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ORIGINAL ARTICLE

Acts of offensive behaviour and risk of long-term sickness absence in the Danish elder-care services: a prospective analysis of register-based outcomes

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Abstract
Purpose To investigate associations between acts of offensive behaviour (threats, violence, bullying, and unwanted sexual attention) and risk of long-term sickness absence for eight or more consecutive weeks among female staff in the Danish elder-care services.
Methods These associations were investigated using Cox regression analysis. Data consisted of a merger between Danish survey data collected among 9,520 female employees in the Danish elder-care services and register data on sickness absence compensation.
Results Compared to unexposed employees, employees frequently exposed to threats (HR = 1.52, 95% CI:1.11–2.07), violence (HR = 1.54, 95% CI:1.06–2.25), and bullying (HR = 2.33, 95% CI:1.55–3.51) had significantly increased risk of long-term sickness absence when adjusting for age, job function, tenure, BMI, smoking status, and psychosocial work conditions. When mutually adjusting for the four types of offensive behaviours, only bullying remained significantly associated with risk of long-term sickness absence (HR = 2.26, 95% CI: 1.50–3.42). No significant associations were found between unwanted sexual attention and risk for long-term sickness absence.
Conclusions Results indicate that prevention of threats, violence, and bullying may contribute to reduced sickness absence among elder-care staff. The results furthermore suggest that work organizations must be attentive on how to handle and prevent acts of offensive behaviour and support targets of offensive behaviours.

Keywords Threats · Violence · Bullying · Unwanted sexual attention/sexual harassment · Register data

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Background and objectives

Acts of offensive behaviour have been identified as a serious issue that has an impact on many aspects of employee well-being within the health care services (Hogh et al. 2008, 2011a; Wieclaw et al. 2006). Offensive behaviours can manifest themselves as bullying (Eriksen and Einarsen 2004; Hogh et al. 2011a), threats and/or violence (Sharipova et al. 2008), or sexual harassment (Fitzgerald et al. 1995). In a work-setting, acts of offensive behaviour must be expected to have potentially harmful effects on the psychological well-being of individual employees, as these acts can be considered as offenses to the 'selves' of the affected employees (Semmer et al. 2007).

Previous research has shown that the risk of workplace bullying is higher in workplaces that are either male or female dominated (Ortega et al. 2009), and that the risk of experiences of violence or threats is most prevalent in human service jobs (Hogh and Viitasara 2005). Accordingly, employees in elder-care services—a female dominated human service job—should be expected to have a comparatively high risk of experiencing acts of offensive behaviour in the workplace.

Research suggests that acts of offensive behaviour are associated with a series of adverse outcomes in work-settings. Bullying has been found to be associated with low organizational commitment, low job satisfaction, and increased risk of turnover intention (Hauge et al. 2007; Hoel

and Cooper 2000; Keashly and Jagatic 2000; Djurkovic et al. 2008), actual turnover (Hogh et al. 2011b), and adverse mental health outcomes (Quine 2001). Employees exposed to violence and threats at work also exhibit an increased risk of turnover intentions (Estryn-Behar et al. 2008; LeBlanc and Kelloway 2002), and lower levels of organizational commitment and job satisfaction (Barling et al. 2001). Similarly, exposure to sexual harassment is associated with low job satisfaction (Glomb et al. 1999). Furthermore, all these acts of offensive behaviours have been found to affect health and psychological well-being (Glomb et al. 1999; Hogh et al. 2008, 2011a; Wieclaw et al. 2006).

The findings cited above thus indicate that experiences of acts of offensive behaviour are psychosocial stressors that can have potentially serious consequences for the well-being of the individual targets. According to the "Stress-as-Offence-to-Self" perspective (Semmer et al. 2007), acts of offensive behaviour are acts that signal a lack of appreciation and respect towards targets. This lack of appreciation and respect can therefore compromise the social esteem of the target, which in turn is likely to undermine feelings of self-esteem and self-worth of the targets. Therefore, it seems plausible to expect that extended exposures to acts of offensive behaviour may increase the risk of long-term sickness absence.

