

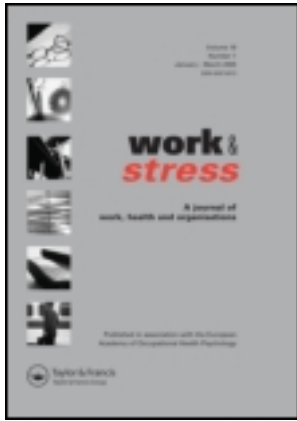
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Violence towards psychiatric staff: a comparison of gender, job and environmental characteristics in England and Sweden

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Keywords: Gender; Violence; Psychiatric nurses; Psychiatrists; Cross-cultural; Work and psychological strain.

Workplace violence is receiving increasing attention world-wide, and studies suggest that, for example, nurses and women may be more abused at work than psychiatrists and men. However, there is a lack of cross-cultural data on the topic. Further, relatively few studies have addressed the influence of environmental factors in the occurrence of violence and within a cross-cultural context. The present study compares among other things the nature of violence encountered by female/male staff (nurses and psychiatrists) in Sweden and England. Psychiatric personnel from England (301 nurses; 74 psychiatrists) and Sweden (745 nurses; 306 psychiatrists) were assessed cross-sectionally by means of a questionnaire covering various areas (e.g. nature of violence). The univariate analyses showed an association between being abused and male gender, young age, being British and a nurse, physical and psychological strain. The multivariate logistic regression confirmed that British nurses and male nurses were the main risk group for exposure to violence. Further, the multivariate analysis indicated that the odds of being abused increased with increasing age, physical strain and dissatisfaction with quality of care. Interventions thus need to be sensitive to gender differences, societal context, professional roles and interactions between them. Further, clinical supervision and team functioning, organizational and environmentally friendly settings may help to reduce violence in mental health care.

1. Introduction

Violence at work, particularly in relation to the gender of those who experience it, is receiving increasing attention (Chappell & Di Martino, 2000). Surveys show that between 2–51% of workers, mostly women, report exposure to some form of non-fatal workplace violence (e.g. verbal assaults) annually, and up to 100% during the course of their working lives. Workplace violence is a significant cause of death in many parts of the world. For example, in the USA homicide is the first cause of death in the workplace for women and the second for men, with 0.07 per 100,000 workers dying each year following assaults while

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working or on duty. In addition to injuries and homicide, violence at the workplace can lead to anxiety, depression, psychosomatic complaints and helplessness (Barling, 1996; Barling & Boswell, 1995; Bureau of Labor Statistics (BLS), 1998; Caldwell, 1992; Flannery, 1996; Graydon, Kasta, & Khan, 1994; International Labor Organisation (ILO), 2003; Chappell & Di Martino, 2000; Jenkins, 1996a, b; Leather *et al.*, 1997; Menckel, 2000; Menckel & Viitasara, 2000; Mezey & Shepherd, 1994; National Institute for Occupational Safety and Health (NIOSH), 1996; Nordin, 2000; Whittington & Wykes, 1989).

Violence occurs in all occupational sectors, but psychiatric care is associated with an increased risk of abuse. Studies show that up to 70% of psychiatric personnel experience some kind of violence at work each year and 42% to 100% during their career (Åkerström, 1993; American Psychiatric Association (APA), 1992; Hurrell, Worthington, & Discoll, 1996; Lanza, 1992, 1996; Love & Hunter, 1996; McKay, 1994; Mellgren, 1994; Menckel, 2000; Nolan, Dallender, Soares, Thomsen, & Arnetz, 1999; Soares, Lawoko, & Nolan, 2000). Mental health care staff, who are frequent victims, tend to develop, for example, psychological problems and are reluctant to be closely involved with patients (Brennan, 1999; Caldwell, 1992; Graydon *et al.*, 1994; Mezey & Shepherd, 1994).

It has been suggested that nurses may be more exposed to violence than other caregivers (Harper-Jacques & Reimer, 1992; Holden, 1985; Liss & McCaskell, 1994; Mahoney, 1991; Poster, 1996; Tan, 1991; Whittington & Wykes, 1994). However, reports show that a significant number of psychiatrists are also frequently exposed to assaults at work (Carmel & Hunter, 1991; Coverdale, Gale, Weeks, & Turbott, 2001; Hatti, Dubin, & Weiss, 1982). Psychiatrists are victims more often than other physicians (Milstein, 1987) and more frequently than most other mental health care personnel (Baxter, Hafner, & Holme, 1992; Bernstein, 1981; Lomax *et al.*, 1989). Some studies have found women to be at higher risk of violence than men in health/psychiatric occupations (Chappell & Di Martino, 2000), although in Sweden men tend to be victims more often than women in spite of the fact that the overwhelming majority of health/psychiatric employees are female (Menckel, 2000).

The reasons for violence in psychiatric settings are contentious. Whereas some reports indicate that it is the conditions from which the patients are suffering (e.g. schizophrenia and manic depression) that are closely linked to violence (Swanson, 1993, 1994), others suggest that violence is more likely to be associated with poorly functioning organizations, overcrowded wards, unsuitable environmental conditions for patients, budget cuts, caregiver inexperience, insufficient knowledge about the patient, poor interpersonal skills and less tolerance of violence (James *et al.*, 1990; Lanza, 1996; Whittington, 1994; Wykes, 1994). However, a recent study (Soares *et al.*, 2000) found that only age, length of working experience, the working environment and the structure of the organization were significant determinants of exposure to violence.

