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Assaults on Staff by Psychiatric In-patients
A Critical Review

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Recent surveys indicate that the frequency of assaults on psychiatric staff by in-patients has increased substantially over the past decade. With patient assaultiveness becoming of greater concern, the need to predict, anticipate, and avoid confrontations with potentially assaultive patients has grown. Regrettably, the vast majority of studies examining the nature, correlates, and predictors of in-patient assaultiveness suffer from methodological problems that limit the validity of their findings.

Mental health professionals have become increasingly concerned in recent years about the risk of being severely injured while working with psychiatric in-patients (Tardiff, 1984), and have attempted to predict patient assaultiveness in response to this concern. This paper is concerned exclusively with assaultive acts committed by psychiatric patients during hospital stay, and with the patient characteristics and contextual factors associated with such assaults. Unless otherwise specified, 'assaults' refer to all violent, personal attacks, either physical or verbal (e.g. biting, kicking, punching, threatening to do bodily harm). This review does not examine the literature on 'dangerousness', which deals primarily with persons identified as criminals and which typically does not distinguish between individuals who have an accompanying psychiatric disorder and those who do not; nor does it address the literature on criminal acts committed by persons with mental disorders (which, in all cases, refers to criminal activity *outside* a hospital setting).

Assaults by psychiatric patients on staff are so common that they are often considered an occupational hazard (Soloff, 1983; Tardiff, 1984; Subcommittee on the Handicapped, 1985). Ruben *et al* (1980) found that 50% of the psychiatric residents at an in-patient facility had been physically assaulted at least once during the residency. A five-year (1980–1984) review of assaults in a state psychiatric hospital revealed that an average of 3–4 physical assaults were committed each day, despite a 33% decrease in the hospital census since 1980 (Snyder, personal communication). The high number of assaults may be a contributing factor to the oft-cited 'burn-out' of mental health professionals in in-patient settings.

Researchers relying only on formal incident reports as indicators of assaultiveness very likely underestimate the actual incidence of assaults. Indeed, after comparing the number of formal incident reports of assaults on staff with the assaults on staff noted in the daily ward reports at a state psychiatric hospital, Lion *et al* (1981) concluded that five times as many assaults occurred as were formally reported. A number of investigators (Lion *et al*, 1981; Conn & Lion, 1983; Snyder, personal communication) have offered explanations for the extreme under-reporting of incidents: (a) the frequency of minor assaults is so high that staff become inured to them and, therefore, do not report all incidents; (b) staff consider it too troublesome to fill out reports, especially when they see no change forthcoming as a result of reporting; and (c) staff fear accusations of negligence and inadequate performance when assaults occur. Infantino & Musingo (1985) and Wenk *et al* (1972) have noted, however, that the reliable and accurate reporting of assaults increases as the severity of injury increases, with almost all injuries requiring medical attention reported.

Considerable evidence has been marshalled (e.g. Adler *et al*, 1983; Snyder, personal communication) to indicate that assaults on staff have increased substantially over the past ten years. The increased risk of assault has been attributed to a variety of factors: (a) understaffed wards; (b) deinstitutionalisation, which has led to the discharge of more manageable patients; (c) an increasing number of readmissions and involuntary admissions; (d) patients' right to refuse medication, often leading to an increase in patient–staff confrontations; (e) diverse mixtures of patients (in terms of psychopathology) on each ward; and (f) patients being younger and more difficult to manage than in past years (Whitman *et al*, 1976; New York

State Commission on Quality of Care for the Mentally Disabled, 1982; Adler *et al*, 1983; Penna, 1983; Subcommittee on the Handicapped, 1985).

Although assaults on staff have apparently increased in recent years, a number of recent studies (Tardiff & Sweillam, 1979, 1982; Fottrell, 1980; Tardiff, 1981; Ionno, 1983; Snyder, personal communication) indicate that the vast majority of psychiatric patients are not assaultive. There appears to be a small core of patients, typically 7–10% of the total population, who display assaultive behaviour that is dangerous enough either to be worthy of mention in nursing reports, or to cause an injury and therefore require the completion of an injury report.

