Gender and perceptions of dangerousness in civil psychiatric patients

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Purpose. The purpose of this study was to investigate the relationship between gender and clinicians' judgments of dangerousness in civil psychiatric facilities.

Methods. Eighty-one clinicians working in acute, chronic or crisis settings rated violence risk of actual patients, rendering a total of 648 judgments of dangerousness.

Results. Statistical analyses revealed the expected higher ratings of dangerousness for male compared to female patients, but also showed a significant interaction between clinician's gender and patient's gender on judgments of dangerousness.

Conclusions. One of the most interesting findings in this study was that female clinicians perceived a greater gender gap in violence potential among psychiatric patients than did male clinicians. In fact, male clinicians perceived male and female patients to show approximately the same risk of violent behaviour. The results raise important questions for future risk assessment research and for clinical decision-making in the context of civil commitment.

Mental health professionals working with psychiatric populations assess patients' risk of violent behaviour every day (Douglas, Cox, & Webster, 1999; Grisso & Tomkins, 1996). There is concern, however, that too often clinicians assess violence risk inaccurately (e.g. Monahan, 1981). To improve accuracy of these assessments, scientific research has sought to establish empirically validated correlates of violent behaviour (Monahan & Steadman, 1994). It has been recognized for decades that men are more violent than women, and empirical research has consistently shown a strong relationship between gender and violence (Monahan, 1981). Most studies show that men are significantly more likely than women to report engaging in violent behaviour (Eagly & Steffen, 1986). A number of biological (Hamburg & Trudeau, 1981) and sociological (Cicone & Ruble, 1978) bases for a gender gap in violence have been hypothesized and, in general, scientific literature converges on the conclusion that men show greater violence potential than women.

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It is less clear, however, whether men are more prone to violence than women in psychiatric populations. Several studies have confirmed that male psychiatric patients are indeed more violent than female patients (Depp, 1976; Pearson, Wilmot, & Padi, 1986; Rossi *et al.*, 1986). Yet a number of researchers have found that female patients are more violent than male patients on psychiatric wards (Fottrell, 1980; Mitchell & Murphy, 1975). For example, Binder and McNeil (1990) reported base rates of aggression on an acute psychiatric emergency room to be greater for female than male patients. Interestingly, findings also indicated that before hospitalization, men engaged in significantly more physical attacks and fear-inducing behaviour than did women, but that during hospitalization, women engaged in proportionately more physical attacks. Other research has reported similar rates of violence among male and female patients on in-patient psychiatric settings (Blomhoff, Seim, & Friis, 1990; Karson & Bigelow, 1987; Miller, Zadolinnyj, & Hafner, 1993; Palmstierna & Wistedt, 1989; see generally Monahan & Steadman, 1994). Tardiff and Sweillam (1982) determined that in several psychiatric hospitals, women were as likely as men to have been physically aggressive to staff and patients. In a study conducted in the psychiatric emergency room, similar rates of community violence were recorded for male and female patients (Newhill, Mulvey, & Lidz, 1995). Hence, findings suggest that female violent behaviour may be more prevalent among individuals with mental illness than previously believed. Individuals with chronic mental illness may therefore be an exception to the usual gender gap in violence (Stueve & Link, 1998).

This exception may have an important impact on violence risk assessment of psychiatric patients. A number of studies have shown that clinicians were not very accurate in predicting violence in psychiatric populations (Quinsey, Harris, Rice, & Cormier, 1998; Werner, Rose, & Yeasavage, 1983), but in the past decade research has indicated that clinical judgments are better than originally thought (Borum, 1996; Otto, 1992). For instance, Lidz, Mulvey, and Gardner (1993) found patients in a psychiatric emergency room who were judged by clinicians as low risk showed fewer violent incidents in the community, while patients who were judged as high risk showed more violent incidents. McNeil and Binder (1991) found the same pattern for risk assessments conducted on an acute in-patient psychiatric unit.

