, E, & F respectively). It therefore remains open to discussion whether PTSD is an appropriate psychiatric diagnosis in the case of bullying at work, at least according to formal *DSM-IV* criteria (American Psychiatric Association, 2000).

### *Conclusion and Implications*

The results of the present study support previous findings showing that exposure to bullying is associated with evident symptoms of posttraumatic stress. With regard to the question of whether SOC functions as a protective mechanism among targets of workplace bullying, the findings revealed that a high SOC has most protective benefits for targets exposed to relatively low levels of bullying, whereas the protective benefits diminish as the bullying becomes more severe. Thus, the findings demonstrate that severe bullying must be regarded as a particularly traumatic experience for all those exposed, even those with comprehensive coping resources.

The relationship between bullying, SOC, and traumatization found in the present study has important practical implications for how organizations should prevent and handle destructive conflicts such as bullying. At a primary individual level, our results indicate that organizations must give high priority to the prevention and management of bullying as exposure to workplace bullying is strongly associated with severe impairment of mental health. At the organizational level, the cost for an enterprise can be considerable, as relatively small effects on the individual level may have substantial aggregated or cumulative effect within an organization (Daniels & Harris, 2000). Our findings also pose challenges with regard to vocational rehabilitation. Because the protective benefits of SOC seem to diminish as bullying becomes more severe, organizations must emphasize forms of rehabilitation that can help all targets readjust their view of the world, others, and themselves so that they become better prepared to meet the require-

ments of a demanding work life. Fair management of, and intervention in, specific cases may also reassure targets with a high SOC that the world is still comprehensible, manageable, and meaningful.

