Relationships between exposure to bullying at work and psychological and psychosomatic health complaints: The role of state negative affectivity and generalized self-efficacy

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The aim of this study was to investigate the relationships between exposure to behaviors identified as workplace bullying and self-report measurements of psychological and psychosomatic health complaints. Secondly, we investigated whether these relationships were mediated by the state negative affectivity of the victim. Thirdly, we investigated the extent to which generalized self-efficacy moderated the relationships between exposure to bullying behaviors and health complaints. Two hundred and forty-white and blue-collar employees from a Danish manufacturing company participated in the study. Exposure to bullying behaviors was associated with an increase in psychological health complaints, increased levels of psychosomatic complaints and an elevated level of state negative affectivity. Whereas bullying by itself accounted for 27% of the variance in psychological health complaints and 10% of the variance in psychosomatic complaints, the results pointed to state negative affectivity as a partial mediator of the relationships between exposure to bullying behaviors and both measures of self-reported health. Though not directly related to reported exposure to bullying behaviors, generalized self-efficacy seemed to act as a moderator of the relationship between exposure to bullying behaviors and psychological health complaints.

Key words: Bullying, harassment, victimization, negative affectivity, self-efficacy.

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The aim of the present study was to investigate the relationships between exposure to bullying behaviors at work and psychological and psychosomatic health complaints, and the role of state negative affectivity as mediator and generalized self-efficacy as a moderator of these relationships. Studies on organizational stress (Chen & Spector, 1991; Keenan & Newton, 1984) have shown that interpersonal conflicts and aggression constitute an important work stressor adversely affecting employee health and wellbeing. Concurrently, the last decade has witnessed a growth in studies focusing on systematic interpersonal harassment and bullying in the workplace (see Einarsen, 2000; Hoel, Rayner & Cooper, 1999, for reviews). The concept of workplace bullying, sometimes referred to as workplace abuse (Keashly, 1998), mobbing (Leymann, 1996) or workplace harassment (Brodsky, 1976), refers to situations where a person repeatedly and over a period of time is exposed to negative acts (i.e. constant abuse, offensive remarks or teasing, ridicule or social exclusion) on the part of co-workers, supervisors or subordinates (Einarsen, 2000). A defining characteristic of bullying is prolonged exposure to repeated negative acts. Contrary to isolated interpersonal conflicts in organizations, bullying is systematic aggression aimed at one or more individuals by another individual or a group (Hoel et al., 1999). The victim will typically experience these acts as extremely offensive, degrading, and unfair. The feeling of being unjustly treated is central to most victims of bullying. In addition, bullying appears not to be an either–or phenomenon, but rather an escalating process, where the victim gradually faces increasingly frequent as well as increasingly intense aggressive behaviors (Einarsen, 2000). Furthermore, the behaviors involved seem mainly to be of a verbal and nonphysical nature, including indirect behaviors such as shunning.

A number of studies have shown significant relationships between exposure to bullying and both victim and co-workers' health and wellbeing (Brodsky, 1976; Einarsen, Matthiesen & Skogstad, 1998; Zapf, Knorz & Kulla, 1996). In a study of male industrial workers, exposure to workplace bullying explained 23% of the variance in psychological health and wellbeing (Einarsen & Raknes, 1997). On the whole, victims exhibit a wide range of psychological, psychosomatic and musculoskeletal symptoms, such as low self-esteem, anxiety, depression, concentration difficulties, chronic fatigue, sleep problems, stomach problems, back- and head- aches, anger, self-hatred and suicidal thoughts (Björkqvist, Österman & Hjelt-Bäck, 1994; Brodsky, 1976; Einarsen, Raknes, Matthiesen & Hellesøy, 1996; Leymann, 1990). In an interview study of 17 victims of bullying in a Finnish university, Björkqvist et al. (1994) found that all victims reported insomnia, various nervous symptoms, melancholy, apathy, lack of concentration and socio-phobia. Clinical observations have also shown other symptoms related to exposure to workplace bullying, such as social isolation, social maladjustment, psychosomatic illnesses, depression, helplessness, anger, compulsions, anxiety and despair (Leymann, 1990).
According to transactional models of stress (e.g. Lazarus & Folkman, 1984), the outcome of a stressful transaction is mediated by the individual's appraisal and coping. Accordingly, individual differences in victims' appraisal and coping with bullying may be one explanation as to why some victims show a modest degree of impairment while others exhibit severe symptoms of stress. Therefore, the present study sought to investigate whether individual variables pertaining to the victim's appraisal and coping processes may act as mediators and moderators of the relationships between exposure to bullying behaviors at work and self-reported psychological and psychosomatic health complaints. Two factors that may act as such intervening variables are state negative affect and generalized self-efficacy. These variables were the focus of this study.