When they have examined the relationship between accuracy and gender, researchers have demonstrated that clinicians appear to be better at predicting male violence than female violence in psychiatric settings. Lidz *et al.* (1993) found that while psychiatric emergency room clinicians could predict male violence in the community at a greater than chance rate of accuracy, the accuracy of predicting community violence for female patients was not significantly different than chance. Similarly, McNeil and Binder (1995) found that clinicians tended to underestimate violence for women on an acute psychiatric unit, in this case with respect to in-patient violent behaviour. Rather than aiding risk assessment in psychiatric populations, gender may possibly contribute to inaccuracy in risk assessment.

Not only does the *outcome* of violence risk assessment seem to be influenced by the patient's gender, but the *process* of such assessment has also shown to be influenced by the patient's gender. Coontz, Lidz, and Mulvey (1994) examined transcripts of psychiatric emergency room assessments and found that male cases

involved significantly greater discussion about violence than female cases. In fact, clinicians inquired into violent behaviour and history twice as often for male than for female patients. The authors explain that this disparity could influence the accuracy of risk predictions. If clinicians behave similarly when assessing violence in psychiatric populations, this could explain why clinicians may have been under-predicting female violence. Binder and McNeil (1990) argue that there could be serious treatment implications if in-patient clinicians pay more attention to male than to female patients' potential for violence, specifically with respect to prescribing medication and placing patients in physical restraints. Additionally, if staff pay less attention to female patients, they may be giving more opportunity for female patients' behaviour to escalate and become violent on in-patient settings.

In general, research on violence risk assessment has not focused on how the risk evaluation procedure occurs and what factors may influence this procedure in actual clinical practice (Elbogen, in press; Grisso, 1996; Mulvey & Lidz, 1995). Besides the study by Coontz *et al.* (1994), little is known about the influence of gender on violence risk assessment. Many questions remain. Do clinicians working with psychiatric populations generally perceive male patients to be more violent than female patients? What types of factors might be driving these perceptions, leading clinicians to investigate violence more often for male psychiatric patients? Do clinicians employ different decision-making models for assessing male vs. female violence in psychiatric settings?

The purpose of this study was to address these questions and examine how gender affects the process of dangerousness assessment in civil psychiatric facilities. Given that past research revealed a tendency for clinicians to under-predict female violence, our first hypothesis was that clinicians would judge female patients to be less violent than male patients in three psychiatric settings. Secondly, we expected that the clinicians' gender would not distinguish risk assessments. Although clinician variables have been shown to influence clinical decision-making in some contexts (Garb, 1998), Coontz *et al.* (1994) did not find that clinicians' gender significantly influenced judgments of dangerousness. In other words, male and female clinicians were both more likely to bring up issues of violent behaviour with male patients relative to female patients. Our third hypothesis was that clinicians would arrive at dangerousness judgments differently, based on the patient's gender. Research suggests that people think differently about male and female violence and that men are generally believed to be more aggressive, independent and dominant than women (Davidson & Gordon, 1979). Consequently, it was expected that clinicians in our sample would perceive dangerousness for male and female patients differently.

Method

Participants

Prior research on clinicians' judgments of actual patient violence involved samples ranging from 2 to 30 clinicians (e.g. Menzies & Webster, 1995; Werner & Meloy, 1992) and were usually limited to a single clinical setting. The current study was conducted with 81 mental health professionals working in acute (35%), chronic (36%) or crisis (29%) facilities. The acute unit serves patients who are civilly

committed and require stabilization; the chronic unit offers extensive psychosocial rehabilitation for longer-term patients; and the crisis centre acts as the initial gateway for in-patient mental health services, serving patients with acute episodes. The clinicians in the study (32 male, 49 female) primarily were white (Caucasian = 90%; non-Caucasian = 10%). Non-white clinicians were from the following backgrounds: African-American, Asian/Pacific, Hispanic and Native American. Although they were not asked about their age, clinicians in the study had an average clinical experience with psychiatric populations of 11.2 years (SD = 8·40). Participants included both professional staff (N = 37), including nurses (44%), psychiatrists (6%), clinical psychologists (18%) and master's level social workers or psychologists (32%) and paraprofessional staff (N = 44). Paraprofessional staff tended to patients' daily needs on the milieu, whereas professional staff were charged with implementing various aspects of patients' treatment plans (e.g. medication, discharge planning, etc.). Both groups of clinicians, however, participate in patient treatment meetings in which risk of violence is assessed.