The costs of violence for society, employers and individuals in terms of care, rehabilitation, sick-leave, loss of productivity, control and restitution amount to billions of dollars each year (Arbetsmarknadsstyrelsen, 1998; Bachman, 1994; Jossi, 1999; Kinney, 1995; National Safe Workplace Institute (NSWI), 1992; Toscano & Weber, 1995; Wheeler & Baron, 1994).

This is a situation that clearly deserves further investigation. Data regarding whether nurses or psychiatrists are more frequently exposed to violence are inconsistent, with some studies showing high levels for nurses (Harper-Jacques & Reimer, 1992; Holden, 1985; Liss & McCaskell, 1994; Mahoney, 1991; Poster, 1996; Tan, 1991; Whittington & Wykes, 1994) and others for psychiatrists (Baxter, Hafner, & Holme, 1992; Carmel & Hunter, 1991; Coverdale *et al.*, 2001; Hatti *et al.*, 1982; Lomax *et al.*, 1989). Further work on this

issue may be useful for developing prevention and intervention programmes tailored to meet the needs of mental care professionals.

Whereas it is accepted that violence at work is a major occupational and public health problem (Abbot, Johnson, Koziol-McLain, & Lowenstein, 1995; Flannery, 1996; Koop & Lundberg, 1992; Leather, Lawrence, Beale, Cox, & Dickson, 1998), most reports focus primarily on the individual characteristics of the victims or perpetrators. Little attention has been paid to organizational and environmental factors that may be as important precursors/elicitors of violence as the individual characteristics of staff and patients. It is therefore our intention to examine the ways in which the work environment might contribute to violent incidents and how these differ between the two national samples. Such data may assist in constructing work settings that minimize or eliminate the risk of abuse.

Research is also needed to understand the influence of gender on workers' exposure to violence. Are women more likely to be regarded as victims simply because they are more inclined than men to report incidents? Alternatively, are there gender-based characteristics that are significant? These are especially interesting questions to ask in Sweden where men in health/psychiatric care experience more violence compared to women despite the fact that the staff are predominantly female. Have male psychiatric care workers in Sweden some special characteristics that make them more prone to be abused? Are they more often confronted with situations likely to lead to violence, or is it that women ask men to be present in situations where violence is expected to occur? The authors wished to address some of these questions by analysing the associations between gender, violence and environmental characteristics. Whereas various studies have compared nurses and psychiatrists and considered the gender issue (Nolan *et al.*, 1999; Soares *et al.*, 2000), few have embraced all of these issues in a cross-cultural context.

Our study aimed to examine gender differences in relation to the experience of violence, and compared nurses and psychiatrists in England and Sweden to determine the significance of cultural factors in the occurrence of violence. The influence of environmental, health and organizational factors on the occurrence of violence was also scrutinized.

2. Methods

2.1. Definition of violence

Violence can be defined in various ways. Berkowitz (1989) defines violence as a variety of actions, whereas Buss (1961) argues that the term involves a great number of responses varying in topography, energy expenditure and consequences. The European Commission views work-related violence as 'Incidents where persons are abused, threatened or assaulted in circumstances related to their work, involving an explicit or implicit challenge to their safety, well-being or health' (Wynne, Clarkin, Cox, & Griffiths, 1995, p. 1).

In this study violence was defined as 'threatening or aggressive behaviour (verbal), spitting, scratching or pinching, use of physical force such as punching, slapping and kicking, physical threat involving no actual physical violence and use of an object or weapon against the employee'. Thus, a victim of violence is a psychiatric nurse or a psychiatrist who has been subjected to one, several, or all of these abusive behaviours.

2.2. Setting and participants

This comparative study was conducted in eight health districts of Stockholm County Council and in five Mental Health Trusts in the West Midlands region of England.

Participants in both countries were recruited from general psychiatric clinics. In Sweden, all psychiatric nurses ($n = 1090$) and psychiatrists ($n = 464$) were invited to participate, of which 745 nurses (68%) and 306 psychiatrists (66%) agreed to take part (total response rate of 67%). In England, a random sample of 800 psychiatric staff were also invited to take part in the study, of which 301 nurses (45%) and 74 psychiatrists (60%) agreed to participate (total response rate of 47%).

2.3. Measures

Data were collected by means of a 14-page questionnaire with 135 questions (Arnetz, 1997; Arnetz, Arnetz, & Petterson, 1996). Two versions of the instrument were generated, one in English and the other in Swedish. Pilot studies were conducted in both countries before the commencement of the main study. Minor linguistic changes were made to the instrument following the pilot studies. The questionnaire has been previously validated and reported previously by Arnetz (1997) and Arnetz *et al.* (1996). The questionnaire consisted of the following areas.

