Rape completion and victim injury as a function of female resistance strategy

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ABSTRACT

Descriptions of 95 completed rapes and 41 attempted rapes which were committed by 72 men referred to a maximum security psychiatric institution were obtained from victim and police reports. Fifty of the victims received slight injury, fifteen were more seriously injured, and two were murdered. Rapists were more likely to complete the rape when the attack was conducted in an inside location, with a weapon, and not against a stranger. Victims were more likely to avoid being raped when they resisted, particularly when they screamed or yelled for help. There was no positive association between victim resistance and the probability of *subsequent* injury. Previous reports of resistance being related to victim injury may be because victims resist more strongly when they are being injured.

Increasing attention has been focussed on the crime of rape over the past decade. Much of this attention has been in the form of advice to women on how rape might best be avoided. Unfortunately, however, this advice has often been contradictory (Quinsey, Marion, Upfold & Popple, in press; Storaska, 1975). Among the reasons for this discordant advice is the difficulty in comparing the effectiveness of various victim resistance strategies, partly because successful strategies are often undetectable. For example, a strategy implemented early in an attempted rape may remove the incident from any possible data set. If a woman is grabbed and immediately kicks her assailant and walks away, it may be unclear what the assailant's intent was. The more easily the intended victim deals with her assailant (i.e., the more effective the strategy) the less likely the act is to be reported. Despite their limitations, however, empirical studies of the outcome of identified rape attempts are the only means of providing an empirical base for advice to women on rape resistance methods.

There have been a number of surveys based on police data which have examined women's rape resistance strategies. Bowker (1979) has summarized these studies and concluded that most women resist their attackers. Amir (1971) observed that 27% of the victims he studied resisted the attack and 18% physically fought back. Wright (1980) found that 70% of the victims in his study struggled and 16% fought. Both severe beatings and unsuccessful rapes were associated with victim fighting. Hursch (1977) concluded that in most successful instances of resistance, the

resistance was immediate. Methods of successful resistance included fighting (45%), screaming (24%), running (10%), talking (10%), and interrupted or unknown (12%).

Bart (1981) interviewed 13 adult women who had been raped and had also avoided being raped. Despite the small number of highly selected subjects, this study represents a methodological advance over earlier work because of the detailed descriptions of the attacks and because victim characteristics were matched between the completed and attempted rapes. Rapes were more likely to be avoided when the assault took place outside, when the victim used multiple strategies, when the assailant was a stranger, and when the woman's primary concern was with avoiding rape. Completed rapes were more likely when the victim had had a previous sexual relationship with the attacker, when she used only talking or pleading as a strategy, when force was threatened, when the assault took place in the victim's home, and when the victim's primary concern was with not being injured or killed. In contrast to Wright's (1980) data, physical resistance was not significantly associated with physical injury to the victim.

Preliminary data on 30 rapists admitted to the Oak Ridge maximum security psychiatric institution (Quinsey, Marion, Upfold & Popple, in press) indicated an increased probability of physical injury with physical resistance strategies, screaming, and a combination of verbal and physical strategies. Completed as opposed to unsuccessful rape attempts were associated with indoor attacks and no use of verbal strategy (including screaming) by the victim.

In the context of identifying useful information for women, the issue of most interest is the effectiveness of various resistance strategies in avoiding rape and in avoiding injury. In particular, do women succeed in resisting rape at the cost of increased injury? These issues have not yet been adequately addressed because of several methodological problems, the most important of which is temporal sequence. It is unclear in many instances whether a victim act causes or is caused by physical injury; this problem was not dealt with in our earlier research (Quinsey, Marion, Upfold & Popple, in press). For example, do victims scream because they are being hurt or do rapists hurt screaming victims to keep them quiet? A further difficulty is that of interrupted rapes; in some instances, a victim will draw attention to herself by running toward people or screaming, in other cases a rape attack will be interrupted entirely fortuitously. If we wish to study the effectiveness of various victim behaviours, rape attempts which were interrupted entirely by chance must be eliminated from the sample. The final problem in most of these data sets is the confounding or error variance in the data associated with different rapists using different modus operandi in the completed and unsuccessful rape categories. This is analogous to the point raised by Bart (1980) concerning victims in her study of women who had both been raped and avoided rape.

The purpose of the present research was to examine the effectiveness of various victim resistance strategies in avoiding rape and/or physical injury in a sample of

rape attacks from which chance interruptions had been removed and the temporal sequence of victim and rapists' behaviours were clear. An additional purpose was to compare victim responses in completed and unsuccessful rape attempts which were made by the same rapist using similar methods.

