Factors Associated with Workplace Violence in Paramedics

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SAAS = South Australian Ambulance Service
RAV = Rural Ambulance Victoria

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Abstract

Introduction: The majority of research that has explored workplace violence has focused on establishing the prevalence of violence in different settings. In general, there is a paucity of research that explores factors that may predict or increase the risk of experiencing violence in the workplace.

Objective: The aim of this research was to determine predictors of violence for paramedics.

Methods: A questionnaire was developed that focused on paramedics' experiences with six forms of violence: verbal abuse, property damage/theft, intimidation, physical abuse, sexual harassment, and sexual assault. The questionnaire was distributed randomly to paramedics throughout rural Victoria and metropolitan South Australia, and completed and returned anonymously.

Results: Predictors emerged for verbal abuse, intimidation, sexual harassment, and sexual abuse. Specifically, gender was the only predictor of intimidation, sexual harassment, and sexual assault. Paramedic qualifications, how they responded to a call-out, and hours per week in direct patient contact emerged as a predictor of verbal abuse.

Conclusions: Certain factors predict or predispose paramedics to workplace violence. The need for workplace violence education and training is imperative for the prevention of violence, as well as for its management.

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Introduction

It is generally accepted that workplace violence occurs commonly in certain healthcare professions such as nursing,[1] general practice,[1,2–5] social work,[6–13] and prehospital setting.[14–19] Definitions of workplace violence have varied, but for the health sector, can be defined as, "Incidents where staff are abused, threatened, or assaulted in circumstances related to their work, including commuting to and from work, involving an explicit or implicit challenge to their safety, well-being or health".[20] As such, workplace violence is violence *associated* with work and can occur outside of the usual work environment and usual work hours.

Workplace violence in the prehospital setting is an area that warrants particular attention because of the constantly changing work environment. According to Grange and Corbett,[16] prehospital care providers may share a vulnerability to workplace violence because of their close initial contact with patients, often during crisis situations, without the security and support systems that exist in other workplaces. Under these circumstances, they are exposed to unpredictable and difficult circumstances in which they may be victims of violent attacks.

In her study of prehospital providers, Pozzi[18] reported that verbal abuse was the most common form of violence, and that 90% of participants had experienced abuse, assault, or a violent act directed towards them at some stage during their careers. Similarly, Suserud *et al* reported that 80.3% of paramedics surveyed in Sweden had been subjected to threats and/or violence, and

Form of Violence	Definition
Verbal abuse	A patient/client, their friend/s, family member/s, other professional/s, or work colleague/s using offensive language, yelling, or screaming with the intent of offending or frightening you. It can include threats or abuse over the phone, but excludes sexual harassment and sexual assault.
Property damage or theft	A patient/client, their friend/s, family member/s, other professional/s, or work colleague/s, causing damage to, or stealing property belonging to you, your family, or your workplace. It includes damage to or theft of a vehicle, personal effects, home contents, office equipment, and supplies, or office furnishings. *Attempted* theft of the above items is also included.
Intimidation	A patient/client, their friend/s, family member/s, other professional/s, or work colleague/s purposely threatening, following you, using gestures to purposely offend or frighten you.
Physical abuse	A patient/client, their friend/s, family member/s, other professional/s, or work colleague/s physically attacking you, or *attempting* to attack you. It includes behaviors such as punching, slapping, kicking, or using a weapon or other object with the intent of causing bodily harm.
Sexual harassment	Any form of sexual propositioning or unwelcome sexual attention from a patient/client, their friend/s, family member/s, other professional/s, or work colleague/s. It includes behaviors such as humiliating or offensive jokes and remarks with sexual overtones, suggestive looks or physical gestures, inappropriate gifts or requests for inappropriate physical examinations, pressure for dates, and brushing, touching, or grabbing *excluding* sexual touching (e.g., the genital or breast area).
Sexual assault	Any forced sexual act, rape, or indecent assault perpetrated by a patient/client, their friend/s, family member/s, other professional/s, or work colleague/s. It includes brushing, touching or grabbing of the genitals or breast. It also includes *attempted* sexual assault.