1. *Working conditions* (with 7 questions used in the current study, e.g. does your job require too much work of you?, graded 1–4). High scores indicate good working conditions. Cronbach's alpha (α) for the current data was .82.
2. *Physical* (with 5 questions used in the current study, e.g. does your job require the lifting of heavy objects?, graded 1–4) and *psychosocial work environment* (with 8 questions used in the current study, e.g. is your job psychologically taxing?, graded 1–5). High scores indicate increasing physical/psychological strain. Cronbach's α s for the current study were .60 and .86 for physical and psychological strain, respectively.
3. *Quality of care* (with 2 questions used in the current study, e.g. are you satisfied with the quality of care you provide to patients?, graded 1–5). High scores indicate high satisfaction. Cronbach's α for the current data was .63.
4. *Organization* (with 4 questions used in the current study, e.g. are the goals of your organization clearly expressed?, graded 1–4). High scores indicate high satisfaction. Cronbach's α for the current data was .72.
5. *Violence and discrimination* (with 9 questions addressing frequency, nature and extent of violence, e.g. have you been exposed to violence at work?). In the current study, the two questions on occurrence of violence (i.e. the past year and over career) are used as the dependent variables.
6. *Social network and support* (with 8 questions used in the current study, e.g. do you have the support of your colleagues?, graded 1–4). High scores indicate good social network and support. Cronbach's α for the current data was .79.
7. *Changes and future* (with 2 questions used in the current study, e.g. have you seriously considered quitting your present job?, graded 1–4). High scores indicate pessimism about the future. Cronbach's α for the current data was .60.
8. *Health condition* (with 10 questions used in the current study, e.g. how often do you experience headaches?, graded 1–5). High scores indicate poor health. Cronbach's α for the current data was .87.
9. *Lifestyle* (with 2 questions used in the current study, e.g. how much alcohol do you drink per week on average?). High scores indicate bad lifestyle.

10. *Coping with 'too much work'* (with 10 statements used in the current study, e.g. accept it as unavoidable). High scores indicate better coping. Cronbach's α for the current data was .80.

Information on background characteristics (i.e. 16 items) was also collected. In addition, the participants completed The Rosenberg Self-Esteem Scale (Rosenberg, 1965), which contains 10 items assessing the participants' feelings of self-confidence and intrinsic value. Cronbach's α for the current sample was .81.

2.4. Procedure

The questionnaires were posted to all participants, accompanied by a covering letter explaining what was expected of them and guaranteeing confidentiality. In Sweden, the nurses/psychiatrists also received a letter from the Head of their respective unions explaining the study and encouraging them to participate. In the West Midlands, a letter in support of the study from each participant's Human Resources Manager accompanied the questionnaires. Three reminders, sent out at 2-weekly intervals 3 weeks after sending the questionnaire encouraged participants who had not replied to do so. Ethical Committee approval was sought and obtained in both countries.

2.5. Design

A cross-section of nurses and psychiatrists in Sweden and England employed in mental health settings responded to detailed questionnaires, sent to them via their workplace addresses.

2.6. Statistical analyses

SPSS for windows (version 10.0) software package was used to input and analyse the data. Chi-square tests (χ^2), *t*-tests and multivariate stepwise logistic regression were used to statistically scrutinize the data. Significance was assumed at $p < .05$. Single data was lost for some variables, as indicated by the degrees of freedom and *n* values.

3. Results

3.1. Demographics

Victims and non-victims of violence were compared by gender, profession, age, marital status, ethnicity and work experience. Interactions between gender/country, profession/country and gender/profession were also examined.

3.1.1. *Characteristics of victims of violence:* As shown in Table 1, more males than females reported being abused during their career ($\chi^2 (1) = 4.7, p < .05$). Younger participants (< 50 years) tended to report more assaults than older ones (50+ years) during both career ($\chi^2 (4) = 25, p < .001$) and the past year ($\chi^2 (4) = 46, p < .001$). More British than Swedish participants had been assaulted both during their career ($\chi^2 (1) = 20.6, p < .001$) and the past year ($\chi^2 (1) = 5.1, p < .05$). Moreover, nurses had been more exposed to violence than psychiatrists during their career ($\chi^2 (1) = 3.9, p < .05$) and the past year ($\chi^2 (1) = 13.9, p < .001$). Finally, exposure to violence during a career increased with more work experience ($\chi^2 (3) = 23, p < .001$). However, the reverse was found for exposure to

Table 1. Demographic characteristics of victims of violence.

Variables	Victims of violence career (<i>N</i> = 1053)*		Victims of violence past year (<i>N</i> = 840)†	
	<i>n</i>	%	<i>n</i>	%
Gender (<i>N</i>)	(1049)		(837)	
Male	324	78	248	64
Female	725	73	589	65
Age (<i>N</i>)	(1049)		(810)	
< 30 years	82	79	82	87
30–39 years	328	81	244	72
40–49 years	377	74	282	60
50–59 years	235	68	186	59
60+ years	27	57	16	42
Country (<i>N</i>)	(1053)		(839)	
England	311	83	249	70
Sweden	742	71	590	63
Profession (<i>N</i>)	(1053)		(840)	
Psychiatrist	267	70	189	56
Nurse	786	76	651	68
Working years (<i>N</i>)	(1045)		(836)	
< 1 year	19	45	24	75
1–5 years	156	70	152	75
6–10 years	201	77	172	73
> 10 years	669	76	488	59
Ethnicity (<i>N</i>)	(1038)		(826)	
Caucasian	875	75	685	64
Asian	91	75	77	69
Chinese	23	72	23	77
Black Caribbean	20	80	17	77
Black African	12	57	9	50
Other	17	74	15	71
Marital status (<i>N</i>)	(1049)		(837)	
Married/Cohabiting	764	75	603	65
Unmarried/Separated	285	72	234	65

*Total number violated several times/often during career.