METHOD

Sample

Seventy-two men who were referred to the Oak Ridge maximum security psychiatric institution for observation ($N = 52$) or treatment ($N = 20$) and who had each had coercive physical sexual contact with at least one female of 14 years of age or older were identified in a retrospective search of the clinical files. They averaged 24.08 ($SD = 5.99$) years of age at the time of their first offence: 88% had primary diagnoses of personality disorder, 7% of psychosis, 3% of mental retardation and 3% of other problems.

Descriptions of 145 rapes or attempted rapes were detailed enough to be included in the study. Nine of these were deleted because the rape had been interrupted by chance (i.e., not by the victim drawing attention to herself, escaping, etc.). Of the remaining 136, 100 were obtained from descriptions of witness accounts found in police reports together with other investigative data, 32 from transcripts of victim statements and 4 from assailant statements. These latter were well corroborated by police reports. All attacks involved lone assailants and the victim in each case was clearly an unwilling participant.

Variables

Thirteen variables were coded from the rape descriptions: (a) victim age, (b) relation to the rapist, (c) place of initial meeting, (d) place of first physical contact, (e) presence and type of weapon, (f) method of attack, (g) completion of rape, (h) amount of victim injury, (i) type of victim verbal resistance, (j) type of victim physical resistance, (k) reason attempted rape was not completed, (l) victim acts immediately preceding injury, and (m) a judgment as to whether victim resistance increased injury.

Relation to the victim was categorized as Unknown, Acquaintances (in cases where the victim previously knew the first name of the rapist), Friend (where the victim knew the full name and had had a recent previous interaction), and Relative. Place of initial meeting or assault contained eight locations which were divided into Outside (including underground garages) and Inside (including vehicles and public transport). Outside locations were those which were outside or of large area where a victim could run. Method of attack contained 10 categories including, for example, Threatening bodily harm and Choking from the rear. These attack methods were coded sequentially as they occurred. A rape was judged to be complete when penetration had occurred, the rapist ejaculated with victim assistance, or the victim's resistance was ended.

Victim injury was coded on a 7-point scale following Quinsey and Chaplin (1982): No damage, Slight damage with no weapon, Slight damage with weapon, Victim treated in clinic and released, Victim treated in hospital and stayed at least one night, Victim death, and Victim death and subsequent mutilation. In order for a "1" to be scored, the assailant had to at least forcefully strike the victim or apply a strangle hold. Two partitions of this variable were employed: (a) no injury versus injury, and (b) no or slight injury ($0 – 2$) versus injury ($3 – 6$). This latter category contained the few subjects who required treatment for their injuries. Because we relied primarily on victim accounts (usually obtained from the police reports) the number of murdered victims, although extremely small, may be very slightly underrepresented in our sample. Victim verbal resistance contained six categories as did victim physical resistance, and both were coded sequentially as the victim behaviours occurred.

Two independent raters coded each of the variables separately for a randomly chosen 23 descriptions involving 11 assailants. Inter-rater agreement, as expressed by the kappa statistic, was very high. The

kappa for relationship of the rapist and victim was .81 and the kappas were above .92 for method of attack (each method was included in the attack but sequence of methods was ignored), methods of initial attack, victim damage, verbal resistance, physical resistance, and whether a victim act preceded injury. Agreement was perfect for all other variables.

Treatment of the Data

Rape attacks were assigned to complete and incomplete categories and chi squares with one degree of freedom were used to contrast these categories on each variable. Similarly, the attacks were assigned to No victim damage and Some victim damage and compared. Finally, a Damage–No damage dichotomy was examined in which resistance methods which occurred subsequent to the most serious injury in the attack were eliminated.

Variables were then divided into rapist-determined (e.g., weapon) and victim-determined (e.g., resistance). Each rapist-determined variable which had a significant effect on the completion or damage dichotomies was assigned one point in arriving at a rapist-determined score; each significant victim-determined variable was similarly scored. These rapist-determined and victim-determined scores were then separately converted to T-scores and subjected to regression analyses. In these analyses, the primary issue was whether victim-determined scores affected outcome after rapist-determined scores were accounted for. Thus, for example, in a regression analysis, victim damage would first be predicted from rapist-determined scores and then from victim-determined scores. To examine the issue of temporal sequence, the analysis was repeated with rapist-determined scores and victim predamage resistance scores.

A subgroup of rapists who had committed both completed and attempted rapes was identified and pairs of rapes were located for each offender which were matched exactly for location, presence and type of weapon, and relationship of victim to the offender. These data were analyzed with the McNemar test of change for nominal data (Siegel, 1956) which yields a chi square based on 1 degree of freedom.

