

## **Hostility and Stress as Mediators of Aggression in Violent Men**

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*This research investigated hypothesized differences on the Buss-Durkee Hostility Inventory between five groups of men who varied in terms of being violent toward female cohabitants, nonfamily members, or no one, and in terms of marital satisfaction. Other measures, such as stress and childhood abuse data, were employed to interpret the findings. A two-way MANCOVA (group by race) with six sociodemographic covariates revealed significant differences on three Hostility Inventory subscales. The maritally violent men had significantly higher total Hostility than any of the other groups and were significantly discriminable from the other groups. Nonetheless, the beliefs and behaviors of violence-prone individuals overlap to some degree. A cognitive-behavioral model with stimulus variables of life stressors, intervening variables of hostility and negative stress reactions, and response variables of different forms of aggression served as a framework for interpreting the results.*

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**KEY WORDS:** family violence, criminal offenders, stress, hostility.

### **INTRODUCTION**

According to Newman (1979, pp. 89-115) violence is "as American as apple pie," and the cradle of violence is the family, both as a location for violence and as a significant genesis of violent behavior. In the 1970s, the phrase "the marriage license as a hitting license" (coined by Straus *et al.*, 1980) reflected the high rate of familial violence.

Until recently, domestic violence researchers have generally treated aggression toward family members as a separate phenomenon from assaults

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upon strangers (Gelles, 1974, 1982; Hotaling and Straus, 1980; Straus, 1977). Their motivation was to expose previously undetected familial violence and to underscore its uniqueness as a form of violence. Moreover, except for clinical purposes (Deschner, 1984; Elbow, 1977; Ganley and Harris, 1978; Gondolf, 1985; Kleckner, 1978; Makman, 1978; Martin, 1976; Novaco, 1975), family violence researchers have generally disregarded the literature on anger and hostility.

Aggressive and violent people are often described as being angry and hostile. While anger, in and of itself, is not necessarily a mental health or social problem (Chesney and Roseman, 1985), it may instigate violence or focus attention on a possible target. Thus, investigating the similarities and differences in anger and hostility in men who abuse only their spouses and those who assault strangers should contribute to understanding violence in general (Dutton, 1988; Maiuro *et al.*, 1986, 1988; Shields *et al.*, 1988).

Current research has noted many similarities between the characteristics of domestic and general assaulters (Fagan, 1988; Fagan *et al.*, 1983; Fagan and Wexler, 1987; Shields *et al.*, 1988; Straus, 1983). For example, Fagan *et al.* (1983), in a study of 270 domestic violence victims, found that almost half of all spouse abusers had been arrested previously for other violence, and that there was a positive relationship between the duration and severity of violence in the home and violence toward strangers. On the other hand, in a study of 234 arrested batterers in Indianapolis, Roberts (1987) found that only 15% of the men had prior convictions for criminal assault or battery.

In another study of violent men, Shields *et al.* (1988) interviewed 85 violent husbands classified as family-violent only, nonfamily-violent only, and generally violent. They concluded that generally violent men and men violent only toward nonfamily members were very similar in terms of background characteristics, but very dissimilar in terms of socioeconomic status, drug use, educational attainment, attitudes, prior conviction rates, and severity of crime. The fathers of family-only violent men had victimized them more than the fathers of the men in the other two groups.

A study by Maiuro *et al.* (1988) found that domestically violent men had significantly higher mean scores than nonviolent control subjects on most of the Buss-Durkee Hostility-Guilt Inventory indices (Buss and Durkee, 1957). Maiuro *et al.* (1988) also found that the Verbal Hostility scores significantly and negatively correlated with scores in initiating/request behavior (assertion skill). Further, the domestically violent men were more likely to be significantly depressed.

Hastings and Hamberger (1988) established that male batterers scored lower than nonabusive males on the Novaco Anger Scale (Novaco, 1975). They interpret this finding as suggesting that batterers are more like-

ly to deny or minimize aggression when it is overtly assessed, a conclusion congruent with evidence presented by others (Barnett and Lindsay, 1985; Hoshmond, 1987).

Dutton and Browning (1987) and Dutton and Strachan (1987) studied the effects on a group of wife-assaulters and three control groups of viewing videotapes of a man and woman arguing. Data indicated that the wife-assaulters reported more anger in response to the scenario, especially in scenes in which the female had verbal power and appeared to be abandoning the male.

## PROBLEM AND HYPOTHESES

The purpose of the current study was to investigate the levels and kinds of hostility and guilt in five male populations: (1) *Three violent groups*, namely: (a) maritally-only violent uncounseled (MVU), (b) maritally-only violent counseled (MVC), and (c) nonmaritally-only violent offenders (most on probation) (VO); and (2) *two nonviolent groups*, namely, (a) maritally nonviolent, unhappily married, discordant (NVD) and, (b) maritally nonviolent, satisfactorily married (NVS). An additional goal was to examine variation in childhood victimization, and how it relates to adult hostility, stress, and proviolence attitudes.

It was hypothesized that the groups would vary in Hostility, and that two of the groups of violent men (MVU, VO) would be significantly more hostile than the two other nonviolent groups (NVD, NVS) (Maiuro *et al.*, 1988). Other hypotheses proposed that the family-only violent groups (MVU, MVC) would have suffered from more childhood abuse and observed more parental abuse than the two nonviolent groups (NVD, NVS) (Shields *et al.*, 1988), and that the groups would vary in reported stress (MacEwen and Barling, 1988) and proviolence attitudes.

## METHOD

### Participants

The subjects were 227 men who had been married/cohabiting during the previous year. The men were divided into five groups: (a) 43 maritally-only violent men, uncounseled wife beaters (MVU), (b) 49 maritally only violent, counseled wife beaters (MVC), (c) 42 maritally nonviolent men, previously convicted of a violent offense (VO) (most on probation), (d) 43

maritally nonviolent, unhappily married (discordant) men (NVD), and (e) 50 maritally nonviolent, satisfactorily married men (NVS).