†Total number violated once or more in the past year.

violence during the past year, i.e. it increased with less work experience ($\chi^2(3) = 31$, $p < .001$).

3.1.2. *Country, gender, violence and perpetrator*: As shown in Table 2, more British males ($\chi^2(3) = 25$, $p < .001$) and females ($\chi^2(3) = 39$, $p < .001$) reported being assaulted during their career than their Swedish counterparts.

3.1.3. *Country, profession, violence and perpetrator*: As shown in Table 3, British nurses reported more abuse both during their career ($\chi^2(3) = 24.4$, $p < .001$) and the past year ($\chi^2(3) = 18.9$, $p < .001$) than psychiatrist colleagues. In Sweden, a difference was only observed between nurses and psychiatrists with regard to their career, with nurses being more exposed to violence ($\chi^2(3) = 11.7$, $p < .01$). Further, British nurses had been assaulted more often than their Swedish colleagues both during their career ($\chi^2(3) = 62$, $p < .001$) and the past year ($\chi^2(3) = 10$, $p < .05$). Similarly, British psychiatrists had been abused more often than Swedish psychiatrists, but only during their career ($\chi^2(3) = 11.6$, $p < .01$). Finally, more British psychiatrists than British nurses had been abused by the

Table 2. Country, gender and violence.

Variables	England				Sweden			
	Male (N = 150)		Female (N = 225)		Male (N = 265)		Female (N = 786)	
	n	%	n	%	n	%	n	%
Exposed to violence during career (N)	(150)		(222)		(263)		(775)	
No	7	5	14	6	34	13	123	16
Once	18	12	24	11	31	12	111	14
Several times	85	57	135	61	172	65	473	61
Often	40	26	49	22	26	10	68	9
Exposure to violence past year (N)	(147)		(210)		(239)		(695)	
No	48	33	61	29	90	38	255	37
Once	29	20	48	23	52	22	156	22
Several times	56	38	86	41	84	35	242	35
Often	14	9	15	7	13	5	42	6
Perpetrator (N)*	(103)		(148)		(149)		(440)	
Patient	97	94	144	97	148	99	423	96
Relative	22	21	27	18	22	19	52	12
Personnel	7	7	10	7	6	7	22	5
Other	2	2	6	4	1	1	4	1

*Percentages add up to more than 100% as individuals may be subject to more than one perpetrator category.

patient's relatives ($\chi^2(1) = 4.1, p < .05$), and British nurses tended to report more assaults by patients' relatives than their Swedish counterparts ($\chi^2(1) = 7, p < .005$).

3.1.4. *Gender, profession, violence and perpetrator*: As shown in Table 4, male nurses had been exposed to violence more than male psychiatrists during their career ($\chi^2(3) = 45, p < .001$) and the past year ($\chi^2(3) = 32, p < .001$). Further, more female than male psychiatrists

Table 3. Country, profession and violence.

Variables	England				Sweden			
	Psychiatrists (N = 74)		Nurses (N = 301)		Psychiatrists (N = 306)		Nurses (N = 745)	
	n	%	n	%	n	%	n	%
Exposed to violence during career (N)	(74)		(300)		(304)		(738)	
No	5	6	16	6	42	14	116	16
Once	19	26	23	7	45	15	97	13
Several times	42	57	178	60	203	66	445	60
Often	8	11	83	27	14	5	80	11
Exposure to violence latest year (N)	(70)		(289)		(265)		(672)	
No	33	47	76	27	113	42	234	35
Once	19	27	58	20	60	23	148	21
Several times	16	23	126	43	82	31	245	37
Often	2	3	29	10	10	4	45	7
Perpetrator (N)*	(26)		(224)		(154)		(436)	
Patient	25	96	215	96	149	97	442	97
Relative	9	35	40	18	31	20	46	11
Personnel	2	8	15	7	7	4	21	5
Other	0	0	8	4	5	3	5	4

*Percentages add up to more than 100% as individuals may be subject to more than one perpetrator category.

Table 4. Gender, profession and violence.

