

Continuities in Marital Violence

Sharon Woffordt,¹ Delbert Elliott Mihalic,¹ and Scott Menard²

Marital violence studies of clinical populations of battered women indicate that, over time, violence becomes an habitual strategy for resolving conflicts resulting in escalation in frequency and severity of violence. This study examines the issue of continuity of marital violence among a national probability sample of female victims and male offenders. Findings indicate that among the general population, approximately one-half of all marital violence is suspended over a three-year period. Predictors of marital violence continuity were also investigated in an exploratory way.

KEY WORDS: violence; abuse; continuity; marital.

INTRODUCTION

There is evidence that marital violence escalates in frequency and severity over time. These findings have been derived mainly from clinical samples of battered women (Browne, 1980; Pagelow, 1981; Walker, 1984). Pagelow (1981) stated: "One of the few things about which almost all researchers agree is that batterings escalate in frequency and intensity over time" (p. 45). And as Ferraro (1988) pointed out, "Unfortunately, there is little information on couples who have resolved the issue of violence in their relationship. Researchers in the field and service providers are unable to produce more than one or two cases, at most, in which violence has ceased, once begun . . . the prospects for eliminating abuse appear slim" (p. 137). For clinical and shelter samples, it appears that, over time, violence becomes an habitual strategy for resolving conflicts. However, clinical

¹University of Colorado at Boulder, Institute of Behavioral Science, Campus Box 442, Boulder, Colorado 80309.

²School of Criminal Justice, State University of New York, at Albany, Albany, New York 12203.

and shelter samples of battered women may not be representative of the general population of women who experience marital violence. The purpose of the present study was to focus on the continuity of marital violence in a representative sample to determine the extent of continuity and to identify factors related to continuity.

Past research on this topic has been mainly drawn from clinical and shelter samples. Most women who experience marital violence, however, never seek the help of shelters or treatment agencies. Gelles (1976) found the best predictor of seeking intervention to be the severity of violence. In the 1985 National Family Violence Survey (Straus, 1990a), only 13 of the 622 women who reported some type of violence in their relationships sought the services of a shelter. Discrepancies in findings between the National Family Violence Survey and clinical samples of battered women prompted Straus (1990a) to directly compare frequency rates of assault in two shelter samples which had utilized the Conflict Tactics Scale (Giles-Sims, 1983; Okun, 1986) with the 1985 National Family Violence Survey. The women in the shelter samples reported an annual frequency of 65 to 68 assaults per year, a frequency 11 times greater than the average frequency of six times per year reported by the 622 women who reported violence (12% of the sample) in the National Family Violence Survey. Only four women in the National Family Violence Survey were assaulted as many as 65 times during the survey year. Whether incidence rates are so low for extremely high levels of violence that surveys fail to identify this population, or whether they are under-represented in surveys because of other familial problems, these disparities pose serious problems for generalizing findings from clinical samples to the total population and may account for many of the differences found in studies of the two populations.

The experiences of the vast majority of women assaulted by their partners may be both quantitatively and qualitatively distinct from those women comprising shelter samples. While current research suggests that violence escalates in frequency and severity for those women who seek the safety of shelters, the generality of this particular progression is problematic.

Since most research findings on marital violence continuity are drawn from clinical and shelter samples of battered women, little is known about continuing patterns of violence among the general population. The only study which has examined this issue among a representative sample was conducted by Feld and Straus (1989). Blumstein *et al.*'s (1986) criminal careers paradigm definition of desistance which Fagan (1989) introduced to family violence research — the termination of criminal behavior for any reason except incapacitation — was utilized in their investigation of assault

in marriage over time. They used the 1985 National Family Violence Survey as the source of data for year one and the 1986 re-interviews of married respondents who reported one or more assaults in their marriage the previous year, those who had no violence in the previous year but had experienced violence at some point in the past, and a random sample of respondents who reported no previous violence at all as the source of data for year two. They reported their findings on a total sample of 380 married respondents. They found that 43% of the most frequent perpetrators of severe violence (three or more times) in year one used no severe violence in year two (33% used no violence at all in year two, and 10% used only minor forms of violence). Over half (57%) of these men continued using severe violence on their female partners. Assaults by the husband in year two (either minor or severe) followed in 42% of the cases when there were one or two severe assaults in year one, and violence followed in 10% of the cases when there were no assaults in year one. Additionally, they found that minor assaults by either spouse at Time 1 were associated with a subsequently higher rate of severe assaults by the husband at Time 2. The temporal ordering of cause and effect cannot be disentangled in this analysis, since it is not known whether women were responding to violence by their partners in the prior year. Even though the use of panel data present some unique problems, it is superior to a cross-sectional analysis for a time-ordered study of this type.

A community study (O'Leary *et al.*, 1989) examined the likelihood of engaging in marital violence among couples one month prior to their marriages and examined the stability of physical aggression during the first 30 months of marriage, with an assessment at 18 and 30 months. The 1 year coefficients (18 to 30 months) reflected fair to good stability (.55 for women and .41 for men), but poor stability over the 30-month period (.31 for both women and men). Greater stability was indicated when individuals were classified at pre-marriage as aggressive or nonaggressive for later classification purposes. Aggressive individuals at 18 months had a probability of aggressing at 30 months ranging from .46 to .72 across the different groups. A male who aggressed at both pre-marriage and at 18 months had a probability of aggressing at 30 months of .59; for women the probability was .72. This indicates that the presence of prior aggression aids in the prediction of aggression.

Police studies shed some light on the question regarding the stability of marital violence. Several studies examined recidivism at some point in time after an initial police contact. Sherman and Berk (1984), comparing the deterrent effects of arrest, separation, and mediation, found an overall 6-month official recidivism rate of 18.2%, and a recidivism rate of 28.9% based on self-reports by the wife-victim. In a replication of the

Sherman and Berk experiment, Dunford *et al.* (1990) reported an overall six-month official recidivism rate of 10.6%; 40% of the victims self-reported being pushed, hit or shoved, and 25% self-reported injury. Dutton (1986) found official recidivism rates over a 6-month to 3-year follow-up period to be 40% among a control group who had received no court-mandated treatment. In another recidivism study of the effect of legal sanctions, Fagan (1989) found that 72% of his sample overall self-reported no subsequent violence and 94% reported no injuries during the 6-month follow-up period. The low recidivism rates reported in these studies may be reflective of the interventions by the police, the ongoing interview process, and short follow-up periods (mostly 6 months). Dunford (1992) found that relatively large numbers of perpetrators recidivate between the 7th and 12th months of follow-up, clearly indicating that recidivism for many occurs well after the 6-month follow-up periods used in most studies. These studies (both short- and long-term) contradict the perception of continued violence.