Measures

Participants engaged in a simulated judgment task and entered data on a computer program called OMNIGRID-PC (Sewell & Heacock, 1991). OMNIGRID-PC is based on Kelly's (1955) personal construct theory and is designed to allow empirical study of conceptual-organization and self-schemata (see Elbogen, Carlo, & Spaulding, in press; Fransella & Bannister, 1977). Specifically, OMNIGRID-PC prompts participants first to provide stimuli (persons) and then to quantitatively rate the provided stimuli on a preset number of variables. OMNIGRID can be used as a computer program to collect the type of data needed to investigate various facets of clinical judgments, permitting multiple regression and path analyses of clinicians' implicit decision-making (see Garb, 1998). As a result, it is possible to use OMNIGRID-PC to examine the process of dangerousness judgements as it relates to patients' or clinicians' gender.

Procedure

In this study, mental health professionals (81 out of 125 requested; 65% response rate) volunteered to participate and complete the OMNIGRID-PC computer program. Because treatment context defines the task of violence risk assessment (Elbogen & Huss, 2000; Heilbrun, 1997; McNeil & Binder, 1994), clinicians were assigned randomly to either admission or discharge conditions. Participants received instructions to consider patients who were on admission status (operationalized as the first week of hospitalization) and/or discharge status. Clinicians were provided the current patient census and were prompted to list the first names and gender of eight patients from the census. Clinicians were then asked to rate the eight patients on a Likert scale (1–8) for 12 cues. Cue utilization studies have correlated dangerousness judgments with cues from the Brief Psychiatric Rating Scale (Werner & Meloy, 1992) and the Three Rating Index of Involuntary Admission (Segal, Watson, Goldfinger, & Averbuck, 1988). In order to select a set of cues more related to the literature on violence risk assessment than these previous studies, the items from the Psychopathy Checklist – Screening Version (Hart, Hare, & Forth, 1994) were used in the current study. These cues are grandiosity, impulsivity, juvenile antisocial behaviour, adult antisocial behaviour, irresponsibility, deceitfulness, poor behavioural controls, failing to take responsibility, superficiality, lacking goals, lacking remorse and lacking empathy.[1] Finally, clinicians were asked to render a judgment of

[1] Although psychopathy has been shown to be related to violence in a number of studies (Salekin, Rogers, & Sewell, 1996), it is important to note that the individual PCL items themselves have not been shown necessarily to relate to violence. In judgment research, however, it is not always advantageous, nor necessary, to choose only factors that have been shown to relate to the criterion (see generally Arkes & Hammond, 1986). Instead, it is entirely appropriate to use a wider range of cues, some of which do, and others of which do not, relate to the criterion. In this study, these 12 cues were employed because they were more akin to the violence risk assessment research than extant cue-utilization research, they did not necessarily relate to violence *per se*, and they were particularly useful for generating models that would permit comparison of dangerousness judgments across patient and clinician gender.

dangerousness for each patient (1 = not dangerous to others, 8 = very dangerous to others). All variables were randomized on OMNIGRID-PC and presented in a different order for each participant to counteract order effects. Finally, clinicians' gender and training background were recorded. A total of 648 judgments of dangerousness were obtained.

Design

There are special considerations that need to be made for coding and analysing the OMNIGRID-PC data. In particular, because OMNIGRID-PC involved eliciting judgments for patients (stimuli) that clinicians themselves chose, a random effects design was used. In other words, instead of asking clinicians to rate case vignettes or a particular set of patients, clinicians were asked to rate *any* eight patients who were either recently admitted or discharged. Random-effects designs are statistically more complex than the more traditional fixed-effects designs in which the number of participants is controlled for (Keppel, 1991). But compared with the traditional approach, random-effects designs increase the generalizability of results because the cases rated are chosen from the actual population of interest rather than chosen arbitrarily by the researcher. In the current study, findings on decision-making are not based on an arbitrarily chosen sample of patients, but instead reflect the sample of the actual patient populations in the psychiatric facilities studied.