Empirical findings

Given the high (and increasing) rate of assaults on staff by patients, it would be most beneficial if psychiatric staff were able to predict, anticipate, and possibly avoid confrontations with potentially assaultive patients. A substantial number of empirical investigations have been conducted to assess the associations among patient characteristics, contextual variables (e.g. time of day, type of ward), and assaultiveness (Shader *et al*, 1977; Tardiff & Sweillam, 1979, 1982; Fottrell, 1980; Lion *et al*, 1981; Tardiff, 1981; Ionno, 1983; Werner *et al*, 1983*a*,*b*; Yesavage, 1983, 1984; Hodgkinson *et al*, 1985; Pfeffer *et al*, 1985; Snyder, personal communication; Tanke & Yesavage, 1985; Pearson *et al*, 1986). Regrettably, the studies by Hodgkinson *et al* (1985), Snyder (personal communication) and Lion *et al* (1981) are the only ones that address patient assaults directed specifically at staff members. Each of the other studies either (a) fails to specify who the target of assault was; (b) includes all assaults directed toward others (i.e. staff, as well as visitors and/or other patients); or (c) includes all assaults (i.e. self, other, and/or property-directed).

Thus, in all but the Hodgkinson *et al*, Snyder, and Lion *et al* studies, it is unclear what percentage of the assaults were actually directed toward staff members. It is quite conceivable that the equivocal and contradictory results found throughout this literature are due, at least in part, to differences among studies in the percentage of assaults directed toward particular victims (i.e. self, staff, visitors, or other patients). While certain patient characteristics or contextual variables may be associated with assaults against staff, other characteristics and variables may predict assaults on fellow patients, while still others may be associated with self-directed assaultiveness. By failing to specify who the targets were, or by lumping together assaults with very different victims, these investigators have diminished the usefulness of their findings.

The validity of these studies' results is further limited by other methodological shortcomings. For example, operational definitions of 'assaultive behaviour' are often either vague or absent (e.g. Tardiff & Sweillam, 1979, 1982; Yesavage, 1983). Although some studies distinguish between physical and verbal assaultiveness (e.g. Tanke & Yesavage, 1985), others either do not distinguish between them in their inferential statistical analyses or do not address the issue at all (e.g. Tardiff & Sweillam, 1979; Pfeffer *et al*, 1985). In addition, many of these studies (e.g. Shader *et al* 1977; Fottrell, 1980) rely on incident reports of assaultiveness, which, as noted earlier, tend to underestimate the incidence of assaultive behaviour. Thus, the authors of these studies are likely drawing conclusions from incomplete data.

Although many of these studies are methodologically flawed, their results are summarised below so as to highlight areas of agreement and disagreement, as well as to call attention to interesting findings which beckon for replication.

Child in-patients

Pfeffer *et al* (1985) examined correlates of assaultiveness in a child psychiatric in-patient sample of 81 boys and 25 girls, aged 6–12. Boys were found to be more assaultive than girls, and assaultiveness was significantly related to a diagnosis of conduct disorder. Variables correlating most highly with reported assaultiveness were recent and past aggression (correlating positively); the use of sublimation as a defence, as measured by an 'Ego Defense Scale' (correlating negatively); and scores on a 'General Psychopathology Scale' (correlating positively). The import of these findings is limited by the authors' failure to distinguish between physical and verbal assaults; lack of specification as to whether any of the assaults occurred prior to hospital admission; use of inadequately described psychological tests of questionable validity; and reliance on self-reports (of uncertain reliability) of assaultive behaviour.

Adult in-patients

Patient characteristics

Age. Although Tanke & Yesavage (1985) found no relationship between age and assaultive behaviour, most researchers concur that assaultive patients tend to be relatively young, usually under age 40 (e.g. Shader *et al*, 1977; Fottrell, 1980). It may be that older persons lack the strength required for certain physical assaults, or may be more fearful of retribution and subsequent injury than younger persons. Socialisation influences, as well as biochemical and hormonal changes associated with ageing, may also serve to reduce assaultiveness in older patients.

Race. Few of the studies on patient assaultiveness investigated the variable of race. Of the two that did, one found no racial differences (Tanke & Yesavage, 1985), while the other reported that most assaultive patients were white (Tardiff & Sweillam, 1979). Unfortunately, in the latter study, no data are provided regarding the racial composition of the total sample. Thus, it may have been the case that most non-assaultive patients in the sample were also white! Clearly, the relationship between race and patient assaultiveness is still very uncertain and requires further study.