Bowker (1983) explored strategies employed by victims who were successful in getting their partners to end the violence. Bowker's analyses were based on 146 in-depth interviews with formerly battered women in the Milwaukee area recruited through social agencies, religious and cultural groups, and appeals through newspapers, television, and radio. Bowker cited three strategies employed by battered women to end the violence: (1) personal strategies and techniques, including talking, promising, threatening, hiding, passive defense, aggressive defense, and avoidance; (2) informal help sources, including family members, in-laws, neighbors, and friends; (3) formal help sources, including police, social service agencies, lawyers and district attorneys, clergy, and women's groups. While Bowker's analyses showed no technique to be consistently effective or ineffective, strategies which raised the social costs of battering for the assaulter were effective for many of the victims (e.g., social disclosure within the informal network and social and legal interventions; however, legal interventions were also rated as least effective for about the same percentage of respondents, indicating a differential treatment effect). Bowker summarizes the results of this study by saying that "almost any strategy or help-source can ultimately work. The critical factor is not always the nature of the strategy or help-source; what really matters is the woman's showing her determination that the violence *most stop now*" (p. 131).

This paper reports on an analysis of the continuity of marital violence in a general population sample. The central questions considered are: (1) Does all marital violence, once initiated, continue over time in the general population? (2) How strong is this tendency? and (3) Given

some variation in the suspension/continuity of marital violence, what factors account for this difference (e.g., attributes and background characteristics of offenders/victims, demographic factors, relationship factors, and contextual factors)? If marital violence, once initiated, invariably escalates in severity and continues for the duration of the marriage (and frequently beyond), then the only resolution for the cessation of violence may be the termination of the marriage and a complete physical separation of partners. However, if some women and men are able to suspend violence without dissolving the marriage, then it would be beneficial to know how this was accomplished. Factors which might account for this difference in the course of marital violence were drawn from the literature on marital violence and examined in this longitudinal analysis of the continuity of such violence. Either hope or despair may be generated by the answers to these questions. If it is found that all marital violence escalates in severity, this would present a dismal picture for the prospect of ever attaining a satisfactory and meaningful marital relationship once violence has been initiated. However, if marital violence can be suspended and there are identifiable factors associated with the suspension of violence, this information could be useful in helping others achieve a resolution of their own abusive relationships.

METHODS

Sample

The data for this study are taken from the National Youth Survey (NYS), a series of nine surveys (Wave 1 to Wave 9) designed to study social and developmental factors in juvenile delinquency, adult crime, and selected forms of violent and antisocial behavior (see Elliott *et al.*, 1983, for a description of the NYS). The NYS, initiated in 1976 (Wave 1), involves a multi-cohort panel design with a national probability sample of 1725 respondents. These respondents, aged 11 to 17 in 1976, were interviewed in face-to-face interviews each year through 1980 (Wave 5) and thereafter at 3-year intervals. Data for this paper are from the 1983 (Wave 6), 1986 (Wave 7), and 1989 (Wave 8) surveys.

The sample for the present analysis is limited to married or cohabiting respondents. (However, a similar analysis limited to the continuously married subsample has been carried out, and both analyses are included in the NYS Project Report 54, which is available on request from the first author.)

Table I. Sample Description

	1983		1986		Combined 1983/1986	
	Male	Fem.	Male	Fem.	Male	Fem.
Not married and not cohabiting	601	431	363	254	N/A	
Married/cohabiting no violence	110	191	220	276	N/A	
Married/cohabiting with violence	66	108	101	126	142 ^a	195 ^a

^a These numbers represent respondents who were married or cohabiting with violence in 1983 or 1986 (25 male and 39 female respondents had violence in both years).

In the NYS, each respondent is reporting on both her/his violence toward their spouse and their spouse's violence toward them. Only one member of each couple is reporting on the behavior of both partners. Hence, the NYS provides information on both male and female offending; and on both male and female victimization. However, because of the heated debate that has ensued over the question of husband battering, as well as the personal opinion of the authors that wife battering is an issue of greater importance because of the higher danger of injury for women, we focus only on female victimization and male offending.

Subjects were included in the present study based on a capture-recapture selection model. Subjects could enter the study by engaging in (males) or being a victim of (females) violence in 1983. If they were not included in the sample during this first time period, they could enter the study if they were a victim or perpetrator of violence during 1986. By including two waves of data as the entry point for Time 1 (T1), we were able to increase our total *N* for subsequent analyses. Continuity of violence at Time 2 (T2) was measured in 1986 for those respondents who entered the study in 1983, and in 1989 for those respondents who entered the study in 1986. Since respondents were reporting on violence only in the previous year, we have no information about marital violence which may have occurred during the intervening 2-year time periods.

Married or cohabiting subjects with marital violence at T1 include 195 female victims and 142 male perpetrators (Table I shows how the NYS sample was narrowed to the present numbers). The respondents at T1 were 18 to 27 years of age, and at T2 were 21 to 30 years of age.

Table II. Prevalence Rates of Marital Violence Victimization and Offending at Time 1

	<i>N</i>	Types of Victimization at T1		
		Minor (%)	Serious (%)	Severe (%)
Married/cohabiting females w/Victimization at T1	195	69	13	18
Missing cases	40	53	23	25
Inaccessible T2	15	73	13	13
Not w/partner T2	25	40	28	32
Reduced sample	155	73	11	16
Chi-square between Reduced Sample and Missing Cases = 6.49 with 2 df, $p = .04$				
	<i>N</i>	Types of Offending at T1		
		Minor (%)	Serious (%)	Severe (%)
Married/cohabiting males w/Offending at T1	142	73	18	9
Missing cases	35	66	23	11
Inaccessible T2	20	55	35	10
Not w/partner T2	15	80	7	13
Reduced sample	107	76	17	8
Chi-square between Reduced Sample and Missing Cases = 1.37 with 2 df, $p = .50$				

Due to inaccessibility of some respondents at T2 and a number of respondents who were separated with no contact or divorced from their partners at T2, several potential respondents were omitted from this analysis, leaving a sample of 155 females and 107 males for which analyses were run. The missing cases were compared with the sample used in the analysis (for whom we had information in both time periods) to determine if there were any differences in the severity of violence at T1. The missing cases had lower rates of Minor violence and elevated rates of Serious and Severe violence. For inaccessible victims, there were no differences in rates of Serious and Severe violence. The difference was for terminated relationships, suggesting higher rates of Serious and Severe violence lead to termination of marital relationships. For female victims, these differences were statistically significant indicating selective losses among females with more Severe violence (see Table II).

MEASURES

Marital Violence

Marital violence has proven difficult to conceptualize. Problems stem from a basic disagreement as to the key items to include in a definition of violence. Questions regarding whether slaps, pushes, and shoves constitute violence, and whether sexual and psychological abuse and physical neglect should be included in the definition have been raised. Walker (1979) emphasizes that most women in her study described psychological humiliation and verbal harassment as their worst battering incidents, whether or not they had been physically abused. There have been efforts to distinguish between legitimate acts of force, such as spanking a child, and illegitimate acts of violence, such as beating a child (Goode, 1971). Such distinctions have also proven difficult to conceptualize, since there are many ideas on the definition of acceptable and unacceptable behavior. We have followed the lead of Straus *et al.* (1981) who define violence as "an act carried out with the intention, or perceived intention, of causing physical pain or injury to another person." This definition of violence focuses attention on all forms of physical violence.