Variables	Male				Female			
	Psychiatrists (N = 182)		Nurses (N = 232)		Psychiatrists (N = 196)		Nurses (N = 801)	
	n	%	n	%	n	%	n	%
Exposed to violence during career (N)	(182)		(232)		(196)		(801)	
No	20	11	21	9	27	14	110	14
Once	33	18	16	7	31	16	104	13
Several times	123	68	135	58	122	62	486	60
Often	6	3	60	26	16	8	101	13
Exposure to violence latest year (N)	(116)		(220)		(169)		(736)	
No	83	50	55	25	63	37	253	34
Once	28	17	53	24	51	30	153	21
Several times	52	31	88	40	46	27	282	38
Often	3	2	24	11	9	6	48	7
Perpetrator (N)*	(80)		(171)		(100)		(488)	
Patient	78	97	166	97	97	97	470	96
Relative	23	29	23	13	17	17	63	13
Personnel	3	4	9	5	6	6	27	5
Other	0	0	3	2	0	0	10	2

*Percentages add up to more than 100% as individuals may be subject to more than one perpetrator category.

reported exposure to violence in the past year ($\chi^2(3) = 13, p < .005$). A greater percentage of male than female nurses had been abused in the past year ($\chi^2(3) = 10, p < .05$). Finally, more male psychiatrists than male nurses had been assaulted by the patient's relatives ($\chi^2(3) = 61, p < .001$).

3.2. Working/health situation of victims/non-victims of violence

Country, professional and gender differences in reported working conditions and health situation were analysed for/between victims/non-victims of violence.

3.2.1. *Country, working/health situation and violence:* As shown in Table 5, British victims perceived their working conditions to be more problematic ($t(371) = -2.6, p < .01$), but had less difficulty in coping with too much work ($t(371) = 2.35, p < .05$) than non-victims. Further, victims experienced more physical ($t(367) = -1.99, p < .05$) and psychological problems than non-victims ($t(368) = -2, p < .05$). Similar results were obtained for Swedish victims compared to non-victims. That is, they perceived their working conditions ($t(1033) = -4.68, p < .001$) and psychological health as being poorer ($t(1033) = -2.51, p < .05$). Non-victims considered that the quality of care offered to patients was better ($t(1035) = 3.03, p < .005$) than did victims.

In addition, British non-victims ($t(355) = 3.23, p < .001$) and victims of violence ($t(1037) = 7.1, p < .001$) reported a greater satisfaction with the organization than their Swedish counterparts. Finally, the British victims differed from Swedish in their experiences of working conditions ($t(1051) = -4.28, p < .001$), coping with too much work ($t(999) = 6.57, p < .001$), and physical ($t(1027) = -5.32, p < .001$) and psychological health ($t(1044) = -3.37, p < .001$). That is, British victims reported worse working conditions than their Swedish counterparts, but were better able to cope with too much

Table 5. Working environment/health status among victims of violence (means and standard errors) by country, gender and profession.

Variables Mean (SE)	Country		Gender		Profession	
	England (N = 311)	Sweden (N = 742)	Male (N = 324)	Female (N = 725)	Psychiatrists (N = 267)	Nurses (N = 786)
Working conditions (1–5)	2.3 (0.03)	2.5 (0.02)	2.4 (0.03)	2.5 (0.02)	2.2 (0.04)	2.5 (0.02)
Physical working environment (1–4)	2.1 (0.03)	2.1 (0.02)	2.0 (0.03)	2.1 (0.02)	1.9 (0.03)	2.1 (0.02)
Psychological working environment (1–5)	3.0 (0.03)	2.9 (0.02)	2.9 (0.02)	3.0 (0.02)	3.1 (0.03)	2.9 (0.02)
Organisational enhancement (1–4)	3.1 (0.06)	2.6 (0.06)	2.8 (0.06)	2.6 (0.04)	2.8 (0.08)	2.7 (0.04)
Coping with too much work (1–4)	2.8 (0.02)	2.6 (0.01)	2.6 (0.01)	2.7 (0.01)	2.5 (0.02)	2.7 (0.01)
Social support (1–5)	3.6 (0.04)	3.7 (0.02)	3.6 (0.04)	3.6 (0.03)	3.5 (0.05)	3.7 (0.06)
Physical health (1–4)	2.0 (0.04)	1.7 (0.02)	1.7 (0.04)	1.9 (0.03)	1.6 (0.03)	1.9 (0.02)
Psychological health (1–5)	2.6 (0.04)	2.5 (0.02)	2.5 (0.02)	2.5 (0.02)	2.5 (0.04)	2.5 (0.02)
Quality of care (1–5)	3.3 (0.04)	3.3 (0.03)	3.3 (0.03)	3.3 (0.02)	3.3 (0.03)	3.3 (0.02)

work. They also reported having more physical and psychological problems than the Swedes.

3.2.2. *Gender, working/health situation and violence:* As shown in Table 6, male victims experienced their working conditions as worse ($t(412) = -3.10, p < .005$), and had more physical ($t(408) = -2.60, p < .01$) and psychological problems ($t(411) = -2.14, p < .05$) than non-victims. Further, they considered that the quality of care provided to patients was lower than the non-victims ($t(410) = -3.15, p < .005$). Female victims perceived their physical ($t(987) = -4.5, p < .001$) and psychological work environment as worse ($t(990) = -2.03, p < .05$), and had more psychological health problems than non-victims ($t(412) = -3.10, p < .01$). Female victims considered that their working environment was worse ($t(412) = -3.10, p < .01$), but coped with too much work better ($t(412) = 3.10, p < .01$) than males. Female victims also reported more physical health problems ($t(412) = -3.10, p < .01$) and less satisfaction with the organization than male victims ($t(412) = -3.10, p < .01$).