Extensive recruitment efforts (incorporating additional probation agencies) failed to obtain a sufficient number of volunteer white violent offenders, and black maritally violent, counseled men to achieve matched groups. At least one study (Hamberger and Hastings, 1989) found that whites were more likely to complete treatment than blacks.

### *MVU*

The 45 maritally-violent uncounseled men came from agencies treating court-mandated batterers. The majority of court-mandated batterers had been men arrested and charged with felony assault (reduced later to misdemeanor battery) and subsequently diverted into paid counseling for a varied number of sessions (usually 10 to 26). Approximately 80% of the men asked to participate in the research completed the tests within a few weeks of entering the program ( $M = 3.11$  weeks).

### *MVC*

All but one of the 48 counseled batterers had originated from the same court-mandated batterer programs treating the MVU men. MVC subjects had participated in counseling for a minimum of 10 weeks ( $M = 20.65$  weeks). The other subject volunteered from the community. Approximately 80% of those asked to participate did so. Of the agency batterers, about one third had come from a treatment with a "feminist" orientation, another third from a "cognitive-behavioral" program, and the last third from two groups which used an eclectic approach.

### *VO, NVD, and NVS*

Through the intervention of probation officers, the experimenters recruited 34 of the 43 violent offenders shortly after their release from prison. Less than 7% of the VO men were in counseling ( $M = 2.33$  weeks). Of the remaining VO subjects, seven came from a maximum security prison and two from the community. All of the nonviolent subjects, both the NVD and NVS, were community volunteers.

Only 30% to 40% of men in the community requested to participate agreed to do so. It was particularly difficult to obtain a large enough sample of men who were neither maritally violent nor happily married. For the

NVD group, 29% were in counseling ( $M = 17.83$  weeks); of the NVS group, 12% were in counseling ( $M = 6.33$  weeks).

### Procedures

The experimenters recruited over half of the agency MVU and MVC through personal solicitation at weekly counseling sessions, and the other half through the interventions of therapists. The experimenters recruited the unacknowledged MVU, the NVD, and the NVS from the community, primarily through door-to-door solicitation at businesses and through intermediaries (e.g., workers in a laboratory) who distributed test packets. The researchers and therapists followed APA guidelines for human subjects treatment including informed consent letters, and guaranteed anonymity and confidentiality. Subjects received \$35 for completing the tests.

### Measures

#### *Marital Satisfaction*

The subjects responded to the Locke-Wallace Marital Satisfaction Test (SMAT) (Locke and Wallace, 1959). A score of 91 or above out of a possible 145 classified a subject as satisfactorily married.

Of those responding (144), 29% of the MVU males, 37% of the MVC men, and 42% of the VO subjects reported levels of marital satisfaction at 91 or above. Lack of cohabitation experienced by the VO men may have affected their SMAT scores. Some subjects, particularly those who were unmarried, refused to complete the questionnaire, while others may have overlooked it.

#### *Marital Violence*

All subjects answered a modified version of the Conflict Tactics Scales (CTS; Straus, 1979). Men qualified as maritally violent in two ways: (1) if they engaged in more than two acts of minor physical violence (e.g., man-handled) more than once in the relationship; or (2) if they engaged in even one act of severe violence (e.g., kicked).

Of course, the veracity of self-reports is questionable. Research on report validity has provided evidence which suggests that women commit less abuse than men, but report higher levels than men do (Edleson and

Brygger, 1986; Szinovacz, 1983), that victims report more aggression than perpetrators (O'Leary and Arias, 1984), and that perpetrators intentionally conceal undesirable interpartner aggression (Riggs *et al.*, 1989). Therefore, it is likely that the groups of "maritally nonviolent" men may, in fact, include a small percentage of wife abusers.

The VO was comprised of men who were not maritally violent according to their self-reported modified CTS scores. However, these subjects had been convicted of a crime against a person (a felony), such as battery, or armed robbery.

### Hostility-Guilt

The subjects responded to the Buss-Durkee Hostility-Guilt Inventory (BDHGI; Buss and Durkee, 1957). The BDHGI is a 75-item, true-false measure based on the rationale that hostility can be divided into several components. Although the validity of the BDHGI is under investigation, some preliminary work has accomplished a reduction in response bias. No question with an item-scale correlation of less than 0.40 remained in the test.

The inventory's two major subfactors are Overt (motor aggression) and Covert (internal affective experience) hostility, divided into seven subscales: Assault (direct physical violence against person), Indirect Hostility (against persons through gossip or practical jokes, or against objects such as breaking things); Irritability (explosiveness and exasperation at the slightest stimulus); Negativism (either active rebellion or passive compliance to rules and authority figures); Resentment (anger, jealousy, hate of others due to real or imagined mistreatment); Suspicion (projection of hostility onto others); and Verbal Hostility (in style and content). The BDHGI also includes an independent Guilt scale.

### Other Assessments

The experimenters constructed several scales to assess four broad areas of feelings and behavior thought to be especially relevant to interpartner aggression: proviolence attitudes, childhood abuse, observation of parental abuse, and reactions to life stressors. There were 6 childhood abuse items, 10 questions about observations of parental violence, and 14 stress items all using a scale of "1 = Never" to "10 = Daily."

An additional set of five items probed for information about the subjects' proviolence attitudes: (a) "Violence is justifiable," (b) "Violence

Table I. Analysis of Variance of Sociodemographic Variables by Groups

Variables	Subject Groups <sup>a</sup>					df	F Ratio
	Group Means						
	Violent	Nonviolent					
	MVU	MVC	VO	NVD	NVS		
Age	33.74	33.57	28.51	33.26	33.52	4,227	2.38
Num Chil <sup>b</sup>	1.69	1.61	1.19	0.88	1.02	4,275	3.33*
Amt Sch <sup>c</sup>	12.67	12.61	12.19	13.60	13.72	4,226	4.37**
Amt Emp <sup>d</sup>	4.12	4.29	3.50	4.51	4.58	4,225	7.91***
Amt Pay <sup>e</sup>	6.49	5.92	4.60	7.10	6.69	4,217	9.41***
Lgt Rel <sup>f</sup>	3.90	4.31	2.93	4.15	4.43	4,220	4.72**
Num Mar <sup>g</sup>	1.12	1.27	0.58	1.08	0.92	4,273	4.86***
Mar Sat <sup>h</sup>	73.26	76.89	86.79	71.50	113.50	4,144	22.67***

<sup>a</sup>Groups: MVU = Family-Only Violent, Uncounseled; MVC = Family-Only Violent, Counseled; VO = Nonfamily, Violent Offenders; NVD = Nonviolent Discordant; NVS = Nonviolent Satisfactorily Married.