Our measure of marital violence includes the eight Conflict Tactics Scale (CTS) items which measure physical violence. The validity and reliability of this scale has been well established (Straus, 1990d). The CTS queries male and female respondents about the means used to resolve conflicts with their spouses by asking respondents to think of situations in the past year when they had a disagreement or were angry with their partner and to indicate if they had engaged in or been a victim of any of the acts included in the CTS. These eight items ranging from throwing something or pushing at one end of the continuum to use of a knife or gun at the other, comprise the CTS Physical Violence Scale. The CTS has been both criticized (Dobash and Dobash, 1988; Okun, 1986; Saunders, 1988; Walker, 1984) and defended (Straus, 1990b-d), but in the absence of accepted alternatives, is still the best available measure of violence.

For several analyses, the eight CTS physical violence items were subclassified into three categories indicating the level of severity of violence:

Minor, Serious, and Severe

Minor violence includes the following acts: throwing something; pushing, grabbing, or shoving; and slapping. Serious violence consists of kicked, bit or hit; and hit with something. The last three items of the CTS Scale comprise the Severe violence scale: beat up, threatened with knife or gun,

and used knife or gun. If any act of Minor violence occurred, a score of one was given for Minor violence; otherwise the category was zero. The same scoring was used for Serious and Severe violence. Respondents were classified into one of the three groups according to the most serious acts of violence encountered (i.e., respondents in each category may have committed or been a victim of less serious acts, but did not commit or were not a victim of more serious acts). Consequently, the Serious violence measure does not exclude acts of Minor violence, and the Severe violence measure does not exclude acts of Minor or Serious violence.

As indicated by Table II, the most common form of violence reported by respondents in our study was Minor violence. Over 70% of the females and males reported only Minor acts of violence, and among those reporting only Minor violence, approximately 55% reported two or fewer acts of violence in the previous year. Hence, most of the violence we are reporting on is Minor, not Severe, and less chronic in nature. It is important to keep this in mind as we interpret the results of the following analyses. Factors influential in the suspension/continuity of violence among those experiencing more chronic and severe violence may be different from those identified in this analysis.

Dependent Variable — Suspension/Continuity of Marital Violence

The term often invoked when discussing the cessation of violence is desistance. Desistance is a concept from the criminal careers paradigm, defined as the termination of a criminal career (Blumstein *et al.*, 1986). While most criminal careers are short, consisting of one or two isolated incidents, many careers are lengthy, and violence follows a natural course, eventually tapering off as offenders grow older.

Little is known about what constitutes a reasonable time-lag for determining desistance, and little information has been gleaned beyond short study periods. Sherman and Berk (1984) assumed a 6-month period was adequate given the data from the Kansas City Police Response Study. In their study of desistance from wife assault, Feld and Straus (1989) felt that 1 year without violence was important enough to be considered desistance. They also indicate that the rate of initiation of severe violence (following a year with no severe assaults) was extremely low. Dunford (1992), however, found new violent incidents occurring in the Omaha experiment as long as 24 months after a reference event. Indeed, if violence is cyclical, then short-term follow-up periods are problematic. The 3-year time lag in the present study provides a longer time period than most studies which have examined desistance, thus providing useful information regarding the time lag issue.

Since desistance requires knowledge of the total life span, we adopt the term "suspension" to identify those respondents who terminated violence in their marital relationships, for any reason, from T1 to T2. Since this paper encompasses a time period of only 3 years, suspension appears to be a more appropriate concept for describing the lack of continuity in the observed data, given the right-hand censoring in these data (i.e., offenses which may occur after the study).

The dependent variable (CONTINUITY) indicates the absence or presence of marital violence at T2, given violence at T1.

Independent Variables

The causes of suspension/continuity are drawn from the literature and are considered identified correlates of domestic violence in general. It is not known which, if any, of these variables have applicability to the suspension or continuity of marital violence since there has been little research in the area of suspension. Therefore, these correlates are examined in an exploratory way. The independent variables may be identified with several theoretical perspectives including social learning theory, resource theory, and network theory. Most of the independent variables were measured at T1 (either 1983 or 1986). A few of the variables were measured earlier to determine the extent of prior victimization and assaultive behavior. Definitions and survey years from which the variables were measured follow.

Socio-Demographic Factors

AGE was examined as a predictor of CONTINUITY. The respondents at T1 ranged from 18 to 27 years of age. ETHNICITY involved a classification of respondents into two categories: majority (including Anglo Whites) and minority (including all Hispanics, Blacks, Indians, and Orientals). Social CLASS OF ORIGIN (Parental class at Wave 1 — the first data collection point in 1976), was measured by Hollingshead's Two-Factor Index of social position and ranged from 11 to 77 (high to low class). For the chi-square analyses this index was collapsed into three categories — middle, working, and lower. EDUCATION was an indicator of educational achievement at T1. Place of residence (USR) was based on U.S. census descriptions of locations where respondents lived at T1 and was comprised of three categories — urban, suburban, and rural. HOLLINGSHEAD OCCUPATION was another measure of socio-economic status; this measure reflected the respondent's occupation at T1, and its categories ranged from executive/professional to unskilled labor. In order to avoid losing the unemployed

respondents from the analysis, we have coded them into the lowest occupational group. INCOME at T1 was a measure of yearly personal income from the respondents' major job plus any unearned income, including welfare. Those women who did not have jobs were coded as having zero income; there were no males with zero income. WELFARE was a prevalence measure which indicated whether or not respondents had received welfare at T1. Religiosity was a measure of RELIGIOUS SERVICE ATTENDANCE at T1 and for the chi-square analyses was scored as never, occasional attendance (several times a year to once or twice a month), and frequent attendance (once a week to several times a week).

Victim/Offender Characteristics

A scale measuring SEX-ROLE ATTITUDE (see Appendix for a list of individual items comprising this scale) was included in the analyses. Reliability for this scale has been previously established (Ageton, 1983). This scale was taken from the Wave 5 (1980) items, since these items were not asked in 1983 or 1986. Values on this scale ranged from 9 to 41, with the highest numbers indicating traditional sex-role attitudes. For the chi-square analyses, the scale was recoded into three categories (liberal, traditional, very traditional) with dividing points made to ensure a fairly equal number of respondents in each category among the full NYS sample which included both sexes. The distributions by sex, however, were skewed with a majority of females reporting a liberal sex-role attitude, and males a traditional sex-role attitude.

Research findings are not definitive concerning the generalizability of violence across targets and settings, and most research in this area involves long-term, retrospective data which are suspect. The NYS enables us to examine the history of each respondent prospectively and thus examine prior victimization and assaultive behavior in adolescence and beyond on the part of those engaging in and victimized by marital violence as an adult. These data avoid most of the recall problems associated with retrospective recall periods. Scales for PRIOR VICTIMIZATION, PRIOR MINOR ASSAULT, and PRIOR FELONY ASSAULT were created. Test-retest reliabilities have been previously obtained for Minor and Felony Assault and are within acceptable ranges, .59 and .67, respectively, (see Huizinga and Elliott, 1986). The scales were composed of items (see Appendix) from Waves 1 through 5 (1976–1980) and were coded to obtain prevalence rates. For example, if the respondent had one or more occurrences of any item in the PRIOR VICTIMIZATION scale, the respondent was counted as a prior victim of violence. These data are left-hand censored (i.e., there may be offenses which happened before the beginning of the study for which no data are

available), since the respondents at Wave 1 (1976) were 11 to 17 years of age. In this respect, the measures may be somewhat restricted. PRIOR ABUSE BY PARENTS was defined by one question taken from Waves 1 through 5 which asked respondents if they had been beaten up by their mother or father. Because of the language used in this question, many adolescents may fail to define their abuse as "beaten," making this a conservative measure of abuse. One retrospective item was used in which respondents at Wave 8 (1989), who were then 24 to 30 years old, were asked to recall if they had ever witnessed violence between their parents (WITNESSED PARENTAL VIOLENCE).