In addition, non-victim females reported better working conditions ($t(360) = 2.53, p < .05$), but worse physical work environment ($t(359) = -2.19, p < .05$) and less satisfaction with the organization than males ($t(354) = -2.21, p < .05$). Non-victim females had a poorer physical health situation ($t(354) = -3.26, p < .001$) than males and considered that the quality of care provided to patients was lower ($t(359) = -2.22, p < .05$).

3.2.3. *Profession, working/health situation and violence:* As shown in Table 7, psychiatrists who were victims of violence had more psychological problems ($t(374) = -2.9, p < .01$) and a worse working environment than the non-victims ($t(374) = -2.9, p < .01$).

Table 6. Gender, working conditions/health status among victims of violence (means and standard errors).

Variables: Mean (SE)	Male (N = 324)	Female (N = 725)
Working conditions (1–5)	2.4 (0.03)	2.5 (0.02)
Physical working environment (1–4)	2.0 (0.03)	2.1 (0.02)
Psychological working environment (1–5)	2.9 (0.02)	3.0 (0.02)
Organisational enhancement (1–4)	2.8 (0.06)	2.6 (0.04)
Coping with too much work (1–4)	2.6 (0.01)	2.7 (0.01)
Social support (1–5)	3.6 (0.04)	3.6 (0.03)
Physical health (1–4)	1.7 (0.04)	1.9 (0.03)
Psychological health (1–5)	2.5 (0.02)	2.5 (0.02)
Quality of care (1–5)	3.3 (0.03)	3.3 (0.02)

A similar trend was observed for victim vs. non-victim nurses concerning working environment ($t(1030) = -4.04, p < .001$). However, victim nurses coped better with too much work than the non-victims ($t(980) = -2.02, p < .05$). Further, assaulted nurses reported more psychological problems ($t(1027) = -2.35, p < .05$) and considered that the quality of care provided to patients was lower than did non-assaulted nurses ($t(1032) = -2.59, p < .01$).

In addition, non-victim nurses, compared to non-victim psychiatrists, reported better working conditions ($t(361) = 2.32, p < .05$), but worse physical environment ($t(360) = -2.78, p < .01$) and poorer physical health ($t(355) = -3.16, p < .005$). Assaulted nurses reported better working conditions ($t(1051) = 5.16, p < .001$) compared

Table 7. Profession, working environment/health and violence (means and standard errors).

Variables Mean (SE)	Victims		Non-victims	
	Psychiatrist (N = 267)	Nurse (N = 786)	Psychiatrist (N = 114)	Nurse (N = 248)
Working conditions (1–5)	2.2 (0.04)	2.5 (0.02)	2.4 (0.06)	2.5 (0.03)
Physical working environment (1–4)	1.9 (0.03)	2.1 (0.02)	1.8 (0.05)	1.9 (0.03)
Psychological working environment (1–5)	3.1 (0.03)	2.9 (0.02)	3.0 (0.05)	2.9 (0.05)
Organisational enhancement (1–4)	2.8 (0.08)	2.7 (0.04)	2.8 (0.10)	2.6 (0.07)
Coping with too much work (1–4)	2.5 (0.02)	2.7 (0.01)	2.6 (0.02)	2.6 (0.02)
Social support (1–5)	3.5 (0.05)	3.7 (0.06)	3.7 (0.07)	3.8 (0.04)
Physical health (1–4)	1.6 (0.03)	1.9 (0.02)	1.5 (0.07)	1.8 (0.05)
Psychological health (1–5)	2.5 (0.04)	2.5 (0.02)	2.3 (0.06)	2.4 (0.04)
Quality of care (1–5)	3.3 (0.03)	3.3 (0.02)	3.5 (0.05)	3.5 (0.03)

to psychiatrists and coped better with too much work ($t(999) = 6.35, p < .001$). However, they experienced their physical ($t(1044) = -4.05, p < .001$) and psychological work environments as worse ($t(1047) = -3.5, p < .001$), and had poorer physical health ($t(1027) = -4.5, p < .001$). Finally, victim nurses reported greater social support than victim psychiatrists ($t(1044) = 3.2, p < .005$).

3.3. Determinants of exposure to violence

Logistic regression analyses, using the stepwise application, were run to assess the role of country, gender and profession in explaining exposure to violence. Other potentially confounding variables (e.g. work environment) were controlled for in the model. Thus, apart from country, gender and profession, other explanatory variables included in the model were interactions between gender/profession, country/profession, and working experience, age, work environment and health variables. The rationale for including these variables in the model was that they were found to discriminate between victims and non-victims of violence in univariate analyses. Only variables that proved significant in the regression analyses are presented hereafter.

3.3.1. *Determinants of exposure to violence during career:* As shown in Table 8, the interaction country/profession, age, work experience, physical working environment and views on quality of care were significant determinants of violence during careers. British nurses were at 2.5, 2 and 1.4 times, respectively, higher risk of being assaulted than British psychiatrists, and Swedish nurses and psychiatrists. Further, as indicated by the odds ratios, the risk of being abused decreased with increasing age and satisfaction with quality of care, and augmented with increasing working experience and physical strain.

Table 8. Determinants of exposure to violence during career.