It has been suggested that subjective emotional experience or affective states are best depicted by two broad and independent dimensions, namely positive affect and negative affect (see George, 1995; Watson & Clark, 1984; Watson, Clark & Tellegen, 1988). Positive affect indicates positive engagement, reflecting the degree to which a person feels enthusiastic, active and alert (George, 1995; Watson & Clark, 1984). Negative affect, on the other hand, is a general dimension of subjective distress and is indicative of negative engagement, reflecting the extent to which one is feeling upset or unpleasantly aroused (Watson & Clark, 1984; Watson et al., 1988). Whereas a state of low negative affect is captured by terms such as calmness and serenity, individuals high in negative affect are prone to feeling distressed, nervous, angry or guilty.

A person's degree of negative affect is a function of both affective disposition (trait negative affectivity or trait-NA) and life events (George, 1995). Trait-NA is a mood disposition that reflects pervasive individual differences in negative emotionality and self-concept across time and different situations (Watson & Clark, 1984). Individuals high in trait-NA typically focus on the negative sides of life and tend to have negative views of themselves, other people and the world in general. Moreover, they are more likely to experience negative emotions such as distress, dissatisfaction, anxiety and anger. Consequently, they will also be more likely to experience negative affect states. Indeed, a study by Brief, Burke, George, Robinson and Webster (1988) showed that trait-NA was significantly related to negative affect at work.

Exposure to negative life events is another significant contributor to negative affect (George, 1995). Qualitative studies (Kile, 1990; Mikkelsen, 1997) show that most victims of bullying report negative feelings such as distress, nervousness, anxiety and irritability due to being victimized at work. Assuming that exposure to bullying is related to various aversive mood states, a viable hypothesis is that such a state of negative affect, or state negative affectivity (state-NA), may mediate the relationship between exposure to bullying behaviors and self-reported health complaints.

Following research within the field of victimology (e.g. Janoff-Bulman, 1989), exposure to bullying behaviors at work may alter the victims' emotional state and their views of themselves and others, this in turn causing higher levels of reported psychological health complaints and psychosomatic complaints. Being a victim of intentional harm by another person, real or perceived, seems to threaten people's general positive assumptions of themselves and the world and other people (Janoff-Bulman, 1985), thus leading to severe emotional reactions such as fear, anxiety, helplessness, depression and shock. Victimization, in this case exposure to bullying behaviors at work, may even change individuals' perceptions of their work environment to one of threat, danger, insecurity and self-questioning (Janoff-Bulman & Frieze, 1983). An elevation of state-NA might also initiate an increase in the use of maladaptive coping strategies. These changes in the perception of self and others as well as the accompanying emotional state of mind may be long-lasting, especially if accompanied by lack of social support at work or at home.

Part of the link between exposure to bullying and symptoms of stress may therefore be accounted for by an increase in less favorable evaluations of self and others (Lakey, Tardiff & Drew, 1994), again indicating an increase in trait-NA. It has also been suggested that a high degree of exposure to prolonged job difficulties may lead to an increase in trait-NA (Clark & Watson, 1991). Indeed, Lakey et al. (1994) found that experiences of negative social interactions were associated with an increase in trait-NA, while a lack of positive social interactions was not. Evidence that major stressful life events may increase symptoms of stress by increasing negative evaluations of others and self has been presented by Lakey and Edmundson (1993) and may also be derived from the work of Janoff-Bulman (1989).

Central to some definitions of workplace bullying is the victim's perception of being unable to cope with the negative acts (Björkqvist et al., 1994; Einarsen, 2000; Keashly, 1998). Accordingly, individuals low in self-esteem or self-efficacy are likely to suffer more victimization than are others when facing aggression or harassment (Einarsen, 2000). Low self-esteem is found to be a consistent correlate of self-reported exposure to bullying (Einarsen et al., 1996; Kile, 1990). However, self-efficacy has not yet been studied in relation to bullying at work.

The concept of self-efficacy refers to people's beliefs about their capacity to exercise control over events that affect their lives (Bandura, 1992). Whereas self-efficacy is commonly understood as referring to specific behaviors performed in specific environmental contexts (Maddux, 1995), other researchers (Jerusalem & Schwarzer, 1992) have introduced a more trait-like version of the concept, termed generalized self-efficacy. Generalized self-efficacy refers to stable and global beliefs in the ability to deal efficiently with a wide range of stressors (Jerusalem & Schwarzer, 1992; Schwarzer, Bässler, Kwiatek, Schröder & Zhang, 1997). Generalized self-efficacy may therefore be conceived as a personal resource or vulnerability factor in the stress process, together with factors such as locus of control or self-esteem. In this respect...
the construct is viewed as a moderator of the relationships between stressors and individual outcomes.