RESULTS

There were 95 completed rapes and 41 attempts; 69 victims were not injured at all, 50 received slight injury, 8 were treated in a clinic and released, 7 were hospitalized overnight and 2 were killed. As shown in Table 1, most of the rapists were strangers to the victims. A weapon was used in slightly over half of the cases but the most common type of initial rapist attack involved grappling or wrestling from in front or from the rear or threatening physical harm. Slightly over half of the attacks were located inside. Most of the victims resisted the attack.

Rapist Determined Effects

As shown in Table 2, assailants were more likely to complete the rape when the attack occurred inside, with a weapon, and against a victim known to them. They were more likely to physically hurt their victim if they began with a physical assault (χ^2 (1, N = 36) = 18.73, p <.001) and if the victim was known to them. It was curious that, when the victim was known, injury was associated with weapon presence and, when the victim was unknown, with weapon *absence*. There were no significant differences in rapist behaviours in comparisons of the 17 cases of serious injury with the 50 cases of less serious injury.

TABLE 1

Characteristics of assault by assault outcome category

Variable	Outcome category				
	Incomplete rape no injury	Incomplete rape injury	Completed rape no injury	Completed rape injury	Total
1. Number of assaults	26	15	43	52	136
2. Mean victim age (N missing)	26.7 (6)	25.8 (2)	23.3 (11)	23.6 (19)	24.1 (38)
3. Relationship of rapist					
a) % stranger	96	93	88	52	84
b) % acquaintance	4	0	5	12	7
c) % friend	0	7	5	15	8
d) % relative	0	0	2	2	1
4. Weapon					
a) % none	50	73	35	42	45
b) % knife	31	20	42	41	37
c) % gun	19	0	21	2	11
d) % other	0	7	2	15	8
5. Method of initial assault					
a) % threat	23	7	37	12	21
b) % grapple front	8	47	21	40	29
c) % grapple rear	42	20	23	25	27
d) % choke front	0	13	5	8	6
e) % choke rear	8	0	5	6	5
6. % assault inside location	31	40	67	67	57
7. Victim resistance					
a) % none	4	0	40	19	21
b) % verbal	38	40	26	19	27
c) % physical	19	0	14	10	12
d) % verbal & physical	38	60	21	52	40
8. Mean amount victim injury	0	1.1	0	2.0	0.9

TABLE 2

Analyses of rapist-determined effects by outcome

Variable	N	Rape completion		Victim damage	
		Direction	χ^2	Direction	χ^2
1. All cases	136				
a) inside		pos	12.92****		
b) stranger		neg	5.53**	neg	5.78**
c) weapon		pos	4.44*		
2. When inside	78				
a) stranger				neg	5.43**
b) weapon		pos	7.22***		
3. When stranger	114				
a) inside		pos	9.59***		
b) weapon				neg	4.57*
4. When known	22				
a) weapon				pos	8.25***
5. When weapon	75				
a) inside		pos	13.12****		
b) stranger				neg	15.54****

*$p < .05$, ** $p < .02$, *** $p < .01$, **** $p < .001$.

TABLE 3
Victim response by outcome[1]

| | Category | | | | |
| Resistance Method | Rape | | Injury | | |
	% Incomplete	% Completed	% None	% Any	Total
1. Verbal resistance					
a) none	14	86	66	34	44
b) scream, yell	44	56	49	51	41
c) scream, with other					
category	50	50	22	78	18
d) plead	19	81	50	50	16
e) claim undesirable	25	75	50	50	4
f) assertive refusal	0	100	50	50	2
g) other & multiple	36	64	45	55	11
2. Physical resistance					
a) none	26	74	60	40	65
b) grapple	34	66	49	51	35
c) run	18	82	45	55	11
d) run with other					
category	31	69	15	85	13
e) strike	100	0	100	0	3
f) other & multiple	33	67	33	67	9

[1]Row percentages sum to one hundred. Most victims used only one or two resistance methods; the most common multiple methods are shown.

Victim-Determined Effects

Rape completion. Table 3 shows resistance by outcome data and Table 4 shows the results of the simple and conditional analyses. Resistance of any kind was associated with incomplete attacks. Overall, physical resistance was not related to rape completion nor was a combination of physical and verbal resistance. Physical resistance was only related to failure of outside attacks. Verbal strategies, including screaming, yielded the strongest effects. In fact, when considering only those 108 cases in which there was resistance, only screaming was significantly related to rape failure (4.25, $p < .05$); other verbal behaviours were ineffective (chi square < 1).