Like most other Western countries, Denmark is facing shortages of staff in the health care services both now and in the future (Simoens et al. 2005; The National Labour Market Board 2008). Furthermore, Danish elder-care services appear to be faced with comparatively high levels of sickness absence (Hasle and Langaa Jensen 2006), which reduces the available number of employees actually providing services for the elderly. Therefore, operational knowledge on the causes of sickness absence appears to be required in order to reduce sickness absence, thereby increasing the supply of labour in the elder-care services.

However, evidence on the association between acts of offensive behaviour and risk of long-term sickness absence is limited. One study (Ortega et al. 2011) shows that employees in the elder-care sector in Denmark, who reported being frequently bullied, had an increased risk of being sick-listed for six or more consecutive weeks when compared to employees who were never bullied. Another study by Kivimäki and colleagues (2000) supports these findings. Other studies have found that exposure to violence (Sharipova et al. 2008; Kivimaki et al. 2002) and sexual harassment (Einarsen et al. 1993; Barling 1996) is associated with risk of sickness absence. However, with exception of the studies by Ortega et al. (2011) and Kivimaki et al. (2002), these previous studies (Sharipova et al. 2008; Einarsen et al. 1993; Barling 1996) fail to either make use of a longitudinal design or distinguish between cases of short-term and long-term sickness absence. Thus, more longitudinal evidence on the associations between acts of offensive behaviour and risk of long-term sickness absence is needed.

Other studies indicate that sickness absence is associated with psychosocial work conditions (Lund et al. 2005; Ala-Mursula et al. 2002; Voss et al. 2001; Eshoj et al. 2001), age, and socioeconomic status (Allebeck and Mastekaasa 2004). Accordingly, such factors are included as potential confounders in the present study. Finally, as the vast majority of employees in the Danish elder-care services are women, we exclude male respondents from the analyses.

Therefore, the aim of this study is to investigate the association between self-reported exposure to acts of offensive behaviour (violence, threats, bullying, and sexual harassment measured as unwanted sexual attention) and risk of long-term sickness absence among female staff in the Danish elder-care services.

Methods

Study population

This study is based on a merger between survey data collected among employees in the elder-care services in 35 Danish municipalities in 2004–2005 and a national register on social transfer payments (DREAM) (Hjollund et al. 2007). The survey included 12,744 employees and yielded a response rate of 78% ($n = 9{,}949$). In the analyses, we excluded male respondents ($N = 429$), which yielded a final sample of 9,520 respondents, and in the final study population (female employees only), the response rate was slightly higher (80%) than in the full population of the survey in the elder-care services. Respondents were followed in the DREAM register for 1 year after completion of the survey. DREAM contains weekly information on granted sickness absence compensation for all citizens and residents in Denmark.

Outcome variable: long-term sickness absence

Sickness absence was defined as eight or more consecutive weeks of sickness absence in the 1-year follow-up period that started upon completion of the survey. We chose an absence period for eight or more consecutive weeks as empirical evidence indicates that employees who are absent for 8 weeks or more have a substantially increased risk for not returning to work (Høgelund et al. 2003).

Predictors: acts of offensive behaviour

In the study questionnaire, respondents were asked whether they had experienced the following acts of offensive

behaviour within the past 12 months: bullying, violence, threats, and/or unwanted sexual attention (unwanted sexual attention is the second most common form of sexual harassment (Gelfand et al. 2002), and that form was measured in our survey). The answering categories for the questions were (1) Yes, daily, (2) Yes, weekly, (3) Yes, monthly, (4) Yes, now and then, and (5) No, never. For the statistical analyses, these categories were collapsed into the following categories: (1) Frequently exposed (daily—weekly), (2) Occasionally exposed (monthly—now and then), and (3) Never exposed.

Covariates

Five different measures of psychosocial work conditions from COPSOQ (Copenhagen psychosocial questionnaire) (Pejtersen et al. 2010) were included as covariates. (1) Emotional demands (4 items) Sample item: Is your work emotionally demanding? (2) Role conflicts (4 items) Sample item: Are contradictory demands placed on you at work? (3) Influence at work (4 items) Sample item: Do you have a large degree of influence concerning your work? (4) Quality of leadership (4 items) Sample item: To what extent would you say that your immediate superior is good at work planning? (5) Predictability (2 items) Sample item: At your place of work, are you informed well in advance about, for example, important decisions, and changes of plans for the future? The COPSOQ scales are based on Likert type items with 5-point response scales. The sum scales were rescaled from 0 to 100 points, with high scores indicating high levels of the measured work characteristic. The psychometric properties of these scales are described elsewhere (Thorsen and Bjørner 2010).