Random-effects designs are used frequently in sociological and animal behaviour research (see e.g. Hox & Kreft, 1994). The design is statistically complex because it renders a different number of ratings for different participants (Keppel, 1991). For example, in the current study, one patient might have been rated by six clinicians whereas another might have been rated by only one clinician. Leger and Didrichsons (1994, p. 831) state that 'the researcher can deal with multiple data points on individuals in three ways: by pooling them, by randomly selecting one datum per individual, or by aggregating'. To choose among these, the researcher must first compare the ratio of between-participant variance of the singly rated individuals to the average within-participant variance of the multiply rated individuals. If this ratio is close to one, then there is as much variance between each singly rated individual as there is between each of the observations for a multiply rated individual; thus, each observation would indicate an independent data point. If the ratio is above one, then the multiple ratings of an individual are not independent; thus, the researcher should either randomly select one datum per multiply rated individual or aggregate the ratings for the multiply rated individuals. In the current study, the ratio of between-patient variance to average within-patient variance on judgments of dangerousness was .94. Consequently, data were pooled and each of the ratings was considered an independent data point.

Results

Descriptive analyses and ANOVAs showed differences between clinicians' dangerousness judgments of male and female psychiatric patients (see Table 1). Dangerousness judgment means were higher for male as compared with female patients across various psychiatric facilities and treatment contexts. At the acute unit, male patients were perceived as more dangerous to others than female patients for both the admission ($F(1,110) = 13.919$, MSE = 6.631, $p < .001$) and discharge ($F(1,126) = 5.432$, MSE = 5.615, $p = .021$) conditions. The only exception to this pattern was found for patients in the chronic/admission condition: female patients were judged as significantly more dangerous to others than male patients ($F(1,110) = 6.068$, MSE = 8.191, $p = .015$). In the chronic/discharge conditions, males were again perceived as more dangerous than female patients, although this did not achieve, and only approached, statistical significance. In the crisis/admission condition, judgments of dangerousness were significantly higher for male

Table 1. Mean judgment of dangerousness across psychiatric facilities and treatment contexts

Treatment context	Crisis		Acute		Chronic	
	M	SD	*M*	SD	*M*	SD
Admission	*N* = 80		*N* = 112		*N* = 136	
Male	5.54	2.67	4.91	2.67	4.28	2.86
Female	3.21	2.41	3.05	2.42	5.95	2.85
Discharge	*N* = 80		*N* = 128		*N* = 112	
Male	4.64	2.33	3.86	2.36	4.04	2.55
Female	4.12	2.55	2.85	2.38	3.72	2.42

(Column group header: Psychiatric facility)

Table 2. Overall mean of judgment of dangerousness

Patient	Male			Female		
	M	SD	*N*	*M*	SD	*N*
Male	3.94	2.50	176	4.85	2.68	234
Female	3.70	2.48	80	3.59	2.65	158

(Column group header: Clinician)

patients relative to female patients ($F(1,78) = 14.757$, MSE = 6.662, $p < .001$). Finally, in the crisis/discharge condition, the same pattern held but did not achieve statistical significance.

Next, mean scores on dangerousness judgments were broken down by clinician and patient gender (see Table 2). Both male and female clinicians tended to judge male patients to be more dangerous to others than female patients. However, male clinicians did not perceive this difference to be significant. In other words, male clinicians perceived levels of dangerousness to be very similar for male and female psychiatric patients. On the other hand, female clinicians judged male patients to be significantly more dangerous to others than female patients ($F(1,390) = 22.791$, MSE = 7.071, $p < .001$). Interestingly, male and female clinicians agreed upon general levels of dangerousness for female patients. However, there was a significant difference between male and female clinicians' judgment in male patients ($F(1,408) = 12.090$, MSE = 6.832, $p = .001$). Female clinicians appeared to view male psychiatric patients as more dangerous to others than did male clinicians in our sample.