Gender. While Fottrell (1980) found that females predominated in his physically assaultive patient group,

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Tardiff (1981) and Tardiff & Sweillam (1982) reported no gender differences between their assaultive and non-assaultive patients. Tardiff & Sweillam (1979) noted that 65% of their assaultive sample was male; however, when stratified by age, they found that the majority of assaultive patients under 25 years old were female, that the majority of those between 25 and 64 were male, and that there were no gender differences for the assaultive patients over 65. As suggested by Feshbach (1970), as females get older, aggression is more likely to be inhibited and to become a source of conflict. While early aggression in females is subsequently inhibited during the socialisation process, in males such behaviour is often regarded as sex-appropriate and is, therefore, sanctioned. This may account, in part, for the predominance of males among the assaulters in Tardiff & Sweillam's 25–64 age group. The findings of Tardiff & Sweillam (1979) suggest that the relationship between gender and assaultiveness is complex, with moderator variables such as age likely playing an important role.

Diagnosis. Lion *et al* (1981) found 66% of their assaultive patients to be 'acutely psychotic' or 'manic'; Ionno (1983) reported that the majority of his physically assaultive subjects were 'character disordered'; whereas Fottrell (1980), Hodgkinson *et al* (1985), Pearson *et al* (1986), and Tardiff & Sweillam (1979) noted that the majority of their assaultive patients were schizophrenic. When stratified by age, Tardiff & Sweillam (1979) found different diagnoses predominant in each group: non-paranoid schizophrenia and personality disorders in the under-25 group; paranoid schizophrenia and alcoholism in the 25–64 group; and organic brain syndrome unrelated to alcohol or drug use in the over-65 group. A major problem with most of the above-cited studies is that the primary diagnoses of the *non-assaultive* patients in each sample were not assessed or reported. Discovering that most of the assaultive patients in a particular sample are diagnosed schizophrenic is of very little value if most of the *non-assaultive* patients in that sample are also diagnosed schizophrenic. Indeed, Tanke & Yesavage (1985) found no differences in diagnoses between assaultive and non-assaultive patients in their sample of male in-patients; caution must be exercised in interpreting their results, however, since only 25 assaultive patients were compared with 253 non-assaultive ones.

Context of assaults

There is considerable agreement that wards with less 'stable' patients (e.g. admissions and locked wards) are most often the site of violence (Fottrell, 1980; Lion *et al*, 1981; Hodgkinson *et al*, 1985; Snyder, personal communication). Ionno (1983) found that physical assaults were most common on visiting days, and suggested that the increased activity level associated with these days may lead to increased assaultiveness. An alternative explanation is that preparing for a visitor, or the visit itself, can provoke anxiety, anger, or other strong emotions in the patient, which may in turn foster assaultiveness. Both Lion *et al* (1981) and Snyder (personal communication) noted that of all patient assaults on staff, the largest percentage is seclusion or restraint-related. This implies that the patients are already combative (or, at least, have begun to lose control), and staff become injured when trying to control them and calm them down.

As for the time of day when most assaults occur, there are conflicting data. Fottrell (1980) and Hodgkinson *et al* (1985) found that for their samples, physical assaults occurred in the mornings, when there were fewer structured activities. Likewise, Edwards & Reid (1983), in their literature review of violence in American and European psychiatric facilities, noted a pattern of increased violence paired with decreased structure. In contrast, Ionno (1983) found that increased demands and structure following periods of relative inactivity were associated with physically assaultive behaviour. It may be the case that both lack of structure and increased demands following inactivity are aversive states that enhance the likelihood of assaultiveness.

Nature of assaults and injuries

Nursing staff are consistently found to bear the brunt of in-patient assaults (Fottrell *et al*, 1978; Fottrell, 1980; Snyder, personal communication). This is probably due to the fact that nursing staff spend the greatest amount of time interacting with patients, and are required to set and enforce limits, which may lead to a greater number of encounters that could become assaultive.

As for the severity of injuries sustained through patient assaults, the consensus is that the majority of injuries are minor and that severe injury is relatively rare (Fottrell *et al*, 1978; Fottrell, 1980; Ionno, 1983; Snyder, personal communication; Pearson *et al*, 1986). It is likely that, when a patient becomes assaultive, the sheer number of staff members who respond to the emergency helps to decrease the risk of serious injury to any one person.