EXTRADOMESTIC ASSAULT at T1 was examined to determine whether violence was restricted completely to the marriage or whether violence also occurred outside the domain of marriage. This measure was somewhat restricted in its inclusion of persons outside the marriage whom one may have assaulted (see Appendix), so EXTRADOMESTIC ASSAULT may be underestimated by this measure. For the chi-square analyses, the frequency score was recoded to never or one or more times.

Relationship Factors

A scale measuring MARITAL SATISFACTION at T1 was created (see Appendix). MARITAL SATISFACTION scores range from 9 to 45, with higher scores representing greater marital or partner satisfaction. For the chi-square analyses, this scale was divided into two categories (with 40 as the cutting point) representing a fairly equal number of respondents from the full NYS sample in each category.

WIFE TO HUSBAND VIOLENCE was a prevalence measure which indicated whether the wife had committed any acts of marital violence at T1.

As an indicator of social isolation at T1, respondents were asked how many weekday afternoons and how many weekday evenings (coded 0 to 5), as well as how much time on weekends they spent with friends (ranging from 1 = very little to 5 = a great deal). These three measures of involvement were summed to create a SOCIAL NETWORK scale, which could range from 0 (no friends) to 15 (spending a great deal of time with friends). The scale was recoded for the chi-square analysis into three categories: one category represented having no friends, a frequency of 1 to 6 on the scale represented a average friendship network, and a frequency of 7 to 15 on the scale represented a strong friendship network. The cutoff at frequency 6 was made because in the full NYS sample, there was an approximately equal number scoring above and below 6.

MARITAL indicates the marital status of the respondent; respondents could be married to the same partner, married to a different partner, or cohabiting from T1 to T2. In most cases, we had no information on the continuity of relationships among cohabiting respondents. Although the NYS contains a complete marital history chart for married respondents, the information is incomplete for cohabiting respondents. Thus, for those cohabiting respondents who self-reported cohabitation at T1 and at T2, we have no information whether these respondents were cohabiting with the same partner at the two time periods.

Situational Factors

As an indicator of ALCOHOL PROBLEM USE and MARIJUANA PROBLEM USE at T1, respondents were asked how many times in the last year they had gotten into trouble with their partners, family, friends, or police because of use of alcohol or marijuana (see Appendix). Individual items comprising the two scales were recoded as a "0" if the respondent had never gotten into trouble or a "1" if the respondent had gotten into trouble one or more times, and then summed to create the two scales with a range of 0 to 7 for each.

Two variables were created for determining whether respondents sought informal or formal help for general mental health problems from T1 to T2. One measure (FRIENDS ASSISTANCE) was having ever sought the help of friends for problems in the area of mental health (emotions, nerves, drugs, alcohol), and the other measure (PROFESSIONAL ASSISTANCE) was having ever sought the help of a professional or agency (e.g., minister, psychiatrist/counselor, medical doctor, spiritualist/healer, mental health center, psychiatric outpatient clinic, drug/alcohol clinic, emergency room, family/social service agency) for such problems.

RESULTS

Violence Over Time

Although much of the literature states that violence escalates in seriousness among couples who are ever violent, Tables III and IV do not support this claim.

Table III indicates that among the 155 women who were victims of violence at T1, violence was suspended for approximately half (48%) at T2 and half (52%) remained victims of violence at T2. However, Table III indicates that the more severe the female victimization at T1, the more likely

violence was to continue. Of women who experienced Severe violence at T1, 64% reported continuity of the violence at T2 compared to 49% of the women who reported Minor violence and 53% of the women who reported Serious violence at T2. This finding at least partially supports earlier findings from clinical samples.

The results were similar for male offenders (Table IV). Among the 107 males who perpetrated violence at T1, 49% suspended violence at T2 and 51% continued to be offenders at T2. (Numbers of cases for Serious and Severe violence were too small for separate analysis of continuity for each of the three categories of marital violence.)

Chi-Square Analyses

Table V summarizes the results of chi-square analysis of the dependent variable (suspended vs. continuous marital violence) with the selected independent variables for both marital violence victims and offenders. No variables were statistically significant according to the chi-square analysis for victimization. For male perpetrators of marital violence, those living in more urbanized areas (USR), those with PRIOR MINOR ASSAULT, those with wives who were violent at T1 (WIFE TO HUSBAND VIOLENCE) were more likely to continue perpetrating violence at T2.

Logistic Regression Analysis

An exploratory analysis to determine risk factors for continuity was conducted. Since the dependent variable was dichotomous, a logistic regression was performed to determine the probability of group membership into either the suspended violence or continuous violence categories of the dependent variable. To maximize information, the independent variables were coded as continuous, if possible, and if there was no evidence from the correlation analysis of a nonlinear relationship with the dependent variable (two variables remained coded in categorical form — MARITAL and USR). Two additional variables were added to the regression that were not reported on in the bivariate relationships, FREQUENCY OF MINOR VIOLENCE and FREQUENCY OF SERIOUS VIOLENCE. Because of the exploratory nature of these analyses, the large number of independent variables and the small sample *N*'s involved, a backward stepwise selection method of logistic regression was run.

Backward elimination begins with all the variables in the model. Then, at each step, the likelihood ratio statistic is used to select variables for removal from the model until the final model is achieved. At each step, the

least statistically significant influence on the dependent variable is removed. We relaxed the statistical significance criterion (α) to .10, because our analyses are exploratory, and we wish to determine all likely predictors of continuity from our sample predictors since little is known about the risk factors for continuity. Bendel and Afifi (1977), in their studies of stepwise linear regression, have suggested that $\alpha \leq .05$ is too stringent and often excludes important variables from the model. They recommend a range of from 0.15 to 0.20. A value this high results in an increased probability of Type I error (rejecting the null hypothesis when it is correct). Conversely, using $\alpha \leq .05$ increases the probability of Type II error (failing to reject the null hypothesis when it is false). Tests for the sensitivity of the results to the selection of α indicated that removing variables that failed to meet the $\alpha \leq .10$ model did not significantly affect the fit of the model, but further removing variables to conform to the $\alpha \leq .05$ criterion significantly reduced the fit of the model. For a more conservative estimate of the risk factors for marital violence continuity, results at the .05 level of significance are also reported.