Table 1—Definitions of each form of violence

that the most common form of threat and/or violence was verbal threats, followed by physical violence and weapon-based threats.[19] Research in Australia has shown that 87.5% of paramedics have experienced violence within the previous year.[14] This is significantly higher than the 61% reported by Corbett *et al* for firefighters, paramedics, and emergency medical technicians,[15] and the 4.5% reported by Grange and Corbett for paramedics and firefighters.[16] These differences may be due, in part, to methodological differences. For example, Corbett *et al* did not disclose how assault was defined, and it may be that their definition did not include verbal abuse and/or threats,[16] thereby leading to a lower prevalence than what was reported by Pozzi.[18] Grange and Corbett,[16] on the other hand, included verbal abuse, physical abuse, and verbal and physical abuse combined in their study, but utilized a different data collection strategy that may have under-estimated the true prevalence of violence. Specifically, they asked prehospital personnel to complete a data sheet at the conclusion of each patient contact listing details of the encounter (e.g., presence of different forms of violence, the psychiatric state of the patient).[16] This may have been perceived as an onerous task for participants making them less inclined to report an incident. In addition, research in other areas has found that only a small percentage of violence is reported and that, in general, violence is under-reported.[11] As such, the prevalence reported by Grange and Corbett also is likely to be an underestimate.[16]

Although some research into workplace violence in the paramedic setting has been conducted, it has focused on determining the prevalence of violence. To date, there is a paucity of research that has explored factors that may increase the risk of exposure to violence, or factors that may predict violence. Understanding the factors that predict, or predispose paramedics to workplace violence may improve our understanding of workplace violence. This paper reports on previously unpublished data collected as part of a larger study exploring violence in paramedics. The present paper focuses on predictors of violence in paramedics, specifically, whether age, gender, average hours/week in practice, average hours/week in direct patient contact, average years in occupation, qualifications (fully qualified/student), practice location (metropolitan or rural), and how paramedics responded to a call (single responder/two person crew) predicted workplace violence.

	Paramedic Sample	Paramedic Victorian Statistics*
Male	74%	80%[21]
Female	25%	20%[21]
Average age (years)	40.6 ±9.1	40[21]
Average hours/week in practice	44.9 ±10.4	Not available
Average hours in direct patient contact	66.0 ±26.2	Not available
Average years in occupation	39.0 ±14.2	15.5[21]
Practice Location		
Metropolitan	47%	57%[21]
Rural	50%	43%[21]

Table 2—Characteristics of participants in the current research compared with national/state statistics (mean values ±1 standard deviation)
*Demographic data not available at the national level

Methods

A questionnaire was developed to explore six forms of violence: (1) verbal abuse; (2) property damage or theft; (3) intimidation; (4) physical abuse; (5) sexual harassment; and (6) sexual assault. The questionnaire was distributed to 430 metropolitan paramedics in South Australia and 500 rural paramedics in Victoria by the South Australian Ambulance Service (SAAS) and Rural Ambulance Victoria (RAV), respectively. Paramedics completed and returned the questionnaire anonymously. No follow-up letter was sent to the paramedics to encourage them to complete the questionnaire. The definitions of each form of violence are presented in Table 1.

Ethics approval for this research was granted by the Monash University Standing Committee for Ethics in Research on Humans.

Data were processed using SPSS Version 14.0 (2006, SPSS Inc, Chicago, IL). Discriminant function analysis was used to determine which variables could best predict group membership (i.e., paramedics who had experienced each form of violence against paramedics who had not experienced violence).

Results

For RAV, 152 questionnaires were returned, four of which were returned due to a change of address, and hence, were excluded. (Response rate was 29.6%.) For SAAS, 108 questionnaries were returned with one excluded due to a change of address. (Response rate was 25.1%.) The overall response rate was 28%.