Fottrell *et al* (1978) assessed the incidence of verbal versus physical assaults, and found that the majority of assaults (61%) were verbal. Werner *et al* 1983*b*), however, found a correlation of 0.38 between hostile verbalisations and physically assaultive behaviour, indicating that patients who are verbally abusive are moderately likely to be physically assaultive as well. It must be borne in mind that neither of these studies addressed assaults directed against staff alone. The percentage of assaults which are verbal might differ if the target is a staff member as opposed to another patient; similarly, the correlation between verbal hostility and physical assaultiveness might differ substantially from 0.38 if the target of assault were restricted only to staff members. Future studies should examine whether the findings of Fottrell *et al* and Werner *et al* are replicated when the target of assault is empirically controlled.

Actuarial prediction of assaultive behaviour

In an effort to avoid some of the flaws of past research, Monahan (1984) advocated the development and use of actuarial techniques to assist in making clinical judgments. As noted by Holt (1971), an actuarial prediction system is one that uses objective data (e.g. demographic information, test scores) to predict a clear-cut criterion with the assistance of data-analytic techniques such as multiple regression.

Monahan suggested including situational variables and varied populations in the prediction equations.

Werner *et al* (1983*a*) asked 15 psychiatrists and 15 psychologists to predict which of 40 male in-patients at a veterans hospital were likely to commit physical assaults within one week of admission. Data consisted of scores on 18 variables from the Brief Psychiatric Rating Scale (BPRS; Hedlund & Vieweg, 1980) and the knowledge of whether a physical attack on another person had led to each patient's present admission to hospital. While the judges agreed among themselves as to which patients would be violent and what the critical predictor variables were (i.e. hostility, suspiciousness, and excitement), empirical correlations of violence with the variables indicated that the judges' predictions were rarely accurate. Instead, significant correlations were found between patient assaults and the presence of hallucinatory behaviour, an absence of motor retardation, and an absence of emotional withdrawal. The authors concluded that the prediction of imminent violence using only clinical judgments is as inaccurate as the prediction of long-term dangerousness is known to be.

Werner *et al* (1983*b*) sought to predict physical assaultiveness using but one predictor variable, a verbal hostility measure. This method, they found, led to a false positive rate of 68%. Relying on a single predictor is clearly problematic; so, too, is relying on strictly descriptive statistics or on zero-order correlational analyses (involving assaultiveness and other variables) to generate predictors. For example, finding significant correlations among assaultiveness and variables A, B, and C would be of little predictive value if variables A–C are all highly intercorrelated. A far better tool for making actuarial predictions is multiple regression. Through multiple regression techniques, a prediction equation can be obtained that indicates how scores on the independent (predictor) variables can be weighted and summed to yield the best possible prediction of physical (or verbal) assaultiveness. Furthermore, such techniques allow one to examine the impact of particular variables while controlling for variation in other, related variables (i.e. 'partial coefficients').

Multiple regression techniques were employed to determine the best predictors of dangerous behaviour by in-patients with bipolar illness (Yesavage, 1983) and with schizophrenia (Yesavage, 1984). A step-wise regression analysis revealed that (a) the nature of childhood discipline, (b) being in a manic state, (c) the degree of psychosis, and (d) the violence of the act leading to hospital admission accounted, together, for 63% of the variance in bipolar patients' physical assaults (Yesavage, 1983). Interestingly, the best predictors of *verbal* assaultiveness – manic state and violence of the act preceding admission – accounted, together, for only 26% of its variance. Yesavage's (1983) study demonstrates the importance of analysing physical and verbal assaultiveness separately; combining the two would have yielded a regression equation that would have blurred these important distinctions. On the basis of these findings, Yesavage concluded that bipolar patients in a manic state are likely to commit assaults, and that these assaults are related more to their psychosis than to hostility.

In his study with schizophrenic patients, Yesavage (1984) found that low serum levels of the neuroleptic thiothixene, high scores on the BPRS schizophrenia factor, and a high incidence of violence prior to admission were the best predictors of physical assaultiveness; together they accounted for 49% of its variance. The large amount of variance accounted for by neuroleptic levels led Yesavage to conclude that schizophrenic patients improperly medicated are likely to become violent due to lack of control of their symptoms. It is noteworthy that these three predictors, together with the factor of Vietnam combat experience, accounted for 49% of the variance in verbal assaultiveness. Thus, while the predictability of physical assaults was considerably greater than that of verbal assaults for bipolar patients (Yesavage, 1983), this was not the case for schizophrenic patients (Yesavage, 1984). Whether this is a function of differences in psychopathology between the patients in the two studies, or of differences between the studies in the types of predictor variables employed, or a function of both, would be an interesting area for further inquiry.