<sup>b</sup>Number of Children.

<sup>c</sup>Amount of Schooling.

<sup>d</sup>Amount of Time Employed Categories: (1) Not at all, (2) 1/4 time, (3) Half time, (4) Most the time, (5) All time.

<sup>e</sup>Amount of Pay Categories: (1) Less than \$200 per month, (2) \$200-\$300, (3) \$300-\$400, (4) \$400-\$600, (5) \$600-\$900, (6) \$900-\$1200, (7) \$1200-\$1500, (8) \$1500-\$2000, (9) \$2000-\$3000, (10) Above \$3000.

<sup>f</sup>Length of Relationship Categories: (1) 0-5 yrs., (2) 5-10 yrs., (3) 10-15 yrs., (4) 15-20 yrs., (5) Over 20 yrs.

<sup>g</sup>Number of Marriages.

<sup>h</sup>Locke-Wallace Marital Satisfaction Scores: 0-145.

\* $p \leq 0.05$ .

\*\* $p \leq 0.01$ .

\*\*\* $p \leq 0.001$ .

cannot be avoided," (c) "Violence is necessary," (d) "Violence is an effective way to solve a problem," and (e) "Violence is the easiest way to solve a problem." The answer scale extended from "1 = Never" to "6 = Always." These simple, self-report measures had good face validity, but were lacking in strong psychometric properties.

### Sociodemographic Comparisons

The five populations varied substantially on a number of sociodemographic dimensions, primarily because the VO men were significantly younger, less educated, less employed, had shorter relationships, were married fewer times, and had fewer children. Refer to Table I for the ANOVA statistics for these differences.

Unfortunately, the failure to match produced undesirable significant variation on a number of important sociodemographic variables. On non-interval sociodemographic variables, significant dissimilarities occurred in terms of the racial composition of the groups ( $X^2[8, N = 225] = 66.96, p \leq 0.001$ ). The primary difference occurred because 61.9% of the VO group was black as compared to 11.6% of the MVU group, 4.3% of the MVC group, 7.3% of the NVD group, and 22% of the NVS group.

## ANALYSES

To help account for significant sociodemographic divergence, two-way MANCOVAs (race by group) explored the overall differences between items within the various sets of data (BDHGI, proviolence attitudes, childhood abuse, observation of parental violence, and stress) with covariates (age, length of relationship, times married, and amounts of schooling, pay, and employment). To simplify interpretation, the variable of race was collapsed into three groups (whites, blacks, and other minorities). Previous research has shown that such variables as social status and race vary with levels of violence (e.g., Kruttschnitt *et al.*, 1986).

Separate MANCOVAs over groups and over race adjusting simultaneously for the significant covariates (age, amount of schooling, amount of employment, amount of pay, and length of the relationship) and factors (either group or race) pinpointed specific group or race effects. Other analyses included chi-squares (for use with noninterval data), Univariate *F*-tests followed by Student-Newman-Keuls range tests (to establish the source of variation between groups), correlations, and stepwise discriminant functions (MAHAL) (to ascertain the extent to which the groups were discriminable).

## RESULTS

### Buss-Durkee Hostility-Guilt Inventory

#### *Two-Way MANCOVA*

A two-way MANCOVA (group by race) over the BDHGI subscales indicated that the subject groups were significantly dissimilar (Pillai's  $F[32, 736] = 1.70, p \leq 0.01$ ). Three of the eight BDHGI factors achieved significance: Assault, Indirect Hostility, and Resentment.



**Table II.** Multivariate Analysis of Variance of Buss-Durkee Hostility-Guilt Inventory Factors

<i>F</i> Variables	Subject Groups <sup>a</sup>					df	Ratio
	Group Means						
	Violent		Nonviolent				
	MVU	MVC	VO	NVD	NVS		
Assault <sup>b</sup>	5.56	4.02	4.84	3.45	3.32	4,209	4.34**
Guilt	5.23	4.98	5.16	4.40	4.09	4,209	1.25
Ind Host	6.23	5.33	3.78	4.71	3.89	4,209	8.65***
Irritable	5.92	5.44	4.22	5.58	3.88	4,209	3.88**
Negativism	2.64	2.42	2.78	2.42	2.04	4,209	1.35
Resentment	4.15	3.10	3.19	2.71	2.04	4,209	4.50**
Suspicion	4.41	3.96	5.41	3.29	3.12	4,209	2.68*
Verb Host	8.18	7.50	7.16	7.12	6.06	4,209	3.18*

<sup>a</sup>Groups: MVU = Family-Only Violent, Uncounseled; MVC = Family-Only Violent, Counseled; VO = Nonfamily, Violent Offenders; NVD = Nonviolent Discordant; NVS = Nonviolent Satisfactorily Married.

<sup>b</sup>Buss-Durkee Hostility-Guilt Scales: Assault, Guilt, Indirect Hostility, Irritability, Negativism, Resentment, Suspicion, Verbal Hostility.

\* $p \leq 0.05$ .

\*\* $p \leq 0.01$ .

\*\*\* $p \leq 0.001$ .

Race also achieved an overall significant effect in the two-way MANCOVA (Pillai's  $F[16, 364] = 2.51, p \leq 0.001$ ) with Assault ( $F[2, 188] = 4.32, p \leq 0.05$ ), and Suspicion ( $F[2, 188] = 3.39, p \leq 0.05$ ) revealing significance on the univariate  $F$ -tests. None of the group by race interactions were significant.