Variables	Odds Ratio (OR)	df	<i>p</i>
Profession × Country*		3	< .005
Swedish psychiatrists	0.7		
Swedish nurses	0.5		
English psychiatrists	0.4		
English nurses [†]			
Age*		4	< .001
< 30 years	4.9		
30–39 years	3.7		
40–49 years	2.2		
50–59 years	1.7		
60+ years [†]			
Working experience*		3	< .001
< 1 year	0.2		
1–5 years	0.5		
6–10 years	0.8		
> 10 years [†]			
Physical working environment [‡]	1.8		< .001
Quality of care [‡]	0.7		< .05

*Category variables.

[†]The comparison category.

[‡]Continuous variables.

3.3.2. *Determinants of exposure to violence during the past year:* As shown in Table 9, the interaction gender/profession, age, work experience and physical working were significant determinants of violence during the past year. Male nurses were at 1.7 times higher risk of being abused than female nurses. The risk of being abused for female nurses was twice as high as that for male psychiatrists. Further, as indicated by the odds ratios, the risk of being abused augmented with increasing age and physical strain, and decreased with increasing working experience.

4. Discussion

This study confirms the work of Brennan (1999), Caldwell (1992), Graydon *et al.* (1994), Lanza (1992), Mezey & Shepherd (1994) and Wykes & Whittington (1991) who conclude that exposure to violence in mental health care is high and possibly increasing. Our study also showed that nurses were more exposed to violence than psychiatrists, confirming the findings of other workers that nurses are more exposed than other caregivers (Harper-Jacques & Reimer, 1992; Holden, 1985; Liss & McCaskell, 1994; Mahoney, 1991; Poster, 1996; Tan, 1991). Although nurses are more exposed than psychiatrists, our study also suggests that the frequency of violence against psychiatrists may be high as has also been suggested by other authors (Baxter *et al.*, 1992; Bernstein, 1981; Carmel & Hunter, 1991; Coverdale *et al.*, 2001; Hatti *et al.*, 1982; Levy & Hartocollis, 1976; Lomax *et al.*, 1989; Madden, Lion, & Penna, 1976; Ruben, Wolkin, & Yamamoto, 1980). As nurses are often at the forefront of service provision, they are the members of staff most available for patients and carers to attack either verbally or physically. Psychiatrists, in their turn, become the victims of violence when they are seen as having the power to make decisions and solve problems and therefore being responsible for inadequate or poorly delivered services. Furthermore, the high frequency of violence in psychiatric settings may be explained on the basis that mental health care staff deal with seriously ill people with complex problems. As

Table 9. Determinants of exposure to violence in the past year.

Variables	Odds Ratio (OR)	df	<i>p</i>
Profession × Gender*		3	< 0.001
Male psychiatrists	0.5		
Male nurses	1.7		
Female psychiatrists	1		
Female nurses [†]			
Age*		4	< 0.005
< 30 years	5.9		
30–39 years	2.4		
40–49 years	1.6		
50–59 years	1.7		
60+ years [†]			
Working experience*		3	< 0.01
< 1 year	1.2		
1–5 years	1.8		
6–10 years	1.6		
> 10 years [†]			
Physical working environment [‡]	1.9		< 0.001

*Category variables.

[†]The comparison category.

[‡]Continuous variables.

the incidence of mental health problems rises all over the Western world, pressure is being placed on services that may not be able to meet the demand, giving rise to frustration and aggression on the part of patients and clients. People receiving mental health services may be subject to stigmatization, which undermines their already fragile self-esteem, resulting in an aggressive attitude towards those who represent the stigmatizing service.

The study does not support the findings of Chappell & Di Martino (2000), that female mental health workers are at higher risk of violence than their male counterparts. On the contrary, the multivariate analysis suggests that male nurses may be at higher risk of being assaulted than other personnel. As discussed previously, nurses are often at the forefront of service provision and are the staff most available for patients and carers to attack either verbally or physically. Second, it is plausible that males are often approached to attend situations in which violence is likely to occur. This may explain why male nurses are more often subjected to violence than other personnel. Clearly, intervention/prevention measures need to review the gender and profession issue. It is likely that men and women, psychiatrists and nurses may require different interventions related to their specific problems.

Both English nurses and psychiatrists reported higher levels of exposure to violence than their Swedish colleagues. English nurses may be more at risk of violence than their Swedish counterparts because psychiatric services are more extensive in the UK. In the psychiatric clinics, staff are often physically isolated, without a support network, and therefore vulnerable, whereas in Swedish hospitals, mental health staff tend to work in teams and are therefore better protected against violence. Second, a larger proportion of the population in England belongs to ethnic minority groups who may find it hard to access services, especially if they speak little English. Levels of frustration in members of such groups can therefore be high. In Sweden, where there are fewer ethnic groups, such difficulties may not be as acute. Finally, our study suggested that British victims of violence were more likely to report unfavourable working conditions and physical and psychological ill-health than their Swedish counterparts. This may be an indication that working conditions in a psychiatric setting in general may be less favourable in England as compared to Sweden, and this may be a potential elicitor of violence.