In logistic regression, there are various ways to determine whether or not the model fits the data. The likelihood ratio chi-square indicates the deviation from perfect fit (the null hypothesis states that the observed likelihood does not differ from 1, or the likelihood for a saturated model that, by definition, fits the data perfectly); the model chi-square shows how the theoretical model improves over the model without predictors. Ideally, the likelihood ratio chi-square should have a high p -value, and the model chi-square should have a low p -value. Additionally, a pseudo- R^2 measuring the proportional reduction in the log-likelihood chi-square that the predictors achieve is presented for each table. The pseudo- R^2 is the ratio of the model chi-square with all variables in the model to the log-likelihood chi-square with no variables in the model. It is analogous to the explained variance for R^2 in an ordinary least-squares regression model in the sense that the regression R^2 indicates how much the variance in the dependent variables is reduced by making the variance conditional on the predictors in the model, while the pseudo- R^2 indicates how much the log-likelihood chi-square is reduced by making the probability conditional on the predictors. For descriptions and discussions of the goodness of fit of the model, see Hosmer and Lemeshow (1989). In the present analysis, we focus on the model chi-square as an indicator of whether the predictors have a *statistically* significant effect on the continuity of marital violence (i.e., degree of certainty that the observed effects are not attributable to chance variation), and the pseudo- R^2 as an indicator of the *substantive* or practical significance of the relationship (i.e., the strength of the relationship, given that it is not attributable to chance).

Table III. Marital Violence Victimization Severity/Continuity (T1-T2)

Time 1 (n = 155)	Time 2									
	None		Minor		Serious		Severe		Continuity	
	%	(n)	%	(n)	%	(n)	%	(n)	%	(n)
Minor (113)	51.3	(58)	38.1	(43)	6.2	(7)	4.4	(5)	48.7	(55)
Serious (17)	47.1	(8)	35.3	(6)	11.8	(2)	5.9	(1)	52.9	(9)
Severe (25)	36.0	(9)	32.0	(8)	4.0	(1)	28.0	(7)	64.0	(16)
Total	48.4	(75)	36.8	(57)	6.5	(10)	8.4	(13)	51.6	(80)

Table IV. Marital Violence Offending Severity/Continuity (T1-T2)

Time 1 (n = 107)	Time 2									
	None		Minor		Serious		Severe		Continuity	
	%	(n)	%	(n)	%	(n)	%	(n)	%	(n)
Minor (81)	51.9	(42)	38.3	(31)	7.4	(6)	2.5	(2)	48.1	(39)
Serious (18)	33.3	(6)	44.4	(8)	11.1	(2)	11.1	(2)	66.7	(12)
Severe (8)	50.0	(4)	12.5	(1)	25.0	(2)	12.5	(1)	50.0	(4)
Total	48.5	(52)	37.4	(40)	9.3	(10)	4.7	(5)	51.4	(55)

Both the model chi-square and the pseudo- R^2 are indicators of the overall model fit. They indicate how close the model's *predicted* probability (which may be any number between zero and one, inclusive) of continuity of marital violence is to the *observed* probability of continuity of marital violence (which is either zero or one). Another way to evaluate the model is to see how well the model predicts the actual classification of individuals as either suspending or continuing marital violence. In the present analysis, this is done in two ways. First, the predicted and observed suspension of continuity of marital violence are presented, to see what percentage of cases are correctly predicted. This prediction is based on predicting that all cases with a .5 or greater predicted probability of marital violence, based on the predictors in the logistic regression model, will continue their marital violence, and all cases with a predicted probability less than .5 will suspend marital violence.

Second, an index of predictive efficiency, the tau measure proposed by Klecka (1980), is presented. Tau is a *proportional reduction in error* measure. It calculates the number of errors that would be expected by chance (C), then compares this number with the number of errors actually made based on the predictions of the model (M), according to the formula $\tau = (C-M)/C$. This measure is analogous to Goodman and Kruskal's tau, a measure commonly used in the analysis of contingency tables (and used for MARITAL in Table V). The number that results is the proportional reduction in error; multiplying it by 100 gives the percentage by which the number of errors is reduced by using the model instead of just guessing. For a detailed discussion of tau, see Klecka (1980).

Several variables remained in the regression equation for female victims at the .10 level of significance (Table VI).³ Females at greater risk for remaining victims of marital violence were more likely on WELFARE, of higher CLASS OF ORIGIN status, participants in PRIOR MINOR ASSAULT, women who did not WITNESS PARENTAL VIOLENCE, women who had a higher FREQUENCY OF SERIOUS VIOLENCE, women who had sought PROFESSIONAL ASSISTANCE for problems, and women who had not engaged in PRIOR FELONY ASSAULT. (At step 1) of the regression, when all the variables were included in the model

³The female model at the .05 level of significance which includes only Welfare has a -2 log likelihood chi-square of $p = .0069$, a model chi-square of $p = .0345$, and pseudo- $R^2 = .03$. Use of alpha = .05 instead of .10 resulted in a statistically significantly poorer fit of the model: the change in model chi-square was 16.812 with 6 degrees of freedom, $p = .01$. By contrast, the change in the fit of the model from the full model (all variables included) to the model with the criterion alpha to $\leq .10$ did not have a statistically significant effect on the fit of the model: the change in model chi-square was 8.97 with 21 degrees of freedom, $p = .99$. This further supports the use of alpha = .10 as the criterion for retaining or deleting variables from the model.

Table V. Cross-Classification of Suspended vs. Continuous Marital Violence Victimization and Offending by Selected Variables

Independent Variables	Tau B	
	Victimization	Offending
Age (18-27)	-.04	-.03
Ethnicity (majority/minority)	.11	-.02
Class of Origin (Middle/working/lower)	-.07	-.01
Education (Less H.S./H.S./some college)	-.15	-.03
USR (Urban/suburban/rural)	-.06	-.22 ^a
Hollingshead Occupation (1 = high thru 7 = low)	.05	-.12
Income (None/LT \$15,000/\$15,000+)	.05	-.00
Welfare (No/yes)	.12	-.11
Religious service attendance (Never/occasionally/often)	.02	-.07
Sex-role attitude (Liberal/traditional/very traditional)	.01	.01
Witnessed parental violence (No/yes)	-.10	.07
Prior abuse by parents (No/yes)	.08	.16
Prior victimization (No/yes)	.09	.08
Prior Minor Assault (No/yes)	.10	.22 ^a
Prior Felony Assault (No/yes)	.05	.10
Wife to husband violence (No/yes)	.13	.20 ^a
Extra domestic assault (No assaults/1+ assaults)	.10	.15
Marital satisfaction (Least/most satisfied)	-.15	.03
Social network (None/average/strong)	-.03	.03
Marital (Same/different partner/cohabiting)	.01 ^b	.01 ^b
Alcohol problem use (No/yes)	.08	.14
Marijuana problem use (No/yes)	.11	.13
Friends assistance (Never/sought help at some time)	.10	-.00
Professional assistance (Never/sought help at some time)	.08	.15

^a Chi-square significant at $p \leq .05$.^b Goodman and Kruskal's Tau.