Furthermore, all analyses were adjusted for age, tenure, job function (care work/other work), smoking status (smoker/non-smoker), and body mass index (BMI).

Data analyses

To assess the association between acts of offensive behaviour and risk of long-term sickness absence during follow-up, data were analysed using the Cox proportional hazards model to compute hazard ratios (HR) and 95% confidence intervals (95% CI). The risk time was calculated as time from answering the questionnaire until first onset of sickness absence or end of the one-year follow-up period. Some respondents ($n = 113$) were sick-listed at baseline, and for those respondents we started counting sickness absence periods after 0 weeks of follow-up. Furthermore, subjects were censored at the time of death ($n = 2$), immigration ($n = 11$) or retirement ($n = 10$).

The analyses were cumulatively adjusted in three steps. In the first step, we adjusted for age, tenure, job function, smoking status, and BMI. In the second step, we additionally adjusted for psychosocial work conditions, and the third step implied a mutual adjustment of all types of acts of offensive behaviour. Data were analysed using SAS 9.1.3 (SAS Institute Inc., Cary, NC, USA).

Results

Of the 9,520 persons who entered the study, 586 (6.2%) were absent for eight or more consecutive weeks in the 1-year follow-up period. Table 1 shows descriptive statistics for study variables.

Table 2 shows hazard ratios (HR) and 95% confidence intervals (95% CI) for the association between experiences of the four different acts of offensive behaviour and risk of long-term sickness absence. According to Model 1, both frequent and occasional experiences of threats, violence, and bullying are significantly associated with risk of long-term sickness absence for eight or more consecutive weeks, when adjusted for age, job function, tenure, BMI, and smoking status. No significant associations were found for experiences of unwanted sexual attention. In Model 2, the analyses are further adjusted for psychosocial work conditions. Although the observed hazard ratios are reduced, the associations between frequent experiences of threats, violence, and bullying remain significantly associated with risk of long-term sickness absence. Accordingly, employees who reported being frequently exposed to threats and violence had an elevated risk of more than 50% of long-term sickness absence compared to non-exposed employees. Employees who frequently experienced bullying had more than twice as high a risk of long-term of sickness absence than non-exposed. In model 3, the associations between each act of offensive behaviour and long-term sickness absence were adjusted for the other acts of offensive behaviour. Only frequent experiences of bullying remained significantly associated with risk of long-term sickness absence for eight or more consecutive weeks, whereas the associations between self-reported threats and violence on the one hand and risk of long-term sickness absence on the other became non-significant.

Discussion

The results showed that frequent experiences of threats, violence, and bullying significantly predicted risk of long-term sickness absence when adjusting for age, job function, tenure, BMI, smoking status, and psychosocial work conditions, whereas no significant associations were observed between perceived unwanted sexual attention and risk of

Table 1 Descriptive statistics for main study variables

Experience of threats (percent)	
Frequently	5.7
Occasionally	27.3
Never	67.0
Experience of violence (percent)	
Frequently	3.3
Occasionally	16.6
Never	80.1
Experience of bullying (percent)	
Frequently	1.9
Occasionally	10.0
Never	88.1
Experience of unwanted sexual attention (percent)	
Frequently	1.0
Occasionally	8.3
Never	90.7
Sickness absent for 8 weeks or more (percent)	6.2
Age (Mean)	45.3 (SD = 9.9)
Engaged in the provision of care services (percent)	83.4
Tenure (years) (Mean)	9.2 (SD = 7.3)
Body mass index (Mean)	24.9 (SD = 4.4)
Regular smoker (percent)	35.7
Emotional demands (Mean)	44.9 (SD = 19.0)
Role conflicts (Mean)	41.3 (SD = 15.8)
Influence at work (Mean)	45.6 (SD = 20.7)
Predictability (Mean)	56.8 (SD = 19.9)
Quality of leadership (Mean)	57.2 (SD = 21.9)

$N = 9{,}520$

long-term sickness absence. The results indicate that the consequences of these four acts of offensive behaviour differ in terms of risk of long-term sickness absence, and the results furthermore indicate that of the four investigated types of offensive behaviour, self-reported bullying constitutes the most severe risk factor for long-term sickness absence.