Recommendations

The ability to identify potentially assaultive patients and to predict when an assault is likely to occur would be extremely helpful to mental health professionals. Unfortunately, factors such as (a) underreporting of assaults, (b) incomplete and inconsistent operational definitions of both assaultiveness and its predictor (or associated) variables, and (c) lack of distinctions between major and minor assaults, verbal and physical assaults, and (most importantly) different victims of assaultive behaviour yield conflicting results that render the reader unable to compile a clear picture of a potentially assaultive psychiatric in-patient. These factors must be addressed before any further work in this area proves useful. Furthermore, when examining single or multiple correlations, it is critical that the variance of each variable in a sample adequately reflects the variance not only in the population, but also in other samples to which generalisation is to be made. Many of the conflicting findings of prior studies may be attributable, in part, to differing variances in the samples of the variable(s) under investigation. Future researchers should, therefore, assess and report the sample variances of the factors they are studying so that when comparisons are made between studies, the contribution of differing sample variances can be determined.

One focus of future research should be on the development of a psychological (as opposed to strictly demographic) profile of psychiatric patients most likely to be assaultive. Some variables that might be considered in developing such a profile are personality factors (e.g. level of anger, paranoia, anxiety), type and severity of familial violence and childhood discipline, intellectual ability, and history

of assaultive behaviour. In a study tangential to this literature (but with important implications), Rossi *et al* (1986) examined psychiatric patients who committed violent acts within two days *prior* to hospital admission. Investigating both demographic and illness-related variables, they concluded that demographics may be less useful in understanding and predicting violence than variables related to the severity of pathology (e.g. diagnosis and number of previous admissions). Rossi *et al* suggested that future research should focus more on clinical characteristics of patients rather than demographics when trying to predict violent behaviour. It should be noted, however, that investigators attempting to develop such a psychological profile will encounter a severe base-rate problem. Since it is estimated that 90–93% of psychiatric patients are not assaultive, and since even the most assaultive patients are non-assaultive the vast majority of the time, attempts to identify patients most likely to be assaultive and to predict when assaults will occur face serious difficulties.

It might be useful to psychiatric facilities if a psychological profile of the assault *victim* could be developed. Demographic and personality variables could be entered into multiple regression analyses to determine whether certain types of person are more likely to be assaulted. This could have a bearing on the placement of persons in one job (or on one ward) versus another, and on the type of training in assault prevention that staff members receive.

The psychological significance of staff, as opposed to others, being the victims of assault has not been studied empirically. Prior research has focused on *who* is likely to assault under *what* circumstances, but has not examined adequately *why* staff, in particular, are assaulted. Are the determinants of assaults different when staff (as compared with other patients) are victimised? What types of feelings (e.g. guilt, fear, power) are evoked in the patient after assaulting a staff member, as opposed to other targets? The psychological meaning and ramifications of the assault for the aggressor has received far too little attention and bears further investigation.

The under-reporting of patient assaults in psychiatric facilities is an issue that reflects institutional policies, management problems, ward politics, and staff tolerance. Most incidents of assaultive behaviour are minor, requiring little or no medical attention (Fottrell, 1980; Snyder, personal communication). Although a profile of patient characteristics leading to minor assaultiveness might be helpful and should be developed, psychiatric staff are often inured to this type of assault (Lion *et al*, 1981). Reporting patterns of minor assaults have been unreliable and may contain sample bias. Since most major or severe assaults on staff are reliably reported (Wenk *et al*, 1972; Infantino & Musingo, 1985) and are of primary concern to psychiatric staff (given their severity and the likelihood of requiring medical attention and days lost from work), it would seem more pressing and important to discover patient, staff, and situational variables associated with severe assaults. Given that these data are more reliable than data on minor incidents, and thus less likely to be subject to sample bias and faulty reporting, perhaps a more reliable and valid profile of the severely assaultive patient could be found than a similar profile of all assaultive patients.

Valid prediction equations could be of great value in preventing future assaults. Such equations would be more useful if the information involved were concrete and readily available (e.g. in patients' admission information and charts). The inclusion of data from lengthy tests and interviews not only ties up staff time in gathering these data, but also causes delays in the prediction itself. This could be dangerous if the patient were truly assaultive, and the delays allowed staff to discover this only *after* the patient had already assaulted and possibly injured someone. Quick and accurate prediction would enable staff to use preventive techniques and strategies that should make their facilities safer for themselves and for their patients.

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