Although studies have shown that self-efficacy may act as a mediator of stressful experiences (see Litt, 1988), such a mediator effect is less likely in relation to generalized self-efficacy, which is a stable personality factor. Results from a study of the role of victim personality in perceptions of sexual harassment also pointed to self-efficacy as a moderator inasmuch as self-efficacy did not influence how socio-sexual behaviors in the workplace were perceived, but rather affected the emotional reactions to instances of behavior commonly seen as sexual harassment (Einarsen, Lillevåg & Roth, 1999). Women low on self-efficacy reported higher levels of negative emotions when facing sexual harassment than women high on self-efficacy.

The aim of the present study was therefore to investigate the relationships between exposure to bullying behaviors at work and psychological and psychosomatic health complaints using a community sample of industrial workers. It has been claimed that industrial workers are more at risk of being exposed to workplace bullying (Einarsen & Raknes, 1997). With some exceptions (e.g. Björkqvist et al., 1994; Einarsen & Raknes, 1997), many former studies in this field have been based on self-selected victims of bullying. Since self-selected victims may have been exposed to prolonged and extreme degrees of bullying at work, these studies may have demonstrated a somewhat exaggerated picture of the relationships between bullying and health complaints. When using a community sample of employees at an ordinary workplace we will obtain information on the relationships between health complaints and exposure to low-intensity bullying behaviors or bullying in its first phases. On the other hand, in such a sample we assumed that any mediating effects of negative affect would be linked to state-NA as opposed to trait-NA.

A high level of victimization is probably required in order for a stable personality variable like trait-NA to act as a mediator. Hence, the hypothesis of the present study is that exposure to bullying behaviors may lead to an increase in state-NA, which again may be related to an increase in psychological and psychosomatic health complaints. Moreover, since state-NA is not a stable personality trait it cannot act as a moderator of the relationship between exposure to bullying behaviors and strain reactions. Accordingly, no such moderator hypothesis was studied. Following the same line of argument, a mediating role of generalized self-efficacy is theoretically implausible. In order for such a mediator effect to take place a considerable degree of exposure to bullying behaviors is required. Therefore, the following hypotheses were tested in the present study:

**H1.** Exposure to bullying behaviors at work is associated with an elevated level of psychological and psychosomatic health complaints.

**H2.** Exposure to bullying behaviors at work is associated with increased levels of state-NA.

**H3.** State-NA mediates the relationships between exposure to bullying behaviors and psychological and psychosomatic health complaints.

**H4.** Generalized self-efficacy moderates the relationships between bullying behaviors and psychological and psychosomatic health complaints. The combination of a high exposure to bullying behaviors and a low score on generalized self-efficacy will show a significant relationship with psychological and psychosomatic health complaints over and above the relationships found between these factors individually.

**METHOD**

**Sample**

Data were collected by means of anonymous questionnaires distributed to 433 employees in a Danish manufacturing company. Such organizational settings have been found to constitute high-risk situations for bullying (Einarsen & Skogstad, 1996). A total of 224 employees responded, a response rate of 51.7%. Although this is a somewhat low response rate, Einarsen and Raknes (1997), who succeeded in gathering information from respondents who initially failed to complete the questionnaires, found that a low response rate did not affect the results significantly. The sample comprised 55% men and 45% women. Except for two persons, all employees were between the ages of 19 to 59 years. Sixteen percent had only completed junior high school, 47% had finished their basic vocational education or were educated as a trainee or apprentice. Ten percent were skilled or specialized workers, while 26% had completed further or higher education. Mean job tenure was 8.5 years (SD 7.13 years), ranging from 0 to 35 years. Thirty-eight of the respondents (17%) were in a supervisory or managerial position.

**Instruments**

Exposure to bullying behaviors was measured by the Negative Acts Questionnaire (NAQ) (Einarsen & Raknes, 1997). In this study the scale comprises 18 items (Cronbach’s alpha = 0.83) measuring exposure to various negative acts. All items are described in behavioral terms with no reference to the term “bullying” (see Table 1 for an overview of the items included in this scale). This has the advantage of measuring perceived exposure to behaviors without forcing the respondents to label these behaviors as bullying. The method used to chart exposure to bullying in the present study seems to prevent an underestimation of the problem, which may occur when using methods where individuals label themselves as victims of bullying (Brooks & Perot, 1991). It also secures a somewhat more objective description of the behaviors involved (see also Frese & Zapf, 1988).