Table VI. Logistic Regression of Continuity of Marital Violence Victimization on Independent Variables ($n = 108$)

Independent variables	B	Standard Error	p (Based on Likelihood Ratio Statistic)
Welfare	1.88	.95	.03
Class	-0.03	.02	.05
Minor	1.24	.53	.02
Witnessed parental violence	-1.70	.64	.00
Frequency of serious violence	0.12	.06	.05
Professional assistance	0.88	.53	.09
Felony	-1.07	.62	.08

$-2 \log$ likelihood $\chi^2 = 128.40$ $df = 100$ $p = .03$

Model $\chi^2 = 21.28$ $df = 7$ $p = .00$

Pseudo- $R^2 = .14$

Classification for continuity of marital violence victimization

Observed	Predicted		Percentage correct
	Suspension	Continuous	
Suspension	41	14	74.55
Continuous	19	34	64.15
		Overall	69.44

Proportional reduction in error: $\tau = .39$

before elimination, the same variables as those in the final model were statistically significant at $p \leq .10$, with the exception of Professional Assistance.) The model chi-square ($p = .00$) indicates that the model with predictors statistically significantly improves the ability to predict over a model with no predictors. The pseudo- R^2 of .14 (analogous to 14% explained variance in an ordinary least-squares regression model) indicates modest strength in the relationship between the predictors and the dependent variable. The classification table indicates that 69% of the cases are

Table VII. Logistic Regression of Continuity of Marital Violence Offending on Independent Variables ($n = 83$)

Independent variables	B	Standard Error	<i>p</i> (Based on Likelihood Ratio Statistic)
Prior minor assault	2.09	.94	.01
Hollingshead Occupation	-0.35	.18	.04
Marijuana problem use	0.45	.28	.06
USR			.09
Suburban	-0.15	.34	.66 ^a
Rural	-0.60	.36	.09 ^a

-2 Log likelihood $\chi^2 = 96.98$ df = 77 $p = .06$

Model $\chi^2 = 17.79$ df = 5 $p = .00$

Pseudo- $R^2 = .15$

Classification for continuity of marital violence offending

Observed	Predicted		Percentage correct
	Suspension	Continuous	
Suspension	22	17	56.41
Continuous	9	35	79.55
		Overall	68.67

Proportional reduction in error: tau = .37

^a*p*-value for individual categories of USR are based on the Wald statistic (calculated from the ratio of the B coefficient to its standard error); the *p*-value for USR overall is based on the likelihood ratio statistic.

correctly predicted, and that the predictions are more accurate for suspension (75%) than for continuity (64%) of marital violence. Overall, the model reduces the number of errors of prediction from what we would expect by chance by 39%. (We would expect about half of the 108 cases, or 54, to be misclassified, but based on the model, the actual number of cases misclassified is 33, thus the formula for tau is $54 - 33/54 = .39$).

Table VII shows that for male offenders PRIOR MINOR ASSAULT, HOLLINGSHEAD OCCUPATION, MARIJUANA PROBLEM USE, and USR were risk factors for continuity at the .10 level of significance.⁴ (At step 1 of the regression, when all the variables were included in the model before elimination, Prior Minor Assault and Hollingshead Occupation were statistically significant at $p \leq .10$, as they were in the final model. Prior Victimization was also statistically significant at step 1 — males with prior victimization were more likely to suspend violence. USR and Problem Marijuana Use were not statistically significant in step 1). Males who reported committing minor assault as adolescents, males of higher occupational status, males reporting problems because of their use of marijuana, and more urbanized males were more likely to be classified as continuous offenders at T2. The model chi-square ($p = .00$) indicates that the relationship between the predictors and continuity of marital violence is statistically significant, and the pseudo- R^2 of .15 indicates a moderately strong relationship between the predictors and the dependent variable. The pseudo- R^2 for male offenders is comparable to the pseudo- R^2 for female victims. Examination of the prediction table indicates that the overall accuracy of prediction (69%) and the proportional reduction in error of prediction ($\tau = .37$, or 37% reduction in error) look very similar to the numbers obtained for the model for female victims of marital violence. The model for males, however, is better at predicting continuity (80%) than suspension (56%), the opposite of the pattern found for female victims of marital violence.

Continuity of Violence with New Partners

A final note of interest regards the number of males and females who continued as perpetrators and victims of marital violence in new marital relationships. Terminating a violent relationship through divorce, while possibly ending the violence with one partner, does not preclude the possibility that violence will continue with another partner. In our sample of 107 males and 155 females, 34% of both males and females were in relationships with different partners at T2. Among those who were with new partners at T2, 58% ($n = 21$) of the T1 male offenders continued to report acts of physical violence with their new partners. Among the T1 female

⁴The male model at the .05 level of significance which includes only Prior Minor Assault has a $-2 \log$ likelihood chi-square of $p = .0233$, a model chi-square of $p = .0106$, and pseudo- $R^2 = .06$. Again, the fit of the model with $\alpha = .05$ was statistically significantly worse than the fit of the model with $\alpha = .10$ (change in chi-square = 11.259 with 4 degrees of freedom, $p = .03$), but the difference in fit between the full model and the model with $\alpha = .10$ was not statistically significant (chi-square change = 12.659 with 23 degrees of freedom, $p = .96$).

victims who had new partners at T2, 49% ($n = 26$) experienced victimization continuity with their new partners. Thus, among males and females who dissolved marriages and entered into new partnerships, there was a high likelihood of continued violence. It appears that many males may choose violence as a generalized coping mechanism when conflicts arise in their relationships. The violence that occurs may not be endemic to a particular marriage relationship, but may be related to a much wider range of problem behaviors that some males may experience. Among explanations for the continuity of female victimization are theories which attribute certain characteristics to a "victim-prone personality" placing them at risk for further victimization with new partners. Another explanation involves the shrinking marriage pool available to females as they age. There may be a larger proportion of the males in this pool with undesirable characteristics, such as a history of violence.

DISCUSSION

This study is supportive of Feld and Straus's (1989) findings that a large percentage of marital violence, especially minor forms of violence, is not continuous over time (i.e., is marked by periods of suspension or desistance). As stated earlier, shelter samples may encounter a different experience from that of the total population, experiencing continuous and escalating violence; however, among the general population, approximately half of the marital violence is suspended from one time period to the next.

Factors which might predict the continuity of marital violence were examined. Once again, caution should be noted. The regression analyses were exploratory and not explanatory. We were not trying to explain relationships among variables or test specific hypotheses so much as trying to find a good set of predictors. Among the predictors, two risk factors appeared in both the bivariate and multivariate analyses, *USR* and *PRIOR MINOR ASSAULT*. Males who lived in more urbanized areas and both males and females who had engaged in prior minor assault were more likely to remain perpetrators or victims of marital violence.

Most forms of violent crime are more common in urbanized areas and become less common as the degree of urbanicity decreases (Fagan *et al.*, 1985; Laub, 1983; Laub and Hindelang, 1981). Straus *et al.* (1981) found wife abuse in the suburbs to be half the rate of that in large cities, although they found the rates in rural areas to be similar to that in large cities. Explanations for higher rates of crime in cities include crowding, stress, and the social isolation that characterizes city life and erodes social bonds.