Victim damage. A variety of resistance strategies were positively related to victim damage; only physical resistance to an attack by a known assailant was negatively associated with victim damage. These data suggest, therefore, that victims avoid rape by resistance and this resistance increases the probability of injury. Closer examination of the issue, however, indicates that the positive relationship between victim resistance and injury is misleading. Although 37 of the 67 victims who were injured were judged (inter-rater $r = 1.00$) to have precipitated their injury through their own actions (physical resistance, 20; screaming, 10; and other verbal behaviour, 7), 30 of the injured victims' behaviours were judged to be irrelevant and, more importantly, 51 other victims resisted and were not injured at all.

TABLE 4
Analyses of victim resistance by outcome

Resistance Method	Rape completion		Victim damage	
	Direction	Chi square	Direction	Chi square
1. Any	neg	11.83****		
when a) inside				
b) outside	neg	14.42****		
c) stranger	neg	13.80****		
d) known				
e) weapon	neg	3.96*		
f) no weapon	neg	7.76***		
2. Verbal (includes screaming)	neg	8.42****	pos	5.99**
when a) inside	neg	4.10*		
b) outside	neg	6.84***	pos	5.88**
c) stranger	neg	10.43***		
d) known			pos	10.09***
e) weapon				
f) no weapon	neg	15.29****		
3. Screaming	neg	12.07****	pos	4.22*
when a) inside	neg	4.29*		
b) outside	neg	6.84***	pos	5.52**
c) stranger	neg	10.59***		
d) known			pos	3.85*
e) weapon				
f) no weapon	neg	11.32****		
4. Physical			pos	4.28*
when a) inside				
b) outside	neg	5.47**		
c) stranger			pos	6.85***
d) known			neg	3.85*
e) weapon			pos	4.90*
f) no weapon				
5. Verbal and Physical			pos	9.68***
when a) inside			pos	4.56*
b) outside			pos	5.07**
c) stranger			pos	7.01***
d) known				
e) weapon			pos	9.18***
f) no weapon				

* $p < .05$, ** $p < .02$, *** $p < .01$, **** $p < .001$.

Analyses of temporally organized data indicate more clearly that the positive relationship between victim resistance methods and injury shown in the second column of Table 4 is spurious and a result of the fact that victims resisted more strongly when they were being injured. There was, in fact, no association of victim resistance and the probability of *later* injury (2.51, $N = 136$, $p < .20$). In the analyses of pre-damage resistance, most of the association between injury and resistance vanished and the direction of the association was usually negative. Any resistance with unknown assailants was associated with *lower* probabilities of injury (4.14, $N = 114$, $p < .05$), as was physical resistance against a known assailant (4.71, $N = 22$, $p < .05$). Only verbal resistance with a known assailant was associated positively with subsequent injury (6.14, $N = 22$, $p < .01$). It appears

TABLE 5
Regression analyses

| | Predicted Variable | |
	Outcome	Damage
Simple correlations:		
a) Rapist-determined score	.37**	.26**
b) Victim resistance	−.22*	.24**
c) Victim predamage resistance	N/A	−.17
Multiple correlation	.45****(a,b)	.33****(a,b)
		.30***(a,c)
Beta weights:		
a) Rapist-determined	.11****	.08**
b) Victim resistance	−.10****	.09**
c) Victim predamage resistance	N/A	−.07

*p <.05, **p <.01, ***p <.005, **** p <.001. (All 2-tailed, except multiple R)

that a combined verbal and physical method of resistance is used with more serious attacks (i.e., victims resist with a variety of methods because they are being injured and their resistance is ineffective).

The finding that victim injury is not associated with previous victim resistance is not in accord with Wright's (1980) data and, therefore, deserves careful scrutiny. Of particular importance is whether serious injury is associated with previous resistance. To examine this issue, we assigned the 67 victims who received some injury to (a) slight injury and (b) serious injury (ratings of 3 and up) categories. Among the 50 slightly injured victims, 86% (43) had resisted; however, only 68% (34) received injury *after* they resisted. Among the 17 more seriously injured victims, 82% (14) had resisted; however, only 41% (7) were injured subsequent to their resistance. The effect of considering temporal sequence, therefore, appears stronger in the cases of more serious injury.

Regression Analyses
Having analyzed the data with multiple chi squares, we are now in a position to examine the main question of this study using aggregate data. Three separate regression analyses were used to assess the relationship of rapist behaviours and victim behaviours to outcome and victim damage. The first analysis used a rapist-determined score (based on relationship, location, weapon and physical attack) and, subsequently, a victim-determined score (based on physical and verbal resistance) to predict outcome of the attack. The second analysis used the same variables to predict victim damage. The third analysis also predicted victim damage and used rapist-determined scores as a predictor but employed victim-determined scores which were adjusted to exclude victim resistance which occurred post-injury.

Table 5 shows the results of these analyses. Rapist-determined scores correlated positively with outcome and damage. Victim-determined scores correlated nega-

tively with outcome even after rapist-determined scores were partialled out. Victim resistance correlated positively with injury, but not when resistance occurring after injury was deleted. Thus, victim resistance decreased the probability that the rape would be completed and did not increase the probability of victim injury.

Matched Sample

McNemar tests of change on the 16 completed and incomplete pairs of attacks matched for assailant, type and presence of weapon, and indoor or outdoor location, indicated that rapes were less frequently completed when the victim resisted (χ^2 (1, $N = 32$) = 9.00, p < .001), screamed (7.00, p < .01), or verbally resisted (7.00, p < .01). Physical resistance was not related to rape completion (0.82, N.S.). There were too few cases of injury for statistical analysis.

DISCUSSION

The outcome of the sexual assaults varied with both rapist- and victim-determined variables. Rapists were more likely to complete the attacks when the attack took place inside, when they knew their victims, and when they had a weapon; they were more likely to injure their victims when the victims were known. Weapon presence was associated with injury to known victims but weapon absence was associated with injury to unknown victims.

Victim resistance of any kind was associated with incomplete attacks. Verbal resistance, mainly screaming, appeared more successful than physical resistance in the overall and matched samples. Victim resistance was positively associated with subsequent injury only when verbal resistance was offered to a known assailant. Resistance was more frequently associated with lower probability of subsequent injury. Thus, previous findings of a positive association between victim resistance and physical injury (Quinsey, Marion, Upfold & Popple, in press; Wright, 1980) may well be artifacts of temporal sequence.

Among the most striking findings of this research is the relative ineffectiveness of physical resistance strategies in reducing the probability of rape completion. Physical resistance was only effective in outside locations. These data do not indicate, however, that physical resistance is futile. Although 42% of the victims offered some form of physical resistance, 49% of these only grappled or wrestled with their attacker. There were no instances where a victim kicked, kneed, used eye gouges, or weapons of convenience against an attacker. Even striking the assailant was very rare, but in the three cases where it was employed it was entirely successful. These data appear to indicate that wrestling, the physical resistance strategy which most penalizes the smaller and weaker opponent, is ineffective.

There are a number of limitations in this study which must be borne in mind in interpreting the results. First, the sample is biased by containing only attacks which were not thwarted early by the victim and which were serious enough to be

reported. Second, all of the rapists had been referred to a maximum security hospital for assessment and treatment. Third, the attacks had to be of a nature (usually serious enough) to lead to the assailant's remand for psychiatric assessment. Fourth, the very few victims who were killed in the attacks were usually not included in the sample. Fifth, the injuries which were studied were often very minor, although it is important to note that the findings of this study were stronger with more serious injury.

With respect to the effectiveness of victim resistance strategies, our sample of cases where the attacks were matched for the particular assailant, presence and type of weapon, and location of the assault provided the clearest data at the cost of reducing the sample size to 32 attacks. These data similarly indicate the ineffectiveness of the type of physical resistance strategies which were employed by the victim, particularly when compared to screaming or yelling.

The issue of whether women should resist a rape attempt and in what manner is of critical importance in view of the frequency of this kind of assault. Our data indicate that screaming or yelling is a good strategy for women to employ, inasmuch as it was highly associated with incomplete rapes and not associated with subsequent injury. This finding, however, requires replication with a sample which is more representative of rapists and victims in general and which is large enough to contain more victims with greater physical injury.

RESUME

Des rapports établis par la police et par les victimes ont permis de décrire 95 cas de viol et 41 cas de tentatives de viol commis par 72 hommes référés à une institution psychiatrique à sécurité maximale. Cinquante des victimes ont souffert de blessures légères, 15 de blessures graves, et deux ont été assassinées. On observe que les coupables sont plus susceptibles de perpétrer leur crime quand l'attaque se produit à l'intérieur, contre une victime connue et avec une arme. Les victimes sont plus susceptibles d'éviter le viol lorsqu'elles résistent, surtout lorsqu'elles crient ou appellent à l'aide. On ne trouve pas de relation positive entre la résistance de la victime et la probabilité de blessures *subséquentes*. Les recherches antérieures ayant observé une telle relation peuvent s'expliquer par le fait que les victimes résistent davantage lorsqu'elles sont blessées.

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