The NAQ contains items referring to either direct (e.g. verbal abuse, offensive remarks, ridicule) or indirect (e.g. social ostracism, slander) behaviors. For each item of the NAQ the respondents were asked how often they had been exposed to the behavior during the last six months, response categories being: never, now or then, about weekly, about daily. A weekly exposure to such negative acts over a period of six months has been proposed as an operational definition of victimization due to bullying at work (Leymann, 1996).

Psychological health complaints were measured by the Hopkins Symptom Checklist (HSCL-25), originally developed by Derogatis, Lipman, Rickels, Uhlenhuth and Covi (1974). The scale measures psychiatric symptoms, including symptoms of anxiety, depression and somatization. The respondents were asked to indicate to what extent each symptom had occurred in the previous month.
extent they had felt distressed or bothered by each symptom within the previous week. All scale items are scored on a five-point scale: very slightly or not at all, a little bit, moderately, quite a bit or extremely. The HSCL-25 has excellent internal consistency, with a Cronbach's alpha of 0.92. In the present study it was used as a measure of psychological health complaints.

Psychosomatic complaints were measured by a seven-item psychosomatic scale taken from the Stress Profile developed by Setterlind and Larsson (1995). The respondents were asked to report the perceived frequency of various psychosomatic symptoms within the last four weeks, such as dizziness, stomachache and chest pain. The items are scored on a five-point scale ranging from always to never. In the present study the internal consistency of the scale was satisfactory (Cronbach's alpha = 0.85).

State-NA was measured by the 10-item NA scale of the PANAS Scales originally developed by Watson, et al. (1988). The respondents were asked to indicate to what extent they had felt a particular feeling or emotion within the last two weeks, such as being distressed, afraid, guilty, or nervous. Response categories were very slightly, a little, moderately, quite a bit, and extremely. In the present study, the scale had an acceptable internal consistency, with a Cronbach's alpha of 0.79.

The 10-item General Perceived Self-Efficacy Scale (Jerusalem & Schwarzer, 1992) measured generalized self-efficacy. The scale has been shown to have acceptable reliability and evidence of validity has been provided. The following are examples of the items on this scale: “I can always manage to solve difficult problems if I try hard enough”; “I am confident that I could deal efficiently with unexpected events”. For each statement the respondents were asked to indicate the extent to which they considered it characterised them as persons. The response categories were not at all true, barely true, moderately true or exactly true. In this particular study, the scale had an excellent internal consistency (Cronbach's alpha = 0.89).

Translations of the HSCL-25, the PANAS Scales and the General Perceived Self-Efficacy Scale (from the English versions) were done in accordance with the requirements adhering to scientific work: translation and back-translation by bilingual consultants with a university degree in psychology and/or English.

**Statistical procedures**

Pearson's product–moment correlations and partial correlations were computed in order to measure the degree of associations between exposure to bullying behaviors at work, state-NA, general self-efficacy and the health measures. In order to test for possible moderating effects of generalized self-efficacy we used hierarchical regression analyses following the prescriptions of Baron and Kenny (1986). In all the statistical analyses, exposure to bullying behaviors was measured by a sum-scale of the NAQ (Einarsen & Raknes, 1997).

To ensure discriminatory validity for the measurements of psychosomatic complaints, psychological health complaints and state-NA, a series of exploratory factor analyses were conducted using principal-component analysis with varimax rotation. First of all, a principal-component analysis with varimax rotation showed the three scales involved to be distinct and separate factors. Secondly, a separate analysis for state-NA and psychosomatic complaints showed that seven of the state-NA items loaded on their own factor with no problematic cross-loadings. That is, they loaded above 0.60 on their own factor, while loading lower than 0.35 on the corresponding psychosomatic factor. On the latter, all items loaded exclusively on their own factor. The same seven state-NA items showed an identical relationship when being factor analyzed together with HSCL-25. Hence, this seven-item version of state-NA has been used in the analyses of the present study, ensuring the investigation of potentially related but distinct concepts. The following items were included in this revised version of state-NA: afraid, guilty, nervous, distressed, ashamed, scared and jittery. The excluded items were: upset, hostile, and irritable. This revised version of the state-NA scale had a high internal consistency, with a Cronbach's alpha of 0.87.