Hierarchical regression was employed to determine whether there was indeed an interaction between clinicians' and patients' gender on judgments of dangerousness

Table 3. Hierarchical regression for clinician gender × patient gender interaction

Variable	B	SE B	β
Step 1			
Admission vs. discharge	−.662	.205	−.125**
Chronic vs. acute/crisis	.382	.234	.071
Crisis vs. acute/chronic	−.792	.270	−.127*
Professional vs. paraprofessional	−.704	.206	−.133**
Step 2			
Clinician's gender	.208	.106	.077
Patient's gender	−.422	.106	−.154**
Step 3			
Clinician gender × patient gender interaction	−.263	.109	−.099*

*$p < .05$; **$p < .01$.
Note. $R^2 = .026$ for Step 1 ($p = .001$); $\Delta R^2 = .028$ for Step 2 ($p < .001$); $\Delta R^2 = .008$ for Step 3 ($p = .018$).

(see Table 3). Interactions between gender and discipline, gender and treatment context, and gender and facility were not significantly related to dangerousness judgments and therefore not reported. Despite this, contextual variables and professional status could still have a main effect on dangerousness judgments. Thus, the first step of the hierarchical regression involved controlling the variance in dangerousness judgments accounted for by treatment contexts, psychiatric facilities and professional discipline. The first variable entered denoted the variance accounted for by treatment context (admission vs. discharge). Two dummy codes were created to account for variance in dangerousness judgments attributable to the psychiatric facilities (chronic vs. acute/crisis and crisis vs. acute/chronic). Finally, a variable was included to account for professional discipline (paraprofessional vs. professional). This first step in the regression was significantly related to dangerousness judgments ($R^2 = .043$, $p = .001$).

Afterwards, the main effects of clinician gender and patient gender on dangerousness judgments were entered into the next step of the hierarchical regression. On clinicians' judgments of dangerousness to others, there was a main effect for patient's gender ($\beta = -.154$, $p < .001$) but not for clinician's gender ($\beta = .077$, $p = .051$). These main effects significantly contributed to the regression equation and R^2 was significantly different from zero at the end of this second step ($R^2 = .069$, $\Delta R^2 = .026$, $\Delta F(2,641) = 9.021$, $p < .001$). In the third step, an interaction code for clinician's gender × patient's gender was entered into the hierarchical regression equation. Analyses showed a statistically significant interaction between clinician's and patient's gender of dangerousness judgments ($\beta = -.099$, $p = .018$) for judgments of dangerousness. This R^2 was significantly different from zero at the end of the third step ($R^2 = .078$, $\Delta R^2 = .008$, $\Delta F(1,640) = 5.849$, $p = .016$).

Regression analyses were used to portray statistical models for judgments of dangerousness (see Garb, 1998). Regression has been employed in a number of

studies on decision-making to determine how information cues relate to clinical judgments (e.g. Arkes & Hammond, 1986; Hammond, Hursch, & Todd, 1964). In the current study, multiple regression was performed between judgments of dangerousness as the dependent variable and the 12 variables from the PCL-SV as the independent variables, controlling for the effects of treatment context, psychiatric facility and professional discipline. Additionally, because a clinician gender × patient gender interaction on judgments of dangerousness was found, four separate judgment models were constructed in total (see Table 4).

When male clinicians rated male patients, the 12 PCL-SV cues accounted for 73.2% of the variance in judgments of dangerousness. These judgments were significantly predicted by adult antisocial behaviour (β = .245, p < .001), lack of remorse (β = .200, p = .003), poor behavioural controls (β = .181, p = .006), lack of goals (β = .112, p = .044), and grandiosity (β = .250, p < .001). Ratings of irresponsibility approached but did not achieve statistical significance predicting dangerousness judgments. For male clinicians assessing female patients, the 12 cues accounted for 75.2% of the variance on judgments of dangerousness. As with male patients, male clinicians' judgments of female patients were significantly predicted by lack of remorse (β = .295, p = .011), poor behavioural controls (β = .196, p = .044), lack of realistic goals (β = −.197, p = .045) and grandiosity (β = .172, p = .029). However, there were additionally cues that predicted judgments of female patients' dangerousness, including lack of empathy (β = .266, p = .013) and juvenile antisocial acts (β = .304, p = .003).