## References

- Aiken, L. S., & West, S. G. (1991). *Multiple regression: Testing and interpreting interactions*. Newbury Park, CA: Sage.
- Albertsen, K., Nielsen, M. L., & Borg, V. (2001). The Danish psychosocial work environment and symptoms of stress: The main, mediating and moderating role of sense of coherence. *Work & Stress, 15*, 241–253.
- American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders* (text revision). Washington, DC: Author.
- Amirkhan, J. H., & Greaves, H. (2003). Sense of coherence and stress: The mechanics of a healthy disposition. *Psychology and Health, 18*, 31–62.
- Antonovsky, A. (1987). *Unraveling the mystery of health: How people manage stress and stay well*. San Francisco: Jossey-Bass.
- Antonovsky, A. (1993). The structure and properties of the Sense of Coherence Scale. *Social Science & Medicine, 36*, 725–733.
- Baron, R. M., & Kenny, D. A. (1986). The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology, 51*, 1173–1182.
- Beehr, T. A. (1995). *Psychological stress in the workplace*. London: Routledge.
- Bengel, J., Strittmatter, R., & Willmann, H. (1999). *What keeps people healthy? The current state of discussion and the relevance of Antonovsky's salutogenic model of health*. Cologne, Germany: Federal Centre for Health Education.
- Björkqvist, K., Österman, K., & Hjeltnä, M. (1994). Aggression among university employees. *Aggressive Behavior, 20*, 173–184.
- Bowling, N. A., & Beehr, T. A. (2006). Workplace harassment from the victim's perspective: A theoretical model and meta-analysis. *Journal of Applied Psychology, 91*, 998–1012.
- Cohen, J., Cohen, P., West, S. G., & Aiken, L. S. (2003). *Applied multiple regression/correlation analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Erlbaum.
- Daniels, K., & Harris, C. (2000). Work, psychological well-being and performance. *Occupational Medicine, 50*, 304–309.
- Einarsen, S. (2000). Harassment and bullying at work: A review of the Scandinavian approach. *Aggression and Violent Behavior, 5*, 379–401.
- Einarsen, S., & Hoel, H. (2001, May). *The Negative Acts Questionnaire: Development, validation and revision of a measure of bullying at work*. Paper presented at the 10th European Congress on Work and Organisational Psychology, Prague, Czech Republic.
- Einarsen, S., Hoel, H., Zapf, D., & Cooper, C. L. (Eds.). (2003). *The concept of bullying at work: The European tradition. Bullying and emotional abuse in the workplace. International perspectives in research and practice* (pp. 3–30). London: Taylor & Francis.
- Einarsen, S., Matthiesen, S. B., & Mikkelsen, E. G. (1999). *Tiden leger alle sår? Senvirkninger av mobbing i arbeidslivet* [Does time heal all wounds? Long-term health effects of exposure to bullying at work]. Bergen, Norway: University of Bergen.
- Einarsen, S., & Mikkelsen, E. G. (2003). Individual effects of exposure to bullying at work. In S. Einarsen, H. Hoel, D. Zapf, & C. L. Cooper (Eds.), *Bullying and emotional abuse in the workplace: International perspectives in research and practice* (pp. 127–144). London: Taylor & Francis.
- Einarsen, S., & Raknes, B. I. (1997). Harassment in the workplace and the victimization of men. *Violence and Victims, 12*, 247–263.
- Einarsen, S., Raknes, B. I., Matthiesen, S. B., & Hellesøy, O. H. (1994). *Mobbing og harde personkonflikter. Helsefarlig samspill på arbeidsplassen* [Bullying and severe interpersonal conflicts. Unhealthy interaction at work]. Bergen, Norway: Sigma Forlag.
- Einarsen, S., & Skogstad, A. (1996). Bullying at work: Epidemiological findings in public and private organizations. *European Journal of Work and Organizational Psychology, 5*, 185–201.
- Eriksson, M., & Lindström, B. (2005). Validity of Antonovsky's Sense of Coherence Scale: A systematic review. *Journal of Epidemiology and Community Health, 59*, 460–466.
- Feldt, T. (1997). The role of sense of coherence in well-being at work: Analysis of main and moderator effects. *Work & Stress, 11*, 134–147.
- Feldt, T., Kinnunen, U., & Mauno, S. (2000). A mediational model of sense of coherence in the work context: A one-year follow-up study. *Journal of Organizational Behavior, 21*, 461–476.
- Fox, S., & Stallworth, L. E. (2005). Racial/ethnic bullying: Exploring links between bullying and racism in the U.S. workplace. *Journal of Vocational Behavior, 66*, 438–456.
- Frazier, P. A., Tix, A. P., & Barron, K. E. (2004). Testing moderator and mediator effects in counseling psychology research. *Journal of Counseling Psychology, 51*, 115–134.
- Frenz, A., W., Carey, M. P., & Jorgensen, R. S. (1993). Psychometric evaluation of Antonovsky's Sense of Coherence Scale. *Psychological Assessment, 5*, 145–153.
- Frommberger, U., Stieglitz, R.-D., Straub, S., Nyberg, E., Schlickewei, W., Kuner, E., et al. (1999). The concept of "sense of coherence" and the development of posttraumatic stress disorder in traffic accident victims. *Journal of Psychosomatic Research, 46*, 343–348.
- Glasø, L., Matthiesen, S. B., Nielsen, M. B., & Einarsen, S. (2007). Do targets of bullying portray a general victim personality profile? *Scandinavian Journal of Psychology, 48*, 313–319.
- Gray, M. J., Pumphrey, J. E., & Lombardo, T. W. (2003). The relationship between dispositional pessimistic attributional style versus trauma-specific attribution and PTSD symptoms. *Journal of Anxiety Disorders, 17*, 289–303.
- Høgh, A., & Mikkelsen, E. G. (2005). Is sense of coherence a mediator or moderator of relationships between vio-