**RESULTS**

A total of 88% of the respondents reported exposure to at least one of the behaviors measured by the NAQ during the previous six months. However, 8% reported exposure to at least one bullying act weekly or more often during the previous six months, thus being potential victims of bullying according to the criteria suggested by Leymann (1996). Exposure to two different types of behaviors weekly or more often were reported by 2.7% of the respondents. Table 1 shows the incidence of the various bullying acts in this sample. Chi-square tests showed no significant gender differences in relation to exposure to bullying acts (χ² = 22.29, d.f. = 19, p = 0.267).

Pearson's product–moment correlations were computed between exposure to bullying behaviors, psychological health complaints, psychosomatic complaints, state-NA and generalized self-efficacy (Table 2). Exposure to bullying behaviors at work correlated strongly with psychological health complaints (r = 0.52, p < 0.01) and moderately with psychosomatic complaints (r = 0.32, p < 0.01). The directions of the correlations showed that reported exposure to bullying behaviors was associated with more psychological health complaints (i.e. a lower level of psychological well-being) and more psychosomatic complaints, although the latter association was more moderate. These results thus give support to hypothesis 1. Also, in agreement with hypothesis 2, exposure to bullying behaviors correlated strongly with state-NA. Generalized self-efficacy, however, was not associated with exposure to bullying behaviors. State-NA also correlated rather strongly with both psychological and psychosomatic health complaints.

Using partial correlation, results were consistent with state-NA as a mediator of relationships between exposure to bullying behaviors and both psychological health complaints and psychosomatic complaints. Yet, state-NA acted only as a partial mediator of the relationships. When controlling for the effects of state-NA, the predictor–criterion relationship between bullying behaviors and psychological health complaints was reduced, but remained statistically significant (r = 0.52, pr = 0.30, p < 0.01). Having controlled for state-NA, the relationship between bullying behaviors and psychosomatic complaints was also reduced, but still significant (r = 0.32, pr = 0.19, p < 0.05). Demographic variables such as gender, age and educational level did not influence these relationships. Thus, these results are supportive of hypothesis 3.

Although not related to exposure to bullying behaviors in itself, generalized self-efficacy seemed to act as a moderator...
of the relationship between reported bullying behaviors and psychological health complaints (Table 3). A hierarchical multiple regression analysis showed that exposure to bullying behaviors explained 27% of the variance in psychological health complaints, whereas the introduction of generalized self-efficacy in the regression model added a significant increase of four percentage points in the explained variance (\(R^2 = 0.31, p < 0.01\)). However, when both individual variables and the cross-product term were entered together, the latter accounted for an extra two percentage points of the variance, which was a significant increase (\(p < 0.05\)) (\(R^2 = 0.33, F = 6.25, p < 0.05\), for the total model). Even though this effect is indeed very moderate, the results do indicate that individuals with a higher degree of generalized self-efficacy will report fewer psychological health complaints than low self-efficacious individuals following exposure to bullying behaviors.

At the same time, generalized self-efficacy did not moderate the relationship between exposure to bullying behaviors and psychosomatic complaints. A multiple regression analysis showed that only exposure to bullying behaviors accounted for a partial explained variation in psychosomatic complaints (\(R^2 = 0.10, p < 0.05\)). Neither self-efficacy nor the interaction term added any extra explained variance. Put together, these results give partial support to hypothesis 4, in as much as generalized self-efficacy acted as a moderator of the relationship between exposure to bullying behaviors and psychological health complaints but not psychosomatic complaints. Demographic variables such as gender, age and educational level did not influence any of these relationships when they were entered as control variables in the multiple regression analyses.

**DISCUSSION**

The fact that 88% of the respondents reported being exposed to aggressive interpersonal acts now and then during the last six months indicates that such acts are relatively common in this organizational setting. Identical results were found in a comparable Norwegian study (Einarsen & Raknes, 1997). Insofar as such acts occur regularly, they may

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**Table 1. Percentage of employees endorsing each item on the NAQ**