When female clinicians evaluated male patients, the 12 cues accounted for 71.4% of the variance in judgments of dangerousness. These judgments were significantly predicted by lack of remorse (β = .189, p = .005), lack of empathy (β = .208, p = .006), impulsivity (β = .272, p < .001), poor behavioural controls (β = .203, p = .002), irresponsibility (β = −.134, p = .035) and juvenile antisocial acts (β = .185, p < .001). For female clinicians rating female patients, the 12 cues accounted for 75.9% of the variance in judgments of dangerousness. Three cues were significant for female clinicians assessing female patients' dangerousness to others: lack of remorse (β = .223, p = .004), lack of empathy (β = .171, p = .036) and poor behavioural controls (β = .382, p < .001). Deceitfulness and juvenile antisocial acts approached but did not achieve statistical significance for predicting dangerousness judgments.

Discussion

As hypothesized, clinicians perceived male patients to be more dangerous to others than female patients. In general, this pattern was found across admission and discharge contexts, as well as across the three psychiatric facilities. Findings were consistent with Coontz *et al.* (1994) in that clinicians showed greater clinical concern about the violence potential of male psychiatric patients. Although other studies have shown that gender of the clinician does impact on clinical judgments in some contexts (see Garb, 1998), this finding has not emerged in the literature on violence risk assessment. However, the results from this study indicate that the

Table 4. Relationship of cues to judgments of dangerousness

	Male clinicians and male patients N = 178; R² = .732		Male clinicians and female patients N = 78; R² = .752		Female clinicians and male patients N = 236; R² = .714		Female clinicians and female patients N = 164; R² = .759	
	β	Sig.	β	Sig.	β	Sig.	β	Sig.
Superficiality	.024	.637	−.042	.640	−.032	.534	−.022	.672
Adult antisocial behaviour	.245	.000**	.086	.400	−.027	.663	.036	.625
Deceitfulness	−.040	.575	.042	.697	−.002	.980	.144	.065
Lack of remorse	.200	.003**	.295	.011*	.189	.005**	.223	.004**
Lack of empathy	.093	.235	.266	.013*	.208	.006**	.171	.036*
Fails to take responsibility	.071	.367	−.088	.486	.078	.264	.070	.332
Impulsivity	.126	.091	.076	.523	.272	.000**	−.066	.321
Poor behavioural controls	.181	.006**	.196	.044*	.203	.002**	.382	.000**
Lacks realistic goals	.112	.044*	−.197	.045*	−.029	.578	−.039	.504
Irresponsible	−.136	.070	−.088	.413	−.134	.035*	−.109	.124
Grandiosity	.250	.000**	.172	.029*	.079	.109	.079	.147
Juvenile antisocial acts	.002	.963	.304	.003**	.185	.000**	.106	.072

*p<.05; **p<.01.

clinician's gender had a significant interaction with the patient's gender with respect to how dangerousness was judged: female clinicians perceived a greater gender gap in violence than did male clinicians. Analyses confirmed that clinicians appeared to be weighing cues differently, based on their own and the patient's gender. In particular, clinicians appeared to weigh more cues when assessing patients of the opposite sex.

Several studies have determined factors that are associated with violence risk judgments. In the current study, both lack of remorse and poor behavioural controls were associated with judgments of dangerousness regardless of patient gender, clinician gender, psychiatric facility or treatment context. These findings are consistent with studies showing that anger and poor behavioural monitoring relate to judgments of dangerousness (Menzies & Webster, 1995; Zabow & Cohen, 1993). Findings on lack of remorse are somewhat at odds with Werner and Meloy's (1992) finding that feelings of guilt were unrelated to predictions of violent behaviour. Furthermore, Segal *et al.* (1988) found that how clinicians judged impulsivity was related to dangerousness ratings, whereas the result in the current study found that impulsivity related to dangerousness judgments only for female clinicians rating male patients. However, it is important to note that other studies were restricted to examining decision-making in only one psychiatric facility, either at admission or discharge. Because psychiatric facility and treatment context was found in the current study to relate significantly to judgments of dangerousness, comparison with previous research conducted in different clinical settings should be made cautiously.