The present study contributes to the literature by providing longitudinal evidence in support of the associations between exposure to bullying, violence, and threats on the one hand and risk of long-term sickness absence as measured in a national register on social transfer payments on the other. Furthermore, the results of our study indicate that the experience of bullying, violence, and threats in the workplace are phenomena that are associated with great costs at both the individual and societal level. As stated in the introduction, previous studies have shown that bullying (Ortega et al. 2011; Kivimaki et al. 2002), violence (Sharipova et al. 2008; Kivimaki et al. 2002), and sexual harassment/unwanted sexual attention (Einarsen et al. 1993; Barling 1996) are associated with risk of sickness absence. In this study, we were unable to affirm the association between sexual harassment (measured as unwanted sexual attention) and sickness absence. This inconsistency in the findings of this study and previous studies may be explained by the fact that this study, contrary to the studies of Einarsen et al. (1993) and Barling (1996), used long-term sickness absence as an outcome. Furthermore, the studies of Einarsen et al. (1993) and Barling (1996) investigate sexual harassment, and the present study investigates unwanted sexual attention, which implies that the present study in not directly comparable with the two previous studies.

Furthermore, the results indicate that self-reported bullying constitutes the strongest predictor of long-term sickness absence. Previous studies have shown that in the elder-care, the main perpetrators of bullying are colleagues and superiors (Hogh et al. 2011c), whereas care recipients are the main perpetrators of threats, violence (Hogh et al. 2008), and unwanted sexual attention (Giver et al. 2007). Accordingly, when an employee in the elder-care services experiences threats, violence, or unwanted sexual attention, it must be expected that the employee can rely on the social support from colleagues as a coping assistant (Thoits 1986). However, when an employee is exposed to bullying, the social support from superiors and colleagues may not be available, which may have implications for the individual's possibilities of coping with the bullying experience—especially because being bullied may violate a basic need to belong to significant social groups (Williams and Zardo 2005).

As stated earlier, the "Stress-as-Offence-to-Self" perspective states that acts of offensive behaviour would have a negative impact on the self-esteem and self-worth of targets of acts of offensive behaviour (Semmer et al. 2007), which implies that extended exposures to acts of offensive behaviour may increase the risk of long-term sickness absence. The results of this study lend support to this hypothesis, showing that self-reported experiences of threats, violence, and bullying at work predict risk of long-term sickness absence. Furthermore, the results indicated that the risk of long-term sickness absence is higher for frequent experiences to bullying than for frequent experiences of threats and violence. These findings suggest that acts of verbally offensive behaviour from colleagues and/or superiors may be considered more denigrating of the 'selves' of the targets, than exposures to threats or violence from care recipients. This may be so as acts of bullying are usually considered purposeful acts directed towards specific employees from colleagues and/or superiors, whereas acts of threats or violence, although unpleasant, to a lesser extent can be considered purposeful acts directed towards specific employees, as the main perpetrators of these acts in the elder-care often are clients with impaired mental capacities—e.g. persons with dementia.

Table 2 Hazard ratios (HR) and 95% confidence intervals (95% CI) for onset of long-term sickness absence during the 12 months of follow-up for frequent, occasional and never-happening experiences of offensive acts

Acts of offensive behaviour	Model 1		Model 2		Model 3	
	HR	95% CI	HR	95% CI	HR	95% CI
Experience of threats						
Frequently	1.73	1.29–2.34	1.52	1.11–2.07	1.21	0.80–1.82
Occasionally	1.29	1.07–1.55	1.19	0.98–1.44	1.12	0.90–1.39
Never	1	–	1	–	1	–
Experience of violence						
Frequently	1.70	1.17–2.45	1.54	1.06–2.25	1.31	0.82–2.12
Occasionally	1.30	1.05–1.60	1.16	0.94–1.45	1.08	0.84–1.38
Never	1	–	1	–	1	–
Experience of bullying						
Frequently	2.71	1.82–4.04	2.33	1.55–3.51	2.26	1.50–3.42
Occasionally	1.34	1.04–1.73	1.10	0.84–1.44	1.10	0.83–1.44
Never	1	–	1	–	1	–
Experience of unwanted sexual attention						
Frequently	1.58	0.82–3.07	1.46	0.75–2.82	1.30	0.67–2.54
Occasionally	1.14	0.86–1.51	0.99	0.74–1.32	0.94	0.70–1.27
Never	1	–	1	–	1	–