In total, 74.5% (n = 188) of paramedics were male, 24.3% (n = 62) were female, and 1.2% (n = 3) did not specify their gender. The majority of paramedics (78%) responded to a call as a two-person crew, and 10% responded to a call as a single responder. Additional participant characteristics and comparisons with State data are in Table 2.

Correlations between variables of interest for paramedics: age, gender, average hours/week in practice, average hours/week in direct patient contact, average years in occupation, qualifications (fully qualified/student), practice location (metropolitan or rural), and how paramedics respond to a call (single responder/two or more person crew) are in Table 3.

There were several moderate correlations, and a strong correlation between age and years in occupation. The strong correlation between age and years in occupation suggests that there is significant overlap between these two variables. Based on these correlations, age was dropped from multivariate analyses. As such, the variables examined for multivariate analyses were gender, hours/week in practice, hours/week in direct patient contact, years in occupation, highest qualification, practice location, and how paramedics responded to a call.

Two cases were identified as multivariate outliers with $p < 0.001$ and were deleted. Evaluation of assumptions of linearity, normality, multicolinearity or singularity, and homogeneity of covariance revealed no threat to multivariate analyses. A stepwise discriminant function analysis was conducted for each form of violence.

Predictors emerged for four forms of violence: verbal abuse, intimidation, sexual harassment, and sexual assault. None of the variables, either alone or in combination with other variables, contributed to discrimination between paramedics who had experienced property damage or theft, and physical abuse from those who had not experienced these forms of violence.

For verbal abuse, how paramedics responded to a call, qualifications, and hours/week in direct patient contact loaded on a function that significantly discriminated between the two groups [Wilks' Lambda ($df = 3$) = 0.89, $p = 0.0005$]. Paramedics who had experienced verbal abuse had more direct patient contact/week (mean = 26.6 ±12.70 hours) than did paramedics who had not experienced verbal abuse (mean = 21.5 ±11.85 hours), were more likely to respond to a call as a two person crew, and more likely be fully qualified paramedics. The function correctly classified 77% of verbal abuse cases overall; the prediction of experience of verbal abuse was considerably more accurate (84% correct classification) than for prediction of lack of exposure to verbal abuse (43% correct classification).

A function also was generated that significantly discriminated between the groups on intimidation [Wilks' lambda ($df = 1$) = 0.97, $p = 0.036$]. The gender variable loaded significantly on the function. Paramedics who had been intimidated were more likely to be female. The function correctly classified 51% of the cases, with poor correct classification of paramedics who had experienced intimidation (56%), but good classification of paramedics who had not experienced intimidation (82%).

For sexual harassment, gender best discriminated between the two groups [Wilks' lambda ($df = 1$) = 0.87, $p = 0.0005$]. Paramedics who had experienced sexual harassment were more likely to be female. Overall, correct classification was high (77%) as was correct classification of lack of exposure to sexual

	Age	Average hrs/wk practice	Average hrs/wk direct patient contact	Years in occupation	Practice location	Gender	Respond to call	Highest quals
Age	--	--	--	--	--	--	--	--
Average hrs/wk practice	0.23	--	--	--	--	--	--	--
Average hrs/wk direct patient contact	-0.16	0.05	--	--	--	--	--	--
Years in occupation	0.80	0.21	-0.13	--	--	--	--	--
Practice location	0.33	0.26	-0.36	0.25	--	--	--	--
Gender	-0.40	-0.13	0.28	-0.37	-0.24	--	--	--
Respond to call	-0.32	-0.39	0.15	-0.35	-0.26	0.14	--	--
Highest quals	-0.22	-0.09	0.08	-0.31	0.11	0.14	0.13	--

Table 3—Correlations between variables of interest for paramedics

harassment (82%). However, correct classification of paramedics exposed to sexual harassment was not as accurate (56%).