- lence at work and stress reactions? *Scandinavian Journal of Psychology*, 46, 429–437.
- Janoff-Bulman, R. (1992). *Shattered assumptions. Towards a new psychology of trauma*. New York: The Free Press.
- Krantz, G., & Östergren, P.-O. (2000). The association between violence victimisation and common symptoms in Swedish women. *Journal of Epidemiology and Community Health*, 54, 815–821.
- Lapierre, L. M., Spector, P. E., & Leck, J. D. (2005). Sexual versus nonsexual workplace aggression and victims' overall job satisfaction: A meta-analysis. *Journal of Occupational Health Psychology*, 10, 155–169.
- Leymann, H. (1996). The content and development of mobbing at work. *European Journal of Work and Organizational Psychology*, 5, 165–184.
- Leymann, H., & Gustafsson, A. (1996). Mobbing at work and the development of post-traumatic stress disorders. *European Journal of Work and Organizational Psychology*, 5, 251–275.
- Lundberg, O. (1997). Childhood conditions, sense of coherence, social class and adult ill health: Exploring their theoretical and empirical relations. *Social Science & Medicine*, 44, 821–831.
- Matthiesen, S. B., & Einarsen, S. (2001). MMPI-2 configurations among victims of bullying at work. *European Journal of Work and Organizational Psychology*, 32, 335–356.
- Matthiesen, S. B., & Einarsen, S. (2004). Psychiatric distress and symptoms of PTSD among victims of bullying at work. *British Journal of Guidance and Counselling*, 32, 335–356.
- Mikkelsen, E. G. (2001). Mobning i arbejdslivet: Hvorfor og for hvem er den så belastende? [Workplace bullying: Why and for whom is bullying such a strain?] *Nordisk Psykologi*, 53, 109–131.
- Mikkelsen, E. G., & Einarsen, S. (2002). Basic assumptions and symptoms of post-traumatic stress among victims of bullying at work. *European Journal of Work and Organizational Psychology*, 11, 87–111.
- Niedl, K. (1995). *Mobbing/bullying am Arbeitsplatz. Eine empirische Analyse zum Phänomen sowie zu personalwirtschaftlich relevanten Effekten von systematischen Feindseligkeiten* [Mobbing/bullying at work. An empirical analysis of the phenomenon and of the effects of systematic harassment on human resource management]. Munich, Germany: Hampp.
- Nielsen, M. B., Matthiesen, S. B., & Einarsen, S. (2005). Ledelse og personkonflikter: Symptomer på posttraumatisk stress blant ofre for mobbing fra ledere [Leadership and interpersonal conflicts: Symptoms of posttraumatic stress among targets of bullying from supervisors]. *Nordisk Psykologi*, 57, 391–415.
- Peterson, C., & Seligman, M. E. P. (1984). Causal explanations as a risk factor for depression: Theory and evidence. *Psychological Review*, 91, 347–374.
- Rayner, C., Hoel, H., & Cooper, C. L. (2002). *Workplace bullying. What we know, who is to blame, and what can we do?* London: Taylor & Francis.
- Richardson, C. G., & Ratner, P. A. (2005). Sense of coherence as a moderator of the effects of stressful life events on health. *Journal of Epidemiology and Community Health*, 59, 979–984.
- Strümpfer, D. J. W., Gouws, J. F., & Viviers, M. R. (1998). Antonovsky's Sense of Coherence Scale related to negative and positive affectivity. *European Journal of Personality*, 12, 457–480.
- Tehrani, N. (2004). Bullying: A source of chronic post traumatic stress? *British Journal of Guidance and Counselling*, 32, 358–366.
- Thylefors, I. (1987). *Syndabockar. Om utstötning och mobbning i arbetslivet* [Scapegoats. On exclusion and mobbing at work]. Stockholm: Natur och Kultur.
- Walen, H. R., & Lachman, M. E. (2000). Social support and strain from partner, family, and friends: Costs and benefits for men and women in adulthood. *Journal of Social and Personal Relationships*, 17, 5–30.
- Weiss, D., & Marmar, C. (1997). The Impact of Event Scale—Revised. In J. Wilson & T. Keane (Eds.), *Assessing psychological trauma and PTSD* (pp. 399–411). New York: Guilford Press.
- Zapf, D. (1999). Organizational work group related and personal causes of mobbing/bullying at work. *International Journal of Manpower*, 20, 70–85.
- Zapf, D., & Einarsen, S. (2001). Bullying in the workplace: Recent trends in research and practice—An introduction. *European Journal of Work and Organizational Psychology*, 10, 369–373.
- Zapf, D., Knorz, C., & Kulla, M. (1996). On the relationship between mobbing factors, and job content, social work environment, and health outcomes. *European Journal of Work and Organizational Psychology*, 5, 215–237.

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