### One-Way MANCOVAs

A separate one-way MANCOVA over groups (without race) provided individual means for enhanced comparisons between groups. Refer to Table II for a summary of the one-way MANCOVA statistics for group effects.

A separate MANCOVA over race (without groups) clarified racial variation. For Assault, the combined "other minorities" ( $M = 5.60$ ) and blacks ( $M = 4.61$ ) had higher mean scores than whites ( $M = 3.79$ ). For Suspicion, similar deviations occurred: other ( $M = 5.16$ ), blacks ( $M = 4.84$ ), and whites ( $M = 3.51$ ).

**Table III.** Student-Newman-Keuls Range Test Comparisons Between Groups Following Univariate One-Way ANOVAs on the Buss-Durkee Hostility-Guilt Inventory

Scales	Subject Groups <sup>d</sup> and Means				
Ass'tlt <sup>b</sup>	MVU (5.5) > <sup>c</sup> VO (4.7)	>	NVD (3.4) and MVC (4.0) and NVS (3.2) NVD (3.4) and NVS (3.2)		
Guilt	MVU (5.3)	>	NVS (4.0)		
IndHost	MVU (6.4) > MVC (5.3) >	>	NVD (4.7) and VO (4.0) and NVS (3.9) VO (4.0) and NVS (3.9)		
Irrtate	MVU (6.1) and MVC (5.3) >	>	NVD (5.6) > VO (4.2) and NVS (3.8) NVS (3.8)		
Neg'tiv	MVU (2.6)		VO (2.8) NVD (2.4) MVC (2.4) NVS (2.0)		
Resent	MVU (4.1) > VO (3.2) and	>	VO (3.2) and MVC (3.1) and NVD (2.8) and NVS (2.0) MVC (3.1) > NVS (2.0)		
Suspics	VO (5.3) > MVU (4.3) >	>	MVC (3.9) and NVS (3.0) NVS (3.0)		
VerHost	MVU (8.2) and MVC (7.4) and NVD (7.1)	>	NVS (6.1)		
TotHost	MVU (37.4) > VO (31.6) and	>	VO (31.6) and MVC (31.4) and NVD (29.4) and NVS (24.0) MVC (31.4) and NVD (29.4) > NVS (24.0)		

<sup>a</sup>Groups: MVU = Family-Only Violent, Uncounseled; MVC = Family-Only Violent, Counseled; VO = Nonfamily, Violent Offenders; NVD = Nonviolent Discordant; NVS = Non-violent Satisfactorily Married.

<sup>b</sup>Buss-Durkee Hostility-Guilt Scales: Assault, Guilt, Indirect Hostility, Irritability, Negativism, Resentment, Suspicion, Verbal Hostility.

<sup>c</sup>Signifies significantly higher score.

### *One-Way ANOVA Followed by Range Test Comparisons*

Univariate analyses of variance indicated that the five groups of men differed significantly on Guilt and every subscale of the Hostility scale except Negativity.

Range tests following the univariate ANOVAs revealed that the MVU men had significantly higher Assault and Indirect Hostility scores than three groups (MVC, NVD, NVS), and Resentment scores higher than all groups. The VO group had mean scores on Suspicion which were significantly higher than those of three other groups (MVU, MVC, NVS). Although they were significantly more Assaultive than the NVD or NVS, they were significantly less Hostile overall than the MVU.

The subjects in the NVD and MVC groups had total Hostility scores similar to those of the VO but significantly higher than the NVS. The NVS group had the lowest mean scores on every subfactor, and was significantly lower than all the other groups on Resentment and Verbal Hostility. Table III presents a summary of the between-group means on the range tests comparisons.

### Proviolence Attitudes Measures

#### *Two-Way MANCOVA*

A two-way MANCOVA indicated an overall significant group effect (Pillai's  $F[20, 728] = 2.26, p \leq 0.001$ ). The univariate  $F$  tests showed that three of the five items achieved significance: "Violence is justifiable" ( $F[4, 183] = 2.91, p \leq 0.05$ ), "Violence cannot be avoided" ( $F[4, 183] = 3.63, p \leq 0.01$ ), and "Violence is the easiest way to solve a problem" ( $F[4, 242] = 4.26, p \leq 0.01$ ).

Significant racial differences also emerged from the two-way analysis (Pillai's  $F[10, 360] = 1.95, p \leq 0.05$ ). Two univariate analyses produced significant racial differences: "Violence is justifiable" ( $F[2, 183] = 3.36, p \leq 0.05$ ) and "Violence cannot be avoided" ( $F[2, 183] = 3.19, p \leq 0.05$ ). Another, "Violence is the easiest way to solve a problem," approached significance ( $F[2, 183] = 2.86, p \leq 0.06$ ). No group by race interactions were significant.

#### *One-Way MANCOVA*

A one-way MANCOVA over race (without groups) revealed the racial differences more clearly. On the item "violence is justifiable," the combined racial group of "other" ( $M = 1.83$ ) had mean scores higher than both whites ( $M = 1.56$ ) and blacks ( $M = 1.59$ ). On "violence cannot be avoided," other minorities ( $M = 2.42$ ) and blacks ( $M = 2.46$ ) had higher mean scores than whites ( $M = 1.99$ ). On the item "violence is the easiest way to solve a problem," blacks had a slightly higher mean score ( $M = 1.32$ ) than other minorities ( $M = 1.21$ ) or whites ( $M = 1.27$ ).