Model 1: Hazard ratios are adjusted for age, job function, tenure, BMI, and smoking status

Model 2: Model 1 plus psychosocial work conditions

Model 3: Model 2 plus mutual adjustment for the other acts of offensive behaviour

Furthermore, the Cognitive Activation Theory (CATS) offers a perspective that may contribute with a further understanding of the harmful effects of exposure to acts of offensive behaviour. According to the CATS, individuals need not only to be in control to avoid job stress, but these individuals also expect that this control will lead to a positive result, for example, to deal with the stresses and strains of job demands without impairing health and well-being in the longer term (Reme et al. 2008; Ursin and Eriksen 2004). Being exposed to acts of offensive behaviour—as for instance bullying (Einarsen et al. 2003)—is by definition associated with loss of control, which again may undermine the ability of the exposed individuals to cope successfully with such exposures, which again is likely to lead to adverse outcomes, as for instance long-term sickness absence.

The findings of this study should be regarded with a high degree of credibility. Firstly, the study is based on a large number of observations. Secondly, we have adjusted the analyses for a series of background factors and psychosocial work conditions that could have proven potential confounders. By taking these factors into account, we were able to demonstrate the robustness of the association between self-reported acts of offensive behaviour and long-term sickness absence. Other potential confounders, such as psychological factors (Hjarsbech et al. 2011), and physical work conditions (Lund et al. 2006), have also been associated with long-term sickness absence. However, as we were mainly interested in investigating whether acts of offensive behaviour predicted risk for long-term sickness absence above and beyond psychosocial work conditions, we decided not to include the aforementioned factors in the analyses. Therefore, the analyses should not be regarded as exhaustive in terms of providing a full examination of predictors of long-term sickness absence. Also, the fact that our predictor variables and outcome variables stemmed from different sources of data serves to underline the credibility of the results as this precludes the risk of observing spurious associations that can be ascribed to common methods biases (Podsakoff et al. 2003).

As the DREAM register contains no diagnostic information on the underlying health reasons that sickness absence is grounded upon, it could be considered a weakness of the study that we are not able to identify more specific types of diagnoses associated with experiences of acts of offensive behaviour. It can also be considered a weakness of the study that some respondents were sick-listed at baseline, as it may be that those respondents may be over-reporting experiences of acts of offensive behaviour, which may lead to an over-estimation of the observed associations. It can be argued, however, that to the extent that acts of offensive behaviour does predict risk for long-term sickness absence, then removing respondents who were absent at baseline would entail an under-estimation of

the observed associations. Furthermore, we only observed minor differences in the experiences of the four acts of offensive behaviour between respondents who were and were not sick-listed at baseline. Finally, the general thrust of the results is largely unchanged when the analyses are conducted on a subsample of employees who were not sick-listed at baseline (results not shown), but by including the respondents who were sick-listed at baseline, we add to the statistical power of the data and to the stability of the results. A final limitation stems from the fact that our assessment of experiences of acts of offensive behaviour is based on self-report measures. Due to the self-reported nature of our predictor variables, it could be argued that the identified associations are spurious and may in effect be confounded by personality traits, such as e.g. neuroticism. However, this issue regarding the predictive validity of self-report data is widely discussed (Persson et al. 2007), and as stated above, we have countered the most obvious pitfalls in the analysis of self-report data through the longitudinal design of this study and the application of survey data coupled with register data.

To sum up, the results indicate that preventing occurrences of acts of offensive behaviour may contribute towards reducing long-term sickness absence among staff in the elder-care sector in Denmark. Therefore, work organizations should be attentive on how to handle and prevent acts of offensive behaviour and support targets of offensive behaviours. Like most other Western countries, Denmark is facing shortages of nursing staff over the coming decades. Reducing the prevalence of long-term sickness absence, therefore, appears as a promising approach towards increasing labour supply within the health care sector, and this approach may simultaneously contribute to increasing work-related well-being for individual employees.

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Conflict of interest The authors declare that they have no conflict of interest.

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