In terms of sexual assault, gender discriminated between the two groups [Wilks' Lamda ($df = 1$) = 0.93, $p = 0.0005$]. Female paramedics were more likely to experience sexual assault. Overall classification of sexual assault cases was relatively high (77%) as was correct classification of paramedics who had experienced sexual assault (70%), and correct classification of paramedics who had not experienced sexual assault (77%).

Discussion

Unlike previous research, the present study explored factors that predicted violence toward paramedics. Predictors emerged for four of the six forms of violence examined: verbal abuse, intimidation, sexual harassment, and sexual assault. Gender emerged as a common predictor of the latter three forms of violence, such that female paramedics were more likely than male paramedics to experience these forms of violence. To date, researchers have reported conflicting results regarding the association between gender and workplace violence. Some researchers[22] have reported that females are more likely to experience some forms of workplace violence than males, whereas others have reported the opposite effect.[23] Some researchers have suggested that women may be more likely to experience workplace violence because they are more likely to work in professions where violence is most prevalent, such as nursing and teaching. Some researchers, however, have argued that men are more at risk because of the nature of their involvement with patients,[23] in particular, men may be more involved in containing patients' aggressive outbursts than women,[23] or more likely to experience violence because they may be more willing to work with patients who are known to be violent.[10] The results of the present study do not support the argument that women may be more likely to experience workplace violence because they work in professions where violence is most prevalent, because the paramedic field is largely dominated by males and was reflected in the gender distribution in the current study. The results lend support to previous research that has found an association between gender and violence. It is possible that women are seen as easy targets for workplace violence; this requires further exploration.

The only other variables that emerged as predictors of violence for paramedics were qualifications, how paramedics responded to a call, and hours in direct patient contact/week (for verbal abuse only). Paramedics who spent more time in direct patient contact/week were more likely to experience violence; this may be because the longer they spend in direct patient contact, the greater the probability of them encountering a patient who is violent. This is consistent with previous research showing that occupational violence is common in occupations involving substantial face-to-face communication with patients.[24]

Also, fully qualified paramedics were more likely to experience violence than student paramedics. On the surface, this is surprising because one might expect that the more qualified a paramedic, the less likely they would be to

experience violence because presumably they would have more experience in managing people and defusing volatile situations. However, the student or novice paramedic is expected to learn on the job, and so it is not unreasonable to surmise that the qualified paramedic may be inclined to intervene or mediate during an incident that appears to be threatening. This would diminish the likelihood of students experiencing occupational violence.

The graduate programs conducted by ambulance services must include a component on the management of workplace violence. Training for paramedics should include identification of early warning signs of violent behavior, and how to defuse potentially violent situations. Their training also should include a component about the effects of violence, self-care strategies, benefits of social support networks (including management support), and the importance of debriefing or counseling following a violent incident. Appropriate training is imperative, particularly because of the effects it can have on healthcare workers.

Exposure to workplace violence has been associated with low mental energy and work efficiency, decreased participation in work processes and decision-making, and higher ratings for stress, as well as lower patient quality of care (according to healthcare staff ratings).[25] Unfortunately, due to lack of time, the education of students about workplace violence is not covered in the Monash University paramedic curriculum. Paramedics' responses to one-off continuing education programs in Victoria that have focused on aggression management have been overwhelmingly positive, perhaps indicating an unmet need.

Responding to a call as a two or single person crew only predicted verbal abuse; it did not weigh into the other forms of violence; therefore, the idea of safety in numbers may not necessarily be the case for paramedics.

This research has limitations, namely the low response rate. Despite this, the paramedic sample was representative of paramedics in Victoria. Although the paramedics who participated in the study are likely to be similar to the general population of paramedics in Victoria, it also is likely that they had a greater than average interest in workplace violence (potential for volunteer bias). Second, using a single method of measurement (i.e., self reports over a 12-month period), without corroboration from other external sources of information, such as observer-ratings, may have limited the validity of the findings.

Conclusions

This research revealed that certain factors predict or predispose paramedics to workplace violence. The need for workplace violence education and training is imperative for the prevention of violence, as well as its management.

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