### Childhood Abuse Measures

#### *Two-Way MANCOVA*

A two-way MANCOVA indicated a significant difference between groups (Pillai's  $F[24, 748] = 1.76, p \leq 0.05$ ). Three childhood abuse items

**Table IV.** Multivariate Analysis of Covariance of Childhood Abuse and Observation of Parental Violence Questions

Variables	MVU <sup>a</sup>	MVC	VO	NVD	NVS	df	F Ratio
<b>Childhood Abuse</b>							
Dad physical	3.55 <sup>b</sup>	3.46	2.87	2.08	1.92	4,210	3.21*
Mom physical	2.93	2.75	1.76	2.03	1.62	4,210	3.28*
Dad sexual	1.28	1.13	1.30	1.08	1.02	4,210	0.69
Mom sexual	1.05	1.10	1.04	1.00	1.04	4,210	1.14
Dad psychological	4.13	4.31	2.38	3.42	2.17	4,210	5.67***
Mom psychological	3.73	3.44	1.78	3.18	1.85	4,210	5.68***
<b>Observation of Parental Violence</b>							
Dad physical abuse	3.23	3.31	2.27	2.00	1.32	4,210	5.49***
Mom physical abuse	2.08	2.35	1.57	1.71	1.13	4,210	3.43**
Dad verbal abused	4.35	4.54	2.68	3.00	2.64	4,210	3.98**
Mom verbal abused	3.08	3.94	2.08	2.79	1.79	4,210	5.18***
Dad psychol abuse	2.73	2.52	1.78	2.00	1.57	4,210	1.92
Mom psychol abuse	1.83	2.35	1.38	1.82	1.34	4,210	2.74*
Dad threat abuse	3.28	3.52	2.05	2.13	1.70	4,210	4.38**
Mom threat abuse	2.18	2.63	1.54	1.92	1.34	4,210	3.36*

<sup>a</sup>Groups: MVU = Family-Only Violent, Uncounseled; MVC = Family-Only Violent, Counseled; VO = Nonfamily, Violent Offenders; NVD = Nonviolent Discordant; NVS = Non-violent Satisfactorily Married.

<sup>b</sup>The answer scale was as follows: "1 = Never"; "2 = Once in Relationship"; "3 = More than Once in Relationship"; "4 = Once a Year"; "5 = 2-5 Times a Year"; "6 = Monthly"; "7 = More than Once a Month"; "8 = Weekly"; "9 = 2-5 Times a Week"; "10 = Daily."

\* $p \leq 0.05$ .

\*\* $p \leq 0.01$ .

\*\*\* $p \leq 0.001$ .

showed a significant group effect: "mother physically abused you," "mother psychologically abused you," and "father psychologically abused you." No overall significant differences by race or group by race emerged. A one-way MANCOVA over groups (without race) provided group means for improved clarity. Table IV summarizes the one-way MANCOVA statistics for childhood abuse.

### Exposure to Parental Violence

#### Two-Way MANCOVA

The two-way MANCOVA (group by race) produced a significant group effect (Pillai's  $F(32, 740) = 1.46, p \leq 0.05$ ). Neither race nor race by group interaction effects were significant.

Table V. Multivariate Analysis of Covariance of Stress Questions

Variables	MVU <sup>a</sup>	MVC	VO	NVD	NVS	df	F Ratio
Small income	4.63 <sup>b</sup>	5.60	3.32	3.79	3.92	4,210	5.30**
Job trouble	3.90	4.88	3.24	3.76	3.47	4,210	3.28*
Children	3.23	4.42	1.65	3.73	1.79	4,210	9.03***
Partner	5.25	5.40	2.16	5.16	2.47	4,210	18.07***
Own phys health	2.10	3.94	2.03	3.29	1.98	4,210	7.94***
Own mental health	2.70	3.40	1.92	3.37	1.70	4,210	5.30***
Partner pregnancy	1.75	1.86	1.60	2.03	1.68	4,210	.83
Trouble law/pol	2.35	2.54	2.27	1.50	1.51	4,210	2.50*
Own alcohol use	2.40	3.33	2.00	1.82	1.57	4,210	3.97**
Partner alcohol	2.10	2.83	1.60	2.00	1.34	4,210	3.24*
Own outside sex	1.96	2.04	1.54	1.67	1.51	4,210	1.22
Her outside sex	2.18	2.98	1.40	2.29	1.47	4,210	5.14***
Her housekeeping	3.58	4.23	1.35	3.26	2.06	4,210	7.58***
Racial discrim	1.45	1.44	1.24	1.37	1.23	4,210	0.09

<sup>a</sup>Groups: MVU = Family-Only Violent, Uncounseled; MVC = Family-Only Violent, Counseled; VO = Nonfamily, Violent Offenders; NVD = Nonviolent Discordant; NVS = Non-violent Satisfactorily Married.

<sup>b</sup>The answer scale was as follows: "1 = Never"; "2 = Once in Relationship"; "3 = More than Once in Relationship"; "4 = Once a Year"; "5 = 2-5 Times a Year"; "6 = Monthly"; "7 = More than Once a Month"; "8 = Weekly"; "9 = 2-5 Times a Week"; "10 = Daily."

\* $p \leq 0.05$ .

\*\* $p \leq 0.01$ .

\*\*\* $p \leq 0.001$ .

The univariate *F*-tests disclosed that only one of the eight items achieved significance between groups: "Saw father physically abusing someone." Two other items approached significance: "Saw mother psychologically abuse someone," and "Saw mother threaten to abuse someone." Table IV summarizes the one-way MANCOVA (without race) statistics for each observation of parental violence item.

### Chi-Square

A chi-square analysis using combined groups of the "Most abusive person in the house" revealed a significant difference ( $\chi^2[16, N = 224] = 48.11, p \leq 0.001$ ). Frequency analysis established that the most frequent response for the group as a whole was "No One" (40.5%). The second most frequent response was "Father/Stepfather" (32.6%). Of the MVU group, 44.2% chose this response, 46.9% of the MVC, 18.6% of the VO, 33.3% of the NVD, and 20.0% of the NVS. The percentages of those selecting "Mother/Stepmother" (18.5%) were as follows: 18.6% of the MVU, 32.7% of the MVC, 9.3% of the VO, 16.7% of the NVD, and 14% of the NVS. The percentage of the entire sample which selected themselves

and/or their siblings as the most abusive person was 8.4%. No one in the NVS group designated himself as the most abusive person in the house.

### Stress Measures

#### *Two-Way MANCOVA*

The two-way MANCOVA over the 14 stress variables yielded a significant group effect (Pillai's  $F[56, 716] = 1.43, p \leq 0.05$ ). The univariate  $F$  tests produced seven significant stress differences: small income, children, female partner, trouble with law/police, female partner's housekeeping, and racial discrimination. Another item approached significance: own physical health.