The finding for PRIOR MINOR ASSAULT lends support to the social learning theory of violence and also to the supposition that violence learned in one setting is generalizable to other settings. It is also suggestive that marital offenders with longer careers of violence, in general, may be less willing or find it more difficult to terminate their use of violence. There is some evidence that criminal justice and social sanctions work best for those with less severe histories of violence (Bowker, 1983; Fagan, 1989). The finding for female victims suggests possible confounding with the WIFE TO HUSBAND VIOLENCE variable. Prior minor assault may be a relevant factor for victims because 86% of the female victims in our sample have also perpetrated acts of aggression against their male partners at T1, suggesting that females have also learned violence in other contexts, and now use violence within the contexts of their marriages, which may create a cycle of violence involving both partners. Feld and Straus (1989) found that assaults by the wife at T1 increased the probability of assaults by the husband at T2.

PRIOR FELONY ASSAULT, however, worked opposite of prior minor assault, with females who had a history of felony assault less likely to remain victims of violence. It is not clear why females with a history of serious aggressive acts would be less likely than other females to be continuously victimized. They were no more likely than the other females in our sample to terminate their relationship with their partners. There may be greater assertiveness on the part of these females which makes them less willing to endure aggressive acts by males, enabling them to suspend violence by their partners. It is interesting that 94% of the females with prior felonies perpetrated acts of violence against their male partners at T1. This is a difficult finding to interpret, and more work needs to be done to validate and to understand this finding.

Among females, higher CLASS OF ORIGIN and being on WELFARE were predictive of a higher probability of continuous victimization. It is interesting that females at both ends of the class spectrum were more vulnerable to remaining victims of marital violence. Lack of resources has often been mentioned as a correlate of marital violence and a major reason for women remaining in violent relationships, (Gelles, 1976; Strube and Barbour, 1983, 1984); however, the finding that females of higher class status were also more likely to experience continuous victimization was surprising. One study that seems to corroborate this type of finding was Pagelow's (1981) examination of secondary (or continuous) battering. She found that women with less of an earnings differential between marital partners remained in violent relationships longer. This would seem to indicate that many women with financial resources are unable to suspend violence in their relationships.

One explanation may be that the costs of terminating a violent relationship are too great for some females with ample resources. This may be especially true when most of the acts of violence reported are minor in nature, as is the case in our study. Domestic violence research has largely ignored how rewards may impact choices. Carroll (1982) found that the amount and probability of gains had more than twice as much influence on evaluations of crime opportunities as did the amount and probability of punishment. Some women may be willing to endure relatively minor acts of violence to avoid jeopardizing the investments in the marriage (e.g., children, home, security). Additionally, several studies have suggested that marital violence is more common when the female victim has economic and status resources greater than that of the male (Gelles, 1972; O'Brien, 1971). However, no evidence was found to substantiate a status inequality argument resulting in continuous victimization in our sample (analyses not shown). Middle-class females may also possess a more traditional attitude with regard to their commitment to marriage. Another possibility is that the combination of high *parental* social status, as indicated by CLASS OF ORIGIN, plus the respondent's *own* low social status, as indicated by being on WELFARE, together indicate downward social mobility, a progressive loss of resources. This may result in feelings of economic or financial vulnerability or desperation, which in turn makes the respondent more reluctant to leave or jeopardize (for example, by threatening to leave or to call the police) a relationship, even when the relationship involves some level of violence. More research on marital violence continuity will need to be done to both validate and elucidate this unusual finding.

Contrary to social learning theory expectations, females who had WITNESSED PARENTAL VIOLENCE were less likely to remain victims of violence. While most domestic violence studies find a link between witnessing parental violence and spousal violence (Hotelling and Sugarman, 1986), one investigation found that women who were victims of physical marital violence were no more likely than women in two control groups (composed of women who had suffered no physical abuse; one group claimed to have satisfactory marriages and the other group discordant marriages) to have witnessed spouse abuse between their parents (Rosenbaum and O'Leary, 1981). Witnessing violence among one's parents may create a resolve among many females to not endure violence in their own marriages. Although this is not the typical social learning theory interpretation found in the domestic violence literature, it is a possible interpretation, since we do not know exactly what children learn by witnessing parental violence. Certainly, they learn that the mechanism of violence can be invoked during a conflictual situation, but we do not know the learning which takes place with regard to the perceived consequences of that violence and

resulting reinforcement values. The consequences would likely be negative for the child witnessing violence, regardless of the ends achieved by the parents, since children hate to see their parents fighting and are often left feeling helpless and confused. Many children who witness parental violence may learn that such behavior is undesirable and worth avoiding.

Females with a higher FREQUENCY OF SERIOUS VIOLENCE were more likely to remain victims of violence. This substantiates nearly all the findings derived from clinical and shelter samples of battered women which state that violence, once begun, is likely to escalate (Browne, 1980; Okun, 1986; Walker, 1984).

Finally, having sought PROFESSIONAL ASSISTANCE was a relevant factor predicting continuous victimization. This variable does not specifically refer to seeking assistance for marital problems. Rather it entails a number of mental health problems for which one might seek help, including marital problems. Even though seeking professional assistance was temporally ordered prior to T2 violence, we cannot assume that seeking professional assistance leads to continuity, since we do not know when the onset of violence occurred. Seeking professional assistance may actually be a result of victimization rather than a cause, or it may be associated with various other problem behaviors which may be linked to marital violence.

Among males, a higher occupational status was a risk factor for continuous marital offending. Certain middle and upper-class occupational statuses may involve particularly high levels of stress and pressure at work (e.g., competition and long working hours) which may erupt in physically violent acts when conflicts arise at home accounting for the greater continuity for men in higher occupational statuses. Although the literature in general indicates that violence cuts across class lines, most statistics indicate that the lower the class, the more likely there is to be violence. Although statistics have often supported this hypothesis (Straus *et al.*, 1981), the statistics could be the result of variations in reporting (Martin, 1976), with lower class males more likely to define and report their violence accordingly. There is no evidence, however, that this is so, and this would not explain our contradictory findings. It seems plausible, however, that male offenders in higher occupational statuses may receive fewer negative consequences (e.g., less exposure, fewer sanctions by friends and relatives because of the hidden nature of the violence, less severe treatment in court) affecting the continuity of violence. Lower class violence may be more visible, since these individuals possess fewer resources and are more apt to seek help from friends, relatives, and public agencies, resulting in greater sanctions which may affect continuity.

MARIJUANA PROBLEM USE by male offenders was found to be a predictor of continuity. Self-destructive coping responses, such as drug use, may provide an easy escape from problems and also may numb the effects of violence making it easier for violence to continue once initiated.

SUMMARY

To summarize, this study lends further evidence that many of the conceptions formed through studies of shelter samples, such as the continuity of violence, are not generalizable to the population of couples involved in marital violence. Approximately half of the violence in marriages is suspended from one period to the next, whether the period is one year (Feld and Straus, 1989) or three years (this analysis). These findings caution us regarding problems that may be created when generalizing results from a clinical sample to the population, or from a population sample to a clinical sample. Interventions and treatment strategies that may be appropriate based on findings from a clinical sample may be entirely inappropriate for the general population experiencing marital violence, and vice versa. When we say that approximately half of marital violence in marriages is suspended, we are not negating previous findings from clinical samples which appear to indicate that more severe forms of violence tend to escalate over time. In fact, our own findings seem to indicate that the more severe the violence, the more likely it is to continue. Our population sample contains mostly respondents who reported only minor acts of violence at low frequencies, and since the *N*'s in the Serious and Severe categories of violence were so small, we were unable to address the issue of continuity of Severe violence.