We found that over a working career, those who had been working in a psychiatric setting longer reported a higher total number of incidents of abuse. This would be expected, since those who have worked longer have had more time to be exposed to violence. Looking at the occurrence of violence over the past year, however, victims of violence in both countries tended to be under the age of 50 years. This confirms some findings (Whittington, 1994) indicating that younger personnel may be more often subjected to abusive behaviour from patients. It seems likely that the more experience one has the greater the ability to cope with or learn how to avoid violent situations. This indicates that younger personnel should undergo staff supervision given by more experienced members of staff. Furthermore, structured support needs to be provided to the younger and seemingly more vulnerable personnel when they are abused because the occurrence of violence can have a very demoralizing effect, especially on inexperienced personnel. High expectations of being able to provide good service within mental health care are crushed and may lead to diminished feelings of coherence and loss of self-esteem. The burden on professional carers can become intolerable as they are left to cope unsupported. This undermines the ability to provide quality care to patients on the one hand, and frustration on the part of carers on the other, thus increasing the risk for an act of aggression, impulsive or planned. Training and structured support, especially to younger victims, may help as an intervention/prevention measure.

Unfavourable working environment has been suggested as a risk factor for violence (Baron & Richardson, 1994; Huesmann, 1994; Lanza, 1996; Soares *et al.*, 2000; Toscano & Weber, 1995). Physical working conditions in particular have, in the current study, been identified as a crucial determinant of the occurrence of violence. In many cases mental health personnel are obliged to lift, hold or have some kind of physical contact with patients. This on its own may lead to some friction between carer and patient. Moreover, other conditions that affect the physical work environment such as poor lighting, poor ventilation, etc., may act as contextual stressors increasing the probability of being abused. It seems logical therefore that providing a favourable working environment may be a major step in reducing the frequency of violence. Furthermore, specific routines regarding, for example, how to handle patients may be important preventive measures.

It would appear from the univariate analysis that those who are the victims of violence at work experience more psychological problems than those who are not. The correlation between violence and psychological problems has previously been identified by Barling (1996), Jenkins (1996a, b), Mezey & Shepherd (1994), and Nordin (2000). However, the multivariate analysis could not firmly ascertain this correlation. This finding may suggest that the occurrence of violence may lead to psychological problems and not that those with psychological problems are more vulnerable to acts of violence. However, as we did not focus on the causes of psychological problems among victims of violence in this study, we are unable to elucidate this question further. Similarly, the univariate analysis also suggests that carers who coped with too much work and who were less satisfied with the organization, were more frequently victims of violence than those who did not. As this association could not be confirmed in a multivariate analysis, it seems likely that the direction of causality may be reversed, i.e. the occurrence of violence may lead to victims struggling to cope with its consequences unsupported and thereby perceive their organization as being non-supportive. Further research on the consequences of violence on organizations and working environment is warranted.

Although the current study provides new insights on violence towards mental health professional carers, its weaknesses need to be addressed. As this is a cross-sectional study, it is not possible to draw firm conclusions regarding causal links. Second, generalization may be difficult as both the English and Swedish data were collected in urban areas. Third, all inferences have been built upon subjective reporting from nurses and psychiatrists. It would have been better to support this information using an objective assessment as well. Fourth, the sample size in the West Midlands was small and the total response rate was relatively low. The English results may not reflect the situation in the rest of England. Selection bias cannot, therefore, be ruled out. However, the response rate from psychiatrists was fairly high and in a previous study (Arnetz, 1996), it was found that a low response rate seem not to produce selection bias relevant to the outcome measures used in the present study. Despite these weaknesses, the study confirms much of the findings in other studies as well as providing new insights worth consideration when designing intervention and prevention measures.

5. Conclusions

Violence in general psychiatric clinics may be due to overcrowding, the severity of the conditions from which patients are suffering, inadequate numbers of trained staff, a lack of community services to which to refer patients, professional roles in relation to gender and working environment problems.

Even more alarming is the possibility that many of those assaulted at work may either lose the motivation to work with, or feel unable to relate to, clients in the way they had previously done (Brennan, 1999; Caldwell, 1992; Graydon *et al.*, 1994; Lanza, 1992; Mezey & Shepherd, 1994; Wykes & Whittington, 1991). This, coupled with the unprecedented changes that are currently taking place within the mental health services, such as the increased prevalence of mental health problems in the western world that is not being matched by increase in personnel, or further development of already existing personnel, may have more unfavourable effects on the morale of the workforce than has been appreciated to date.

The differences found between Swedish and English personnel in the prevalence of violence may be a result of differences in their working conditions. As shown in the results, British victims perceived their working conditions to be more problematic than their Swedish counterparts. As suggested in the discussion, Swedish personnel tend to work more in teams whereas their English counterparts work more in isolation. Perhaps working in teams provides some protection against violence. Teamwork may also act as a buffer against physical strain, an important determinant of violence as our study shows. Further research is needed to enhance understanding of the context of mental health care and of the effects of therapeutic environments on the behaviour and morale of staff and clients. As yet, too little is known about the precipitants of violence in mental health care, although this study points to some important risk factors, such as physical strain, increasing age and dissatisfaction with care. The study also implies relationships between management, clinical supervision, education, training, team functioning, and the frequency and nature of violent incidents.

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