Race as a variable in the two-way MANCOVA also generated significant effects (Pillai's  $F[28, 354] = 1.83, p \leq 0.01$ ). Of the 14 stress items, 1 reached significance: racial discrimination. One other question approached significance, partner's housekeeping.

#### *One-Way MANCOVAs*

A one-way MANCOVA over groups (without race) of the stress items yielded combined group means which appear in Table V.

A one-way MANCOVA over race (without groups) provided a clearer understanding of racial differences in stress. In regard to racial discrimination, blacks ( $M = 1.88$ ) had a higher mean score than either other minorities ( $M = 1.00$ ) or whites ( $M = 1.26$ ). Given that "1 = Never" on the response scale, the reported levels of stress are not high. On the stress variable, partner's housekeeping, whites ( $M = 3.33$ ) had a higher mean score than blacks ( $M = 2.23$ ) or other minorities ( $M = 1.96$ ).

### Stepwise Discriminant Functions

One step-wise discriminant functions analysis using the BDHGI factors compared all five groups and another compared three groups (MVU, NVD, and VO). Three stepwise discriminant functions analyses using all the scale data assessed between-groups differences of all five groups, between three-groups, the MVU, NVD, and VO, and contrasted the MVU + MVO group vs MVC + NVD + NVS group. A few exploratory analyses contrasted selected group pairs.

Table VI. Standardized Discriminant Function Coefficients and Prediction Results, Five-Group Comparisons

Variable	Actual group	Predicted Group					
		MVU <sup>a</sup>	MVC	NVD	VO	NVS	
<b>BDHGI Factors</b>							
Function 1	Group 1	27	1	6	5	3	
	(42)	64.3%	2.4%	14.3%	11.9%	7.1%	
Indirect Hostility	0.77	Group 2	15	8	8	6	12
Verbal Hostility	0.37	(49)	30.6%	16.3%	16.3%	12.2%	24.5%
		Group 3	8	2	2	24	7
		(43)	18.6%	4.7%	4.7%	55.8%	16.3%
Function 2		Group 4	5	5	6	20	7
Suspicion	0.68	(42)	11.9%	11.9%	14.3%	47.65%	14.3%
Assault	0.65	Group 5	1	8	8	10	23
Guilt	0.30	(50)	2.0%	16.0%	16.0%	20.0%	46.0%
Function 3							
Irritability	0.81						
Negativity	0.58	Percentage correctly classified 45.13%					
Resentment	0.54	Percentage expected to classify 20.00%					
<b>All the Data (Function 1)</b>							
Partner (stress)	0.61	Group 1	25	7	4	3	2
Indirect Hostility	0.46	(41)	61.0%	17.1%	9.8%	7.3%	4.9%
Children	0.41						
Her housekeep (stress)	0.40	Group 2	8	25	5	5	5
Dad psychol abused	0.36	(48)	16.7%	52.1%	10.4%	10.4%	10.4%
Mom psychol abused	0.35						
Irritability	0.34	Group 3	5	5	24	5	3
Saw dad physical abuse	0.32	(42)	4.8%	11.9%	59.5%	14.3%	9.5%
Dad physically abused	0.30						
Saw dad verbal abuse	0.30	Group 4	5	2	3	23	7
Saw mom verbal abuse	0.29	(40)	10.0%	7.5%	5.0%	55.5%	22.5%
Own mentl/hlth (stress)	0.29						
Saw dad threat abuse	0.28	Group 5	2	2	3	8	35
Mom physically abused	0.28	(50)	4.0%	4.0%	6.0%	16.0%	70.0%
Her outside sex (stress)	0.27						
Saw mom threat abuse	0.26						
Saw dad psychol abuse	0.24						
Job troubles (stress)	0.20						
Verbal hostility	0.18						
Own outside sex (stress)	0.16						
Racial discrim (stress)	0.13	Percentage correctly classified 59.73%					
Her pregnancy (stress)	0.10	Percentage expected to classify 20.00%					

<sup>a</sup>Groups: MVU = Family-Only Violent, Uncounseled; MVC = Family-Only Violent, Counseled; VO = nonfamily, Violent Offenders; NVD = Nonviolent Discordant; NVS = Non-violent Satisfactorily Married.

### *Five-Group Comparison*

The five-group comparison using only the BDHGI factors was significant (Wilks's lambda = 0.5980,  $p \leq 0.001$ ), with a group membership prediction accuracy of 45.13% (20% expected). Using all the data, the analysis achieved significance (Wilks's lambda = 0.2561,  $p \leq 0.001$ ) and correctly classified 59.73% of the cases (expected correct classification, 20%). Table VI provides the standardized coefficients for the first function and reproduces the classification table.

### *Three-Group (MVU, NVD, and VO) Comparison*

The three-group comparison using only the BDHGI subscales reached significance (Wilks's lambda = 0.5446,  $p \leq 0.001$ ) and correctly identified 62.99% of the cases (33% expected correct classification). Adding in the remaining data led to significant discrimination (Wilks's lambda = 0.3106,  $p \leq 0.001$ ) and classified a higher percentage of cases correctly than chance would predict, 78.05% (expected correct classification 33%).

### *Comparisons with BDHGI Factors*

As predicted, a comparison of the MVU + VO vs MVC + NVD + NVS produced a significant discriminant function when using only the BDHGI subscales (Wilks's lambda = 0.8393,  $p \leq 0.001$ ). Additional analyses also revealed that using the BDHGI subscales alone was sufficient to significantly discriminate between the MVU and VO (Wilks's lambda = 0.6446,  $p \leq 0.001$ ), the NVD and VO (Wilks's lambda = 0.6362,  $p \leq 0.001$ ), and the MVU and the MVC (Wilks's lambda = 0.8447,  $p \leq 0.05$ ). The BDHGI factors did not significantly discriminate between the MVC and NVD groups (Wilks's lambda = 0.9347,  $p > 0.05$ ).