The results obtined raise important questions for clinicians assessing patients for civil commitment. In most jurisdictions in the United States, involuntary civil commitment laws typically require a showing of mental illness plus dangerousness (Parry, 1994). Past studies have shown that the patient's gender was relevant to the process of civil commitment decision-making (Holstein, 1987; Warren, 1982), even though gender has not been shown to influence the actual outcome of civil commitment decisions (Hiday, 1983). In our study, because male and female clinicians seemed to view dangerousness differently in male and female patients, the clinician's gender could have an impact on civil commitment decision-making. This is somewhat troubling because individuals might be involuntarily hospitalized not because of any of their own characteristics, but instead in part based on the characteristics of their evaluators (see generally Melton, Petrila, Poythress, & Slobogin, 1997). Taken to its logical end, findings suggest that female clinicians might be more likely than male clinicians to commit the same male patient and that male clinicians would be more likely than female clinicians to commit the same female patient. Might clinicians view the same patient differentially based on clinicians' gender, or be more or less likely to commit a patient based on their gender?

An important consideration for interpreting these data involves the potential for selection bias. In particular, it is possible that the clinician's gender biased selection of patients of certain genders. Results showed that male clinicians chose to rate 69% male patients and 31% female patients, whereas female clinicians listed 60% male patients and 40% female patients. Male clinicians indeed selected fewer female

patients and more male patients than did female clinicians. However, as mentioned above, the actual breakdown of the psychiatric populations in this study consisted of 62% male patients and 38% female patients. Neither male nor female clinicians' choices of patients was significantly different from the gender breakdown of the sample clinical population. While this is encouraging, it is important to note that there may be a difference in how male or female clinicians are assigned clinical cases. For instance, male clinicians may be assigned more male patients; thus, male clinicians in our sample may have been more likely to choose male patients. Future research should examine this type of selection bias when investigating the relationship between gender and violence risk judgments.

Future work is also needed to combine both the process and outcome of violence risk assessment. The findings in this study suggest that male and female clinicians may show different rates of accuracy for psychiatric patients. It would be interesting to determine whether clinicians are more or less accurate when assessing patients of the opposite sex. Furthermore, such research could elucidate the reasons clinicians judged male patients to be more dangerous to others than female patients. It is possible that clinicians were relying on the general belief that males were in general more violence prone than females. Future research should also note who most violence was directed toward (male or female staff), and the physical damage done as a result of violent behaviour. This could shed light on the interaction effect found in the current study because clinicians' assessments may be influenced if patients are differentially dangerous to male and female staff. Finally, the findings from this study suggest that the process by which clinicians assess in-patient violence at admission differs from how clinicians assess community violence at discharge. Future studies on the relationship between gender and clinical judgments of dangerousness should consider the specific type of violent behaviour evaluated as well as the nature, likelihood, severity, imminence or frequency of violence (see Elbogen & Huss, 2000).

The current study aimed to help understand the impact of gender on the process of violence risk assessment of psychiatric patients in multiple contexts. More investigation is needed to understand findings that suggest clinicians may under-predict female violence (e.g. Lidz *et al.*, 1993). The results from the current study do strongly suggest, however, that decision-making processes based on both the patient's and the clinician's gender may be partly responsible for findings of differential outcome. It was found that clinicians judged male patients as more dangerous to others than female patients and utilized different sets of cues to arrive at these judgments. In the end, results indicate that in psychiatric populations gender might not only be a risk factor to enter into a formula for assessing violence, but might also frame the very task of violence risk assessment itself.

Acknowledgements

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