<table>
<thead>
<tr>
<th>Item</th>
<th>Never</th>
<th>Now and then</th>
<th>About weekly</th>
<th>About daily</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Someone withholding necessary information affecting your performance</td>
<td>36.7%</td>
<td>57.5%</td>
<td>5.0%</td>
<td>0.9%</td>
</tr>
<tr>
<td>2. Insulting teasing</td>
<td>82.4%</td>
<td>16.7%</td>
<td>–</td>
<td>0.9%</td>
</tr>
<tr>
<td>3. Being ordered to do work below your level of competence</td>
<td>55.0%</td>
<td>37.3%</td>
<td>4.5%</td>
<td>3.2%</td>
</tr>
<tr>
<td>4. Being deprived of responsibility or work tasks</td>
<td>77.8%</td>
<td>21.3%</td>
<td>0.9%</td>
<td>–</td>
</tr>
<tr>
<td>5. Slander or rumors about you</td>
<td>67.0%</td>
<td>31.2%</td>
<td>1.4%</td>
<td>0.5%</td>
</tr>
<tr>
<td>6. Social exclusion from co-workers or work group activities</td>
<td>80.6%</td>
<td>18.5%</td>
<td>0.9%</td>
<td>–</td>
</tr>
<tr>
<td>7. Repeated offensive remarks about your person or your private life</td>
<td>86.9%</td>
<td>11.3%</td>
<td>0.9%</td>
<td>0.9%</td>
</tr>
<tr>
<td>8. Verbal abuse</td>
<td>80.6%</td>
<td>18.5%</td>
<td>0.5%</td>
<td>0.5%</td>
</tr>
<tr>
<td>9. Ridicule</td>
<td>85.1%</td>
<td>14.0%</td>
<td>0.9%</td>
<td>–</td>
</tr>
<tr>
<td>10. Hints or signals from others that you should quit your job</td>
<td>97.3%</td>
<td>1.8%</td>
<td>0.9%</td>
<td>–</td>
</tr>
<tr>
<td>11. Repeated reminders of your blunders</td>
<td>77.0%</td>
<td>22.1%</td>
<td>0.9%</td>
<td>–</td>
</tr>
<tr>
<td>12. Silence or hostility as a response to your questions or attempts at conversations</td>
<td>84.6%</td>
<td>14.5%</td>
<td>0.9%</td>
<td>–</td>
</tr>
<tr>
<td>13. Devaluation of your work and efforts</td>
<td>80.6%</td>
<td>18.0%</td>
<td>0.9%</td>
<td>0.5%</td>
</tr>
<tr>
<td>14. Neglect of your opinions or views</td>
<td>61.7%</td>
<td>35.6%</td>
<td>2.7%</td>
<td>–</td>
</tr>
<tr>
<td>15. Devaluation of your “rights” and opinions with reference to your gender</td>
<td>92.3%</td>
<td>7.2%</td>
<td>0.5%</td>
<td>–</td>
</tr>
<tr>
<td>16. Devaluation of your “rights” and opinions with reference to your age</td>
<td>94.1%</td>
<td>5.4%</td>
<td>0.5%</td>
<td>–</td>
</tr>
<tr>
<td>17. Exploitation at work, such as private errands</td>
<td>95.0%</td>
<td>4.5%</td>
<td>0.5%</td>
<td>–</td>
</tr>
<tr>
<td>18. Negative reactions from others because you work too hard</td>
<td>68.3%</td>
<td>27.6%</td>
<td>4.1%</td>
<td>–</td>
</tr>
</tbody>
</table>

**Table 2. Intercorrelations between psychosomatic complaints, HSCL-25 score, bullying, generalized self-efficacy and state-NA**

<table>
<thead>
<tr>
<th>Scale</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Bullying</td>
<td>–</td>
<td>0.41**</td>
<td>0.07</td>
<td>0.32**</td>
<td>0.52**</td>
</tr>
<tr>
<td>2. State-NA – revised</td>
<td>–</td>
<td>0.07</td>
<td>0.32**</td>
<td>0.70**</td>
<td></td>
</tr>
<tr>
<td>3. Generalized self-efficacy</td>
<td>–</td>
<td>0.20**</td>
<td>0.41**</td>
<td>0.24**</td>
<td></td>
</tr>
<tr>
<td>4. Psychosomatic complaints</td>
<td>–</td>
<td>–</td>
<td>0.65**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. HSCL-25</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Table 3. Hierarchical regression analysis testing the moderating effect of generalized self-efficacy on the relationship between bullying and psychological health complaints**

<table>
<thead>
<tr>
<th></th>
<th>(R^2)</th>
<th>(F)- total</th>
<th>(F)-change.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bullying</td>
<td>0.27</td>
<td>78.74***</td>
<td></td>
</tr>
<tr>
<td>* Generalized self-efficacy</td>
<td>0.31</td>
<td>48.29***</td>
<td>12.78**</td>
</tr>
<tr>
<td>* Generalized self-efficacy x bullying</td>
<td>0.33</td>
<td>33.83***</td>
<td>6.57*</td>
</tr>
</tbody>
</table>

\(p < 0.05, **p < 0.01, ***p < 0.001.\)
be indicative of bullying. The relatively high endorsement of items involving personal disparagement for example exposure to slander or rumors, neglect of one’s opinion or points of views, exposure to ridicule and insulting teasing as well as other kinds of offensive remarks, is a potential indicator of the severity of the problem. Several studies (Einarsen & Raknes, 1997; Zapf et al., 1996) have shown that behaviors experienced as personal disparagement are particularly offensive and therefore strongly associated with lowered wellbeing and subjective health complaints.