The logistic regression analyses were exploratory only, since little is known about the factors responsible for suspension or continuity. Both regression models improved the ability to predict continuity over a model with no predictors. However, factors which may be more relevant for predicting suspension/continuity may not be in the models, and there is room for improvement.

This study validated several of the factors found to be related to marital violence in previous research, such as women's economic dependency; and for males, a history of assaultive behavior and marijuana problem use. However, many of the factors suggested in the literature received little empirical support, and several of the factors were related in unexpected directions: higher class status was predictive of continuity among both males and females, and females who had witnessed parental violence were less likely to remain victims of marital violence. We reported our findings at

the .10 level of statistical significance. Conservative readers may want to focus only on the findings at the .05 level of significance in which only two predictors remained in the equations: WELFARE for women and PRIOR MINOR ASSAULT for males. These two variables are well documented in the marital violence literature, thus lending greater credibility to their findings. The findings at the higher significance level will require future work to validate their credibility. It is clear that much more work needs to be done to understand the factors influencing the continuity and suspension of marital violence.

Suspension research should be an integral part of family violence research. It is probably erroneous to believe that the factors contributing to the onset of violence are the same factors responsible for its continuation or suspension (as suggested by this analysis). There is relatively little known about factors and conditions leading to the cessation of marital violence and the maintenance of such behavior. Since little research has been done in the area of family violence desistance, efforts to integrate desistance theories and strategies from other areas, such as stranger crime and addictive behaviors, have also been meager. Fagan (1989) suggested a preliminary model for research after reviewing desistance literature from three major areas and finding several shared characteristics. He suggests that the catalysts for change emerge when violence becomes an aversive experience and when the positive rewards achieved through violence are removed. The disavowed behavior must then be replaced by new social definitions of the behavior, alternatives and substitutes for the behavior and, in many cases, new relationships that reinforce the new behavior. Although we have not tested his model, it remains a focal point for future research.

APPENDIX

Delinquency and Victimization Scales

For all except EXTRADOMESTIC ASSAULT, a frequency count from Waves 1 to 5 was obtained, and then the data were recoded for prevalence. EXTRADOMESTIC ASSAULT was measured at T1.

Prior Minor Assault

Hit teacher
Hit parent
Hit student

Prior Abuse by Parents

Beaten by parents

Prior Felony Assault

Aggravated assault
Sexual assault
Gang fights

Prior Victimization

Beaten by others
Attacked with a weapon
Sexually attacked

Extradomestic Assault

Hit or threatened to hit teacher
Hit or threatened to hit parent
Hit or threatened to hit student
Hit or threatened to hit someone at work

Psychosocial Scales*Sex-Role Attitude*

Cronbach's Alpha Wave 5 = .84

A scale consisting of nine items, each with five response categories ranging from Strongly Agree to Strongly Disagree, with high scores indicating traditional or conventional sex-role attitudes.

Father should have greater authority
Women are able to do most jobs
Men are more reliable
Women are too emotional
Men shouldn't cry
Women's responsibility to care for children
Men's responsibility to earn money
Women are physically weaker
Forceful women are unfeminine

Marital Satisfaction

Cronbach's Alpha Wave 6 = .88

Cronbach's Alpha Wave 7 = .89

A scale consisting of nine items, each with five response categories, with high scores indicating greater satisfaction with partner.

Share same interests with partner
Importance of things done with partner
Satisfied with relationship
Warmth and affection received from partner
Satisfied with sexual relations

Support and encouragement from partner
 Loyalty for one another
 Stress or pressure in relationship
 Partner influenced what you've thought and done

Social Network

Cronbach's Alpha Wave 6 = .72
 Cronbach's Alpha Wave 7 = .76

Reflects the amount of time spent with friends with high scores indicating a high level of involvement.

Weekday afternoons spent with friends
 Weekday evenings spent with friends
 Time spent on weekends with friends

Problem Alcohol/Marijuana Use

Cronbach's Alpha Alcohol Wave 6 = .61
 Cronbach's Alpha Alcohol Wave 7 = .61
 Cronbach's Alpha Marijuana Wave 6 = .55
 Cronbach's Alpha Marijuana Wave 7 = .41

A 5-point scale designed to measure problems associated with alcohol/marijuana recoded for prevalence (0 = never and 1 = 1 or more times). Scores range from 0 to 7, with high scores indicating problems with drinking or marijuana use.

Times in trouble with partner
 Times in trouble with friends
 Times in trouble with family
 Times gotten into physical fights
 Times had problems with physical health
 Times gotten into trouble with police or been arrested
 Times had accidents while driving

REFERENCES

- Ageton, S. (1983). *Sexual Assault among Adolescents*, Lexington Books, Lexington, MA.
 Bendele, R. B., and Afifi, A. A. (1977). Comparison of stopping rules in forward regression. *J. Am. Stat. Assoc.* 72: 46-53.
 Blumstein, A., Cohen, J., Roth, J. A., and Visher, C. A. (1986). *Criminal careers and career criminals, No. 1*, National Academy Press, Washington DC.
 Browne, S. F. (1980). *Analysis of a Battered Women Population*, Denver Anti-Crime Council, 1445 Cleveland 1., Rm. 200, Denver, Colorado, 80202.
 Bowker, L. H. (1983). *Beating Wife-Beating*, Lexington Books, Lexington.

- Carroll, J. S. (1982). The decision to commit the crime. In Koneeni, J., and Ebbesen, E. B. (eds.), *The Criminal Justice System*, Freeman, San Francisco.
- Dobash, R. E., and Dobash, R. P. (1988). Research as social action: The struggle for battered women. In Yllo, K., and Bograd, M. (eds.), *Feminist Perspectives on Wife Abuse*, Newbury Park, Sage, pp. 51-74.
- Dunford, F. (1992). Six vs. twelve months to measure failure. *J. Crim. Law Criminol.* 83: 120-136.
- Dunford, F., Huizinga, D., and Elliott, D. (1990). The role of arrest in domestic assault: The Omaha Police Experiment. *Criminology* 28: 183-206.
- Dutton, D. G. (1986). The outcome of court-mandated treatment for wife assault: A quasi-experimental evaluation. *Viol. Vict.* 1: 163-175.
- Elliott, D. S., Ageton, S. S., Huizinga, D., Knowles, B. A., and Canter, R. J. (1983). *The prevalence and incidence of delinquent behavior: 1976-1980. National estimates of delinquent behavior by sex, race, social class, and other selected variables. The National Youth Survey Report No. 26*, University of Colorado, Behavioral Research Institute, Boulder, Colorado.
- Fagan, J. (1989). Cessation of family violence: Deterrence and dissuasion. In Ohlin, L., Tonry, M. (eds.), *Crime and justice: A review of research, Vol. 11*, University of Chicago Press, Chicago, pp. 377-425.
- Fagan, J., Piper, E., and Moore, M. (1985). Violent delