

Risk Factors for Violence Among Stalkers

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ABSTRACT. A nonrandom sample ($N = 59$) of “obsessional followers” charged with the crime of stalking and related offenses were studied to determine risk factors for violence. Sixty percent of the sample were physically violent toward person and/or property. Six dichotomous variables were selected *a priori* to determine their relationship, if any, to violence risk based upon previous research: prior sexual intimacy with the victim, major mental disorder, explicit threat toward the victim, personality disorder, chemical abuse/dependency, and prior criminal history. Those who were violent toward person and/or property were significantly more likely to have had a sexually intimate relationship with the victim, to have no major mental disorder, and to have made an explicit threat. A forward stepwise logistic regression found that only one variable—prior sexual intimacy—was necessary to predict violence, with an overall correct classification rate of 90%, sensitivity of 97%, specificity of 78%, positive predictive power of 89%, and negative predictive power of 93%. [Article copies available for a fee from The Haworth Document Delivery Service: 1-800-342-9678. E-mail address: <getinfo@haworthpressinc.com> Website: <<http://www.HaworthPress.com>> © 2001 by The Haworth Press, Inc. All rights reserved.]

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A growing body of research indicates that violence, particularly toward the object of pursuit, is a disturbingly frequent act among stalkers, although serious physical injury is unlikely. Frequencies of violence average between 25-45% in the most recent studies (Garrod, Ewert, Field et al., 1995; Harmon, Rosner, & Owens, 1995; Kienlen et al., 1997; Meloy & Gothard, 1995; Meloy et al., 2000; Mullen & Pathe, 1994; Schwartz-Watts et al., 1997; Harmon, Rosner & Owens, 1998). Although these numbers do not represent base rates because time was not controlled in any of these research designs, the relatively high frequencies of violence, when compared to other violent groups, afford an opportunity to attempt to *predict* violence within this particular area of criminal research.

Thus far, two studies have attempted to do so. Menzies and colleagues (1995) combined a small Canadian sample of hospitalized erotomaniac males ($N = 13$) with reports of erotomaniac men in the English language psychiatric research ($N = 16$). Dangerous behavior, defined as both threats or violence, was accurately predicted in 88.9% of the cases by the presence of two variables: multiple, concurrent objects of pursuit and unrelated serious antisocial behavior, usually a history of violence convictions. This study, however, had serious methodological problems, including the combining of two disparate groups, the confounding of dangerous behavior with threats, and the testing of an excessive number of predictor variables given the small sample size. The second study by Mullen et al. (1999) corrected for these deficiencies and found in a large sample of stalkers ($N = 145$) using log-linear modeling that assault was predicted by two of four independent measures: prior criminal convictions and a history of substance abuse.

Our study attempted to predict violence among a group of obsessional followers—persons who engaged in an abnormal or long-term pattern of threat or harassment directed toward a specific individual (Meloy & Gothard, 1995)—charged with stalking or other related crimes that were part of a larger clinical and demographic study (Meloy et al., 2000) previously described and published. We hypothesized that six variables—prior sexual intimacy with the victim, a major mental disorder, an explicit threat toward the victim, a personality disorder, a chemical abuse/dependency diagnosis, and prior criminal history—would predict violence among our sample of obsessional followers.

METHODS

Subjects

The sample consisted of archival data on 59 adult obsessional followers (52 males, 7 females) selected from the case files of approximately 2,300 adults whom the Superior Court of San Diego County, California, referred between January 1994 and June 1996 for a clinical evaluation by the Forensic Evaluation Unit. The age of subjects ranged from 21-51 years, with a mean of 35 ($SD = 6.7$). Age information was missing for four subjects. Further demographic and clinical data on the sample can be found in Meloy and colleagues (2000). An obsessional follower is “a person who engages in an abnormal or long-term pattern of threat or harassment directed toward a specific individual” (Meloy & Gothard, 1995, p. 259). Threat or harassment was defined as “more than one act of unwanted pursuit that was perceived by the victim as harassing” (Meloy & Gothard, 1995, p. 259).

The Forensic Evaluation Unit is a publicly funded court psychodiagnostic clinic composed of two board-certified forensic psychiatrists and three licensed clinical psychologists with extensive experience in forensic evaluations. The majority of the subjects were seen post-conviction, but prior to sentencing. The most common criminal charge was stalking, which in California has three elements: a pattern of pursuit, a credible threat, and the induction of reasonable fear in the victim. Other subjects were charged with violation of a restraining order, stalking after a restraining order was issued, making terrorist threats, or assault with great bodily injury. In preparing their reports, clinicians gathered data from a variety of sources, including clinical interview, review of legal and medical records, and telephone interviews with family members of the subject, victims, and other collaterals. Structured interviews were not utilized. All subjects were diagnosed using DSM-IV criteria (Meloy et al., 2000). All evaluators were blind to the methods and hypotheses of this study. This research project was approved by the Human Subjects Research Committee of San Diego County Mental Health Services. Due to the archival design of the study, participant consent was unnecessary.

Variables

Based upon existing clinical and empirical research concerning violence and obsessional followers, the following variables were

coded in this study: age, gender, presence of violence, relationship to victim, presence of an explicit verbal threat, a chemical abuse/dependency diagnosis, a history of previous criminal behavior, an Axis I diagnosis, and an Axis II diagnosis. When there was uncertainty as to coding, the first and second author discussed the variable and reached consensus.

Violence toward the victim was defined as an intentional act of aggression that physically injured or was likely to physically injure the object of pursuit. Subjects were coded as: (a) nonviolent ($n = 23$); (b) violent toward victim only ($n = 15$); (c) violent toward victim's property only ($n = 4$); or (d) violent toward both victim and property ($n = 15$). Two subjects were unable to be classified as violent or nonviolent. Violence toward the victim included such acts as pointing a gun in the victim's face, holding a knife to the throat, attempting to run him or her off the road with an automobile, breaking the jaw, slapping, hitting, kicking, forcefully shoving, choking, hair pulling, grabbing, and holding the victim down in a restraining manner. Also coded as violence toward the victim were instances where specific details of violent acts were not provided by the clinician, but wording was sufficiently suggestive of violence to meet our definition (e.g., charges such as "inflicting personal injury," "battery," "domestic violence," and "physical abuse" which occurred during the obsessional following).

Violence against property was defined as an intentional act of aggression that physically damaged the property of the victim. Examples included driving an automobile through the victim's garage, theft of the auto or other personal property, physical damage to the auto by hitting with a fist or slashing tires, throwing objects at the victim's house, attempted arson, ripping the telephone wires out of a wall, breaking dishes, breaking furniture with a hammer, spray painting vulgarities on the living room walls, illegal entry which physically damaged the structure of the dwelling, or charges of "vandalism" to the victim's home or auto. The violence variable was dichotomized by combining all four violence codings into one group ($n = 34$).

Coding for the relationship with the victim was dichotomous, either as a prior sexual intimate or some other type of relationship. Prior sexual intimates included ex-wives, wives, ex-husbands, husbands, and former girlfriends or boyfriends. There were no homosexual rela-

tionships in this study sample. Other types of relationships included acquaintances, employees, and strangers.

Axis I and Axis II diagnoses were also coded as dichotomous variables. If an Axis I diagnosis was present, there was a diagnosis of a major mental disorder, such as schizophrenia, mood disorder, or delusional disorder according to DSM-IV criteria. If an Axis II diagnosis was present, there was a DSM-IV personality disorder diagnosis. All diagnoses were done at the time of the evaluation and subjects were not coded with a diagnosis if the examiner expressed any uncertainty in the form of a "rule out" or a provisional diagnosis.

Explicit verbal threats were coded as present or absent and had to be verbalized by the obsessional follower to the victim. Examples included: threats to kill everyone, including the children; to kill the victim if she called the police or sought medical attention; to shoot the victim and then commit suicide; to kill the victim's children if she would not have sex with the subject; and to cut the victim's throat, indicating that the victim was going "to die with (her) eyes wide open." Threats not verbalized were not coded, such as one subject who left a sign for his victim which read, "bitches like you wind up dead (no one cares)." If the subject was charged with terrorist threats, this was coded as an explicit threat. One threat was made through a third party and was also coded. Virtually all coded threats were homicidal threats.

Presence or absence of any chemical abuse/dependency diagnosis was coded according to DSM-IV criteria. As noted in Meloy et al. (2000), the most common substances used by the subjects were alcohol and/or stimulants. Any diagnostic uncertainty expressed by the clinician was not coded.

Presence or absence of a prior criminal history was the last coded variable. This included any adult criminal activity for which the subject was charged or convicted *prior to* the onset of the obsessional following. Examples included driving while intoxicated, assault, assault with a deadly weapon, public intoxication, domestic violence, possession of a dangerous weapon, driving with a suspended license, making death threats, receiving stolen property, amphetamine possession and/or sales, vandalism, trespassing, and rape.

Data Analysis

Analysis of the data took place in three stages. In the first stage, bivariate relationships were examined by producing 2×2 cross tabu-

lations between the predictor variables of interest and the presence of violence. Chi square analyses and phi coefficients were calculated for each table. The second stage of data analysis focused on model building through multivariate logistic regression analysis in an attempt to identify the best combination of variables that optimally predicted violence. Lastly, post hoc analyses were calculated to explore the association of age and gender with the presence of violence, and to evaluate for gender differences on all of the predictor variables.

RESULTS

Three out of six risk factor variables demonstrated significant associations with violence history (see Table 1). Chi square analyses revealed statistically significant differences between violent and nonviolent stalkers on the sexual intimacy of the relationship, $\chi^2(1, N = 55) = 36.24, p < .001$, the presence of an Axis I major mental disorder, $\chi^2(1, N = 55) = 5.72, p < .05$, and on whether there was an explicit threat, $\chi^2(1, N = 54) = 3.90, p < .05$. Inspection of the phi coefficients clearly indicated that the type of relationship with the victim had a substantial and strong association with violence, whereas the strength of associations with violence were considerably less for the remaining variables. Post hoc z tests for independent proportions revealed that the pattern of these associations was in the anticipated direction for two of three variables. The majority of the subjects (97%) who were violent had been sexually intimate with the victim, but only a minority (18%) of the nonviolent subjects had a sexually intimate relationship with the victim, $z(53) = 6.16, p < .001$. Likewise, 78% of the violent subjects had made a threat, but only 54% of the nonviolent stalkers had threatened, $z(52) = 1.97, p < .05$. Surprisingly, 71% of the nonviolent subjects had an Axis I diagnosis and only 38% of the violent offenders had an Axis I diagnosis of a major mental disorder, $z(53) = -2.38, p < .05$. No statistically significant differences were found between the violent and nonviolent subjects on the presence of a personality disorder, $\chi^2(1, N = 55) = 1.04, p > .05$, prior criminal history, $\chi^2(1, N = 55) = .01, p > .05$, or a diagnosis of chemical abuse/dependency, $\chi^2(1, N = 55) = 1.87, p > .05$. The phi coefficients also indicated that these variables all had extremely weak associations with stalking violence.

A stepwise logistic regression analysis using forward selection was calculated next (see Table 2). The probability of variable entry was set

TABLE 1. Distribution of Violence History Across Offender Characteristics

Variable	Violence History			χ^2	ϕ
	Nonviolent	Violent	Total		
Relationship type					
Stranger/acquaintance	18	1	19	36.24**	.81**
Prior sexual intimate	4	32	36		
Total	22	33	55		
Axis I Diagnosis					
Absent	6	21	27	5.72*	-.31*
Present	15	13	28		
Total	21	34	55		
Axis II Diagnosis					
Absent	9	10	19	1.04	.14
Present	12	24	36		
Total	21	34	55		
Explicit Threat					
Absent	10	7	17	3.90*	.26*
Present	12	25	37		
Total	22	32	54		
Prior criminal history					
Absent	7	11	18	.01	.01
Present	14	23	37		
Total	21	34	55		
Chemical Abuse/Dependence					
Absent	12	13	25	1.87	.18
Present	9	21	30		
Total	21	34	55		

Note: Original sample $N = 59$. Because two cases were missing data on stalking violence and other cases were missing data on predictor variables, for most of these analyses $N = 55$. One additional case was missing data on the explicit threat variable ($N = 54$).

** $p < .001$

* $p < .05$

at .05 and was based on the significance of the score statistic; the probability for variable removal was set at .10 and was based on values of the Wald statistic. In this analysis, violence served as the binary outcome and the six dichotomous variables served as the predictors. A total of eight cases were excluded from this analysis because of missing data on the predictors ($N = 51$).

In the first step of the logistic regression, relationship type was entered as a statistically significant predictor of violence. This variable represented a significant improvement over the model which con-

TABLE 2. Results of Stepwise Logistic Regression Predicting Stalking Violence

Step	Variables in Equation	B	SE	Wald	df	R	Odds Ratio
1*	Relationship type	4.72	1.16	16.46***	1	.47	111.97
	Constant	6.80	1.48	21.04***	1		
Variables not in Equation		Score	df	Sig	R		
	Axis I diagnosis	.08	1	.773	.00		
	Axis II diagnosis	2.17	1	.140	.05		
	Explicit threat	.72	1	.395	.00		
	Prior criminal history	3.12	1	.077	.13		
	Chemical Abuse/ Dependence	.00	1	.949	.00		
Classification table							
<i>Observed</i>		<i>Predicted</i>					
		Nonviolent	Violent	Percent correct			
Nonviolent		14	4	77.78			
Violent		1	32	96.97			
		Overall correct		90.20			

Note: Eight cases were not included in this model due to missing data on predictor variables.

* $\chi^2(1, N = 51) = 33.76, p < .00001$.

*** $p < .00001$.

tained only a constant, $\chi^2(1, N = 51) = 33.76, p < .00001$. None of the other variables were entered into the model. This resulted in a correct classification of 90.20% of the total cases, with a sensitivity of 96.97%, a specificity of 77.78%, a positive predictive power of 88.89%, and a negative predictive power of 93.33%. The importance of prior sexual intimacy as a predictor of violence during stalking is clearly demonstrated by the large odds ratio obtained. In this sample, subjects who were sexually intimate with the victim were nearly 112 times more likely to be violent. However, because the sampling distribution of the odds ratio tends to be skewed when sample sizes are small (Hosmer & Lemeshow, 1989), such as in the present study, the 95% confidence interval for this parameter estimate was calculated. The lower limit of this interval estimate was 11.46 and the upper limit was 1093.95, thereby suggesting that even in the most pessimistic estimation, prior sexual intimacy with the victim resulted in an eleven-fold increase in the potential for violence.

Post hoc analyses revealed that age was equivalent between violent

($M = 34.03$, $SD = 6.10$) and nonviolent ($M = 34.90$, $SD = 7.84$) offenders, $t(51) = .47$, $p > .05$, as was the distribution of gender, $\chi^2(1, N = 57) = 1.90$, $p > .05$. There were also no significant gender differences on all violence risk variables except prior criminal history, $\chi^2(1, N = 57) = 7.35$, $p < .01$. Seventy-four percent (74%) of the males, but only 14% of the females, had a prior criminal history, $z(55) = 3.14$, $p < .01$.