## **Summary of the Findings**

### *BDHGI Factors and Proviolence Items*

In general, the results supported the experimental hypotheses. The groups differed significantly on five of the eight BDHGI subscales: Assault, Indirect Hostility, Irritability, Resentment, and Verbal Hostility. The demographic variable of race reduced the group effects. Whites were less Assaultive and Suspicious than blacks and other minorities. The importance



of race also appeared in the analysis of the proviolence items. Whites' attitudes were less proviolent than those of blacks and other minorities.

### *Experienced Childhood Abuse and Observation of Parental Violence*

The analyses of items centered on childhood abuse and observation of parental violence revealed that three of the six measures of childhood abuse and two of the eight items of childhood observation of abuse varied significantly between groups. Significant racial differences did not emerge. Nonetheless, when analyses eliminated the variable of race, four of the six childhood abuse items and all of the witness of parental abuse questions varied significantly between groups.

### *Stress*

Of the 14 stress items, only 2 were significant, but when race did not enter the analyses, 11 questions significantly differentiated between the groups. Race was a significant factor, as one would expect, on the item "racial discrimination," but also on the question, "partner's housekeeping." Whites reported more stress than blacks and other minorities attributed to the female partner's "poor" housekeeping.

### *Other Tests*

The range tests following one-way ANOVAs provided information about significant differences in patterns of hostility which were characteristic of each group. Discriminant functions analyses using the BDHGI helped reduce the number of discriminating factors and offered information about diverse patterns of hostility.

Methodological considerations require certain precautions in interpreting these data. First, the protocols consist of self-reports, a known source of misinformation and underreporting (e.g., Riggs *et al.*, 1989). This source of error combined with incomplete data may have compromised group classification. Also, the use of demographically unmatched groups, even with appropriate statistical treatment, is less desirable than using matched groups. Lastly, the use of experimenter-constructed questionnaires limits confidence in the interpretations.

## DISCUSSION

There continue to be disagreements about the major causes of violent behavior, the ways in which violent men differ, and the reasons why they differ. The well-documented association between childhood abuse and adult aggression (e.g., Rivera and Widom, 1990) is easily accommodated by social learning formulations (Bandura *et al.*, 1961; Bandura, 1973, 1979), the most influential and powerful model of aggression and its etiology. Social learning theory views aggression as developing from the learning experiences of the individual, through interactions with important people such as parents and peers, and through social influences such as the media.

Main and George (1985), for example, conducted one of the most fascinating studies of early learning and aggression. They established that toddlers as young as three, exposed to parental abuse, already expressed abusive and disturbed reactions to crying agemates in a day care setting. The abused toddlers reacted with fear or anger, alternately comforting and attacking children who were crying (e.g., because of a skinned knee).

Dutton (1988) applied a social learning model to wife-assaulters that includes the interaction of individually acquired dispositions with social-contextual features of the family, the subculture, and the broader culture. O'Leary (1988) identified five variables in a social learning theory of interpartner aggression as personality style, stress, alcohol use and abuse, relationship dissatisfaction, and violence in the family of origin.

From a slightly different perspective, Farrington (1980) advanced a frustration/strain/aggression hypothesis. His formulation rests upon the growing body of evidence concerning the high level of negative stress reported by batterers (e.g., Barling and Rosenbaum, 1986). The stress of the relationship itself seems to trigger some spousal abuse (Rosenbaum and O'Leary, 1981). MacEwen and Barling (1988) proposed that abuse during childhood predisposes individuals to react to stressors with violence.

A relevant outcome of the current study is the information provided by examining perceived causes of stress. However, interpretations related to these measures require caution since the use of experimenter-designed questionnaires jeopardizes validity. With this precaution in mind, the primary stressor for MVU men is their "partner." Further, among the stressors, "partner stress" is the strongest differentiating variable among the five groups. Lastly, the level of negative stress reported by the subjects correlated significantly and positively with their total Hostility score  $r = 0.30, p < 0.001$ .

Eron *et al.* (1987) suggest that cognitive variables such as motivation intercede between the viewing of televised violence and enacted criminal behaviors. This type of cognitive-behavioral explanation of violent behavior

most successfully accounts for the results of the study presented here. Within this framework, life stressors serve as stimulus variables, hostility, proviolence attitudes, and negative stress reactions as learned intervening, cognitive variables, and forms and frequencies of violence as learned response variables.

In the last analysis, it is this cognitive variation, along with additional mediators described by others [e.g., depression (Hamberger and Hastings, 1986), cultural attitudes (Briere, 1987; Goode, 1969), the effects of poverty (Denno, 1985; McDowall, 1986) and broad social factors] which produce differing patterns of adult aggression, whether family-only or nonfamily-only. A multivariate approach, such as the one proposed by Howell and Pugliesi (1988), seems essential.

### A Continuum of Violence Dimensions

Given the caveat limiting interpretation, the results indicate that violent individuals have experienced types and levels of childhood abuse by their parents and have observed forms and levels of parental violence which are in sharp contrast with the experiences of nonviolent individuals. These data imply that differing parental styles may have led not only to divergent types and levels of hostility and proviolence attitudes, but also to divergent types and levels of negative stress reactions characteristic of family-only violent men, nonfamily-only violent men, and maritally non-violent, discordant men. Lastly, these variations reflect difference attributable to race.

Violence may range on a continuum of overlapping typologies. The continuum extends from the family-only violent men to the VO group. The VO group, in turn, overlaps to some degree with NVD men.

#### *Family-Only Violent*

MVU and MVC men have experienced the highest levels of physical and psychological abuse from both parents and have observed the highest levels of abuse in every category by both parents. As adults, they are the most hostile. These findings confirm those of Shields *et al.* (1988).

MVU men as opposed to VO men are more Indirectly Hostile, Irritable, and Resentful. The discriminant functions analysis for these two groups using only the BDHGI factors significantly distinguishes the two groups (Wilks's lambda = 0.6446,  $p \leq 0.001$ ) but only correctly classifies 67.57% (50% correct classification expected). It is the addition of the other measures to the analysis that very clearly differentiates these two groups

(Wilks's lambda = 0.4095,  $p \leq 0.001$ ): 87.8% of the MVU and 94.9% of the VO correctly identified cases.