The results of the study offered empirical support for our first hypothesis. Exposure to bullying behaviors at work is significantly associated with increased levels of both psychological health complaints and psychosomatic complaints. Whereas reported exposure to bullying behaviors alone accounted for 27% of the variance in psychological health complaints, the 10% explained variance in psychosomatic complaints was more moderate. Although the design of the study does not provide a test of the causal ordering of the constructs, the study provides further empirical support for the assertion that bullying is an important work environment stressor, with strong associations with poor victim health and wellbeing (Björkqvist et al., 1994; Brodsky, 1976; Einarsen & Raknes, 1997; Niedl, 1996; Zapf et al., 1996).

The fact that the perceived behaviors involved in bullying on the one hand seem to occur fairly often, and on the other hand are highly associated with health complaints when occurring regularly, is also consistent with the work of Leymann (1990). However, the cross-sectional nature of the data limits causal conclusions on the relationships between exposure to bullying behaviors and health.

In support of our second hypothesis, state-NA was found to correlate strongly with exposure to bullying acts. Furthermore, the results indicated that state-NA might act as a partial mediator of the relationships between exposure to bullying behaviors and both psychological and psychosomatic health complaints, thus partially corroborating hypothesis 3. Given the possibility that state-NA acts as a partial mediator, thus accounting for a portion of the relation between the predictor variable and the criterion variable by explaining how external physical events take on a psychological meaning (Baron & Kenny, 1986; Cox & Ferguson, 1993), exposure to bullying behaviors may result in enhanced levels of state-NA. This might initiate an increased use of maladaptive coping strategies, in turn causing higher levels of reported psychological health complaints and psychosomatic complaints.

Exposure to bullying behaviors and state-NA may also interact in a vicious circle of events. Exposure to interpersonal problems and conflicts may of course bring about an elevated level of distress in the individual. Distressed individuals may then interpret the behavior of others as personal insults or attacks, thus increasing their own level of negative emotions, which again may result in others avoiding them or reacting aggressively to them. Exposure to bullying behaviors may both justify and enhance their negative emotional state as well as their negative attitude to others.

However, due to the correlational design of the study, alternative explanations must also be forwarded. First of all, it may be the case that a more stable trait-NA is a cause of both the observed state-NA as well as the perceptions of bullying behaviors and health complaints. Trait-NA has proved to be strongly related to state-NA even when the state measures are completed 10 years after the trait measures (Watson & Clark, 1984). Burke, Brief and George (1993, p. 405) also point to the trait-like stability of state-NA, concluding that “when respondents are instructed to rate their negative affect over the past few weeks, such ratings can possibly be used as a measure of negative affectivity”.

Spector, Zapf, Chen and Frese (2000) have outlined six mechanisms by which trait-NA may play a substantive role in relation to job stressors and job strains: the perception mechanism, the hyper-responsivity mechanism, the selection mechanism, the stressor creation mechanism, the mood mechanism and the causality mechanism. We suggest that at least three of these mechanisms may help explain why trait-NA might affect the relationship between exposure to bullying behaviors at work and reported strain reactions.

Firstly, consistent with the perception mechanism suggested by Spector et al. (2000), trait-NA may affect employees’ perceptions of the social climate and consequently the way they perceive interpersonal behaviors. High trait-NA individuals tend to focus on the negative sides of themselves, other people and the world. Also, they are more inclined to give attention to and magnify potential threats from their surroundings and to perceive ambiguous stimuli negatively (Watson & Clark, 1984). Accordingly, they may be more likely to perceive the behavior of others as acts of bullying. This perceived exposure to bullying behaviors might in turn be related to increased levels of reported strain.

Secondly, in agreement with the hyper-responsivity hypothesis (Spector et al., 2000), individuals high on trait-NA may have an increased emotional reactivity when facing stressors such as negative interpersonal behaviors (Larsen & Ketelaar, 1991). Hence, when exposed to bullying behaviors they may experience more strain than others given the same environmental conditions (Spector et al., 2000).

Finally, according to the stressor creation mechanism (Spector et al., 2000), high trait-NA individuals may in fact create a social environment in which they are exposed to aggressive behaviors. For instance, the behavior of high trait-NA individuals may annoy and irritate others, who may then react negatively toward them (Burke et al., 1993; Zapf, 1999a). From a theoretical point of view, the particular constellation of the high trait-NA individual, that is, their proneness to experiencing feelings of distress, anxiety and anger at any time and across a variety of situations, together with their introvert, non-conformist and slightly anti-social personality, could make them targets for bullying (Felson & Tedeschi, 1993).
Moreover, the tendency toward the use of coping strategies involving confrontation, for example by angrily venting emotions as a response to stress (O’Brien & DeLongis, 1996), might also result in high trait-NA individuals being more frequently involved in interpersonal conflicts, which again may escalate into bullying (see Einarsen, 2000). This line of argument may be in accordance with findings of studies of bullying in schools in which researchers have described certain types of victims as provocative and annoying (Olweus, 1987). In this respect it is worth noting that, although distressed persons may themselves alter their own work environment in a negative direction, their perceptions of this altered work environment may still be valid.

It may also be argued that a conceptual kinship exists between the concept of state-NA and psychological health complaints as measured by the HSCL-25. However, when controlling for the effect of state-NA, the relationship between exposure to bullying behaviors and psychological health complaints remained statistically significant. Factor analysis also showed these concepts to be distinct. In our opinion, this result suggests that exposure to bullying behaviors represents a significant job stressor with relationships to psychological health complaints over and above what may be explained by a dispositional or, alternatively, a changed level of state-NA within the victim.

Contrary to state-NA, generalized self-efficacy showed no association with exposure to bullying behaviors in the present study. Intuitively, this may appear somewhat surprising as one would expect people with a low sense of generalized self-efficacy to be more exposed to aggressive behaviors from others. For example, studies have shown that people who lack self-confidence experience more stress and perform less competently as a response to stressors (Bandura, 1992; Jerusalem & Schwarzer, 1992). From a theoretical point of view, this may increase the risk of being subjected to aggression (Felson & Tedeschi, 1993). Prior studies have also pinpointed the negative effects of bullying on the victim’s sense of self-competence (Leymann, 1990). However, it may be questioned whether the General Perceived Self-Efficacy Scale used in this study sufficiently captures aspects of social competence essential to the management of interpersonal conflicts or aggression. Only one item refers explicitly to social competence (Leymann, 1990). However, in our opinion, this result suggests that exposure to bullying behaviors represents a significant job stressor with relationships to psychological health complaints over and above what may be explained by a dispositional or, alternatively, a changed level of state-NA within the victim.

Interestingly, we found only a weak moderator effect of generalized self-efficacy. One explanation for this finding might be that, in many cases, what the victims actually do in order to hinder further exposure to bullying might be extraneous to the outcome. Up to now, only a few studies (Keashly et al., 1994; Niedl, 1996; Rayner, 1998; Thylefors, 1987) have focused on victims’ ways of coping with bullying. These studies show that the victims use a variety of strategies, including both problem-orientated strategies (talking with or confronting the aggressor, collecting evidence, seeking support from superiors or colleagues etc.) and emotion-focused or avoidance strategies (distancing, denial, self-control, self-abasement etc.). However, even though some victims report that problem-focused strategies may alleviate the situation considerably (Keashly et al., 1994), in many instances they are to no avail (Niedl, 1996; Rayner, 1998) or may even lead to deterioration of the situation (Zapf, 1999b). Consequently, because exposure to bullying, especially long term, typically causes the victim to feel helpless and out of control, and since these subjective feelings often mirror the reality of a bullying process, personality factors may be of less importance in determining coping strategies and hence health outcomes. Nonetheless, another and presumably more feasible explanation for the weak moderator effect of generalized self-efficacy in this study must also be posited: Given that few of the employees were subjected to severe bullying, the effects of individual differences in perceived ability to cope may be moderate.

CONCLUSION

Results from the present study confirm previous findings showing that exposure to bullying behaviors is associated with an increase in psychological health complaints and increased levels of psychosomatic health complaints. While
the present paper explored health correlates of exposure to bullying behaviors, future studies should look more closely into the likely differences in reported strain reactions among those who label themselves as victims of bullying and those who only report exposure to bullying acts.

Furthermore, results of the study were indicative of state-NA as a partial mediator of the relationships between exposure to bullying behaviors and self-reported strain reactions. Generalized self-efficacy, on the other hand, seemed to moderate the relationship between exposure to bullying behaviors and psychological health complaints. These results point to the relevance of investigating individual mediator and moderator variables in relation to explaining differences in reported strain following exposure to bullying at work. The present study focused only on the effects of what we believe to be two potentially important variables, namely state-NA and generalized self-efficacy. Further studies investigating the effects of these and other variables pertaining to individual differences are recommended.

REFERENCES


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