DISCUSSION

Although many individuals who stalk are not prior sexual intimates of the victim, a significant proportion are, usually ranging from 40-60% (Harmon, Rosner, & Owens, 1998; Meloy et al., 2000; Mullen et al., 1999; Palarea et al., 1999). Our findings strongly suggest that the most important predictor of violence in stalking cases may be the presence of a prior sexually intimate relationship between the perpetrator and the victim.

Other studies validate this finding. Harmon and colleagues (1998) found significantly greater frequencies of violence (any incident of documented physical aggression) among a court sample of obsessional harassers when comparing the prior intimates ($n = 73$) with the rest of their sample ($n = 98$) ($\chi^2 = 21.8$, $p = .000$), although the former group also included some nonsexually intimate relations. Mullen and colleagues (1999) also found in a large sample of Australian stalkers ($N = 145$) that their "rejected" group, of whom the majority were prior sexual intimates, had the highest frequency of assaults (54%) within their five group typology. Palarea and colleagues (1999) compared sexually intimate and nonintimate stalking cases ($N = 223$) managed by the Los Angeles Police Department Threat Management Unit. They found significant and positive relationships between various measures of dangerousness (physical approach behavior, threats, violence toward person, violence toward property) and prior sexual intimacy of the stalker with his victim. The strongest correlation, however, was between general violence history and interpersonal stalking violence (Beta = .43, $p < .01$). Schwartz-Watts and Morgan (1998) compared violent and nonviolent stalkers in South Carolina ($N = 42$) and found that the only variable analyzed approaching significance was a previous attachment to the victim, and most of the attachments were former wives. The nonviolent stalkers had a prior attach-

ment to the victims in 55% of the cases; the violent stalkers were attached to the victim in 80% of their cases.

The domestic violence research also supports our finding. The most common motive for murder of a spouse by her husband is her leaving an abusive relationship (Kellerman & Mercy, 1992). Most women who are killed by their husbands are stalked by them before their demise (Cordes, 1993), and the greatest risk of spousal homicide is in the days and weeks following separation (Walker & Meloy, 1998). Although some researchers (Hall, 1998; Harmon et al., 1995) have criticized Meloy's emphasis upon prior sexual intimacy and personal rejection in his stalking research and theory (Meloy, 1999) of "narcissistic linking fantasies," these cumulative findings empirically support prior sexual intimacy as a very important violence risk factor in stalking cases.

Why is this so? Sexual intimacy usually intensifies emotion and the attachment that forms between two people. Recent research suggests that this is not only a psychological phenomenon, but probably has a biochemical basis in humans (Insel, 1997). When this attachment is damaged or severed, particularly through rejection, an upsurge of grief, anger, sadness, and longing is likely (Bowlby, 1988). This is normative human experience in the making and breaking of bonds. When the precipitants of separation and loss occur in an individual who is predisposed to being pathologically narcissistic (Meloy, 1989) and who has a history of abnormal attachments (Kienlen, 1998), as we often see among stalkers and obsessional followers, there is significant risk for *affective* violence: a mode of violence accompanied by high states of autonomic arousal, anger or fear, and a reaction to an imminent threat, in most cases rejection (Mirsky & Siegel, 1994).

In contrast, *predatory* violence among stalkers—a mode of violence which is planned, purposeful, emotionless, and without autonomic arousal (Meloy, 1997)—is most likely to occur, if at all, when the stalking victim is a stranger or public figure (Fein & Vossekuil, 1999). Mullen and colleagues (1999) found that assignment to their "predatory" group, roughly equivalent to a predatory mode of violence, also correlated with violence risk, although their subjects generally engaged in planned sexual assault (cf. Harmon et al., 1998).

Our findings also suggest that the absence of a major mental disorder increases risk. Other studies have similarly found that the psychotic stalker is less likely to assault than the nonpsychotic stalker (Kienlen et al., 1997; Mullen et al., 1999). This finding, by inference, also

points toward the presence of a personality disorder increasing risk of violence: personality disorders predominate among the prior sexually intimate stalkers (Harmon et al., 1998), and psychotic stalkers are more likely to pursue strangers (Meloy et al., 2000). Our finding of no significance on the personality disorder variable, however, may be due to our relatively small sample or underdiagnosis of personality disorder in the court clinic. Personality disorder among stalkers is expected (Meloy, 1996; Sandberg et al., 1998), and is likely to be a combination of Cluster-traits and diagnoses (Meloy, 1996).

We also found explicit threats are significantly related to violence, but should not be used as a major predictive factor in violence risk among stalkers for several reasons: most stalkers threaten, most threats are not acted upon, and explicit threats did not emerge as a significant predictor variable in our study. An example of the relative importance of threats in our study, when compared to the prior sexual intimacy variable, is instructive: when examining the bivariate relationship, if threats are used to predict violence, the prediction would be wrong 32% of the time (i.e., false positive rate). If prior sexual intimacy is used to predict violence, the prediction would be wrong 11% of the time (i.e., false positive rate). The false negative rate for threats (22%), moreover, is more than four times the false negative rate (5%) for the sexual intimacy variable. In other words, there is a much greater likelihood of being correct if one asserts that no violence will occur in an acquaintance/stranger stalking case than to assert that no violence will occur in a case with no explicit threats.

In contrast to the subjects in our study—none of whom stalked a public figure—the false negative rate among assassins, attackers, and near lethal approachers of public officials and public figures is about 90% (Fein & Vossekuil, 1998). This is a very important distinction between “public” and “private” stalking cases, although the former did communicate their intent to third parties two thirds of the time (Fein & Vossekuil, 1998).

We found no significance for chemical abuse/dependency and prior criminal history in our study. These variables, however, should not be summarily dismissed. Other violence risk research strongly supports their inclusion in future predictive models for stalking violence (Monahan & Steadman, 1994). Findings from the MacArthur Risk Study (Steadman et al., 1998) indicate the importance of chemical abuse/dependency as a violence risk factor, particularly for the mentally disordered.

The violence risk variable that is obvious by its absence is psychopathy. Although psychopathy accounts for the largest proportion of explainable variance in a number of violent recidivism studies of offenders, mentally disordered offenders, and aggressive sexual offenders (Quinsey et al., 1998), it is likely irrelevant in most stalking cases. Antisocial personality disorder (DSM-IV) rates are typically 10% or less among stalkers (Meloy, 1996), and Psychopathy Checklist-Revised (Hare, 1991) scores are often less than 15 (S. Hart, personal communication, August, 1998). The violence among stalkers is an affective product of pathologically intense attachment, not a predatory product of chronic emotional detachment (Meloy, 1997). Stalking violence appears to be a behavior in which psychopathy will not be a useful predictor of violence in most cases, although this assertion needs to be empirically tested.

This study has both strengths and limitations. Our sample size is small and nonrandom, although most cases of stalking in this major metropolitan area, the sixth largest city in the US, are referred to this court clinic for evaluation, decreasing a selection bias toward the mentally ill. Further strengths include explicit definitions of both independent and dependent variables, the independence of obsessional following as a construct from our definition of violence, and the *a priori* selection of only six variables for both comparative and predictive analyses.

We are reminded of the 18th century English historian Edward Gibbon's comment, "the laws of probability, so true in general, so fallacious in particular," (Gibbon, 1984) when contemplating the difficulty of assessing risk of violence in an individual stalker on the basis of predictive models of *group* behavior. We caution the reader to recognize that the validity of any predictive model depends upon the goodness of fit of the subject within the validation group. Nevertheless, we are impressed with the growing body of research that suggests that prior sexual intimacy may be the most crucial factor in assessing violence risk among stalkers.

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