Contrasting the MVC men to the VO men leads to better discriminability when the stepwise discriminant analysis deals with only the BDHGI subscales (Wilks's lambda = .6452,  $p \leq 0.001$ ), 75% correct classification of cases. When all the data enter the analyses, the results resemble those of the contrast between the MVU and VO (Wilks's lambda = 0.2993,  $p \leq 0.001$ ), 92.39% correct classification of cases. These results include differences attributable to race and are congruent with those of other researchers (Maiuro *et al.*, 1988) that family-only and generally violent men manifest some similar characteristics, but also manifest some dissimilarities.

The MVU group's scores also appear to overlap those of unhappily married, nonviolent men (NVD) to some degree. Although the two groups resemble each other on three scales (Guilt, Irritability, and Suspicion), they are very dissimilar on overall Hostility and on three of the other subscales (Assault, Indirect Hostility, and Resentment). Overall, the MVU group is significantly more Hostile than the NVD group.

The discriminant functions analyses, employing either the BDHGI subscale data alone or in combination with the other variables, also signify that the subjects deviate significantly (Wilks's lambda = 0.7908,  $p \leq 0.001$ ; and Wilks's lambda = 0.5634,  $p \leq 0.01$ ). The analyses provide good identification of group membership (71.53% and 86.13%, respectively).

### *Nonfamily-Only Violent*

The VO, a sample consisting of over 69% black men, have experienced moderately high levels of physical and psychological abuse from their fathers, but comparatively lower levels from their mothers, significantly lower levels than reported by the MVU and MVC. Their observation of parental abusive behaviors is moderate contrasted to the other groups. Also, no racial differences emerged in the two-way MANCOVAs of childhood abuse and observation of abuse. These results appear to contradict Erlanger's (1979) thesis that nonwhite parents use more severe discipline with their children than white parents.

VO men are very Assaultive and Suspicious as adults and quite Resentful, but rather average in other forms of hostility and less Hostile in general than MVU men. Since a significant racial difference occurred on both the Assault and Suspicion variables, race probably has accentuated the difference between groups. Significant racial differences also arose on two of the experimenter-designed proviolence scale items indicating that

whites generally hold attitudes less accepting of violence than blacks and other minorities.

Based on previous research by others, the situational context, living in the "subculture of violence" (Goode, 1969), is probably the most significant variable which predisposes the VO to develop cognitive and behavioral patterns which vary from MVU men. Straus et al. (1980) suggest that the "values and attitudes regarding the use of interpersonal violence are probably learned and supported by the social groups in which these men participate" (p. 92).

#### *Discordant, Nonviolent*

NVD men have encountered moderate levels of physical abuse from both parents, accompanied by much higher levels of psychological abuse from both parents, while their observation of parental abuse has been average. The NVD subjects share some similarities in Hostility with VO men (Indirect Hostility, and Resentment), but differ in two important ways. The NVD are more Irritable, while the VO are more Assaultive. Using only the univariate ANOVA, the two groups do not differ on overall Hostility.

On the other hand, discriminant functions analyses of the BDGHI subscales for these two groups display significantly dissimilar patterns of Hostility (Wilks's lambda = 0.6362,  $p \leq 0.001$ ; 82.35% correct identification of group membership). Group membership predictions did not improve much with the addition of the other test scores (Wilks's lambda = 0.4193,  $p \leq 0.001$ ; 85.37% correct identification). Thus, the major difference between VO and NVD men is their pattern of Hostility.

Lastly, the NVD and MVC groups are comparable (Wilks's lambda = 0.9347,  $p \leq 0.12$ ) when using only the BDHGI factors, with no significant variation on any single Hostility measure. Adding in the other data, however, does make the two groups distinguishable (Wilks's lambda = 0.4193,  $p \leq 0.001$ ).

#### *Satisfactorily Married, Nonviolent*

The NVS men tend to be less hostile on every subscale, and are significantly less Hostile than every other group. These men have unique characteristics that differentiate them from all the violent subjects as well as the NVD men.

The findings of this study are consistent with previous research. Moreover, they augment previous findings by clarifying the types and quantities of abuse received and observed during childhood, relating these vari-

ables to differences in forms and frequencies of adult hostility in family-only and nonfamily-only violent men.

The MVC men report the highest levels of stress experienced by any of the groups. One implication is that counseling maritally violent men calls attention to the stress that they are experiencing, resulting in reports of very high discomfort. Another ramification is that MVU men may under-report not only their abusive behaviors (O'Leary and Arias, 1984), but also their stress and anger (see Barnett and Lindsay, 1985; Hoshmond, 1987). The MVC men are also less Assaultive and Resentful, a result consistent with research assessing the effectiveness of batterers' treatment programs (Dutton, 1987). Counseling probably does reduce, but not completely eliminate hostility.

What are the implications of the present study for the detection and treatment of men who differ in forms and frequencies of violence and in marital satisfaction? First, the recognition and management of anger and hostility, as well as reduction of stress, should continue to be an integral part of any therapy for family-only violent men (Deschner, 1984; Dutton, 1988; Ganley, 1981; Gondolf, 1985a, 1985b; Maiuro *et al.*, 1986; Saunders and Hanusa, 1984).

Second, if "therapy" is to be used with violent offenders (especially minority offenders), rather than some other form of rehabilitation such as job training (with or without imprisonment), the findings of the current study suggest that anger management should center upon altering beliefs and behaviors about Assault, Resentment, and Suspicion.

Last, the present research indicates that unhappily married, non-violent men (NVD) especially need to reduce their levels of Irritability and Verbal Hostility, assuming these behaviors are relatively stable "traits" instead of temporary "states." In summary, rehabilitation and counseling will be more effective, as Russell (1988) has said, if client traits are matched with both treatment modality and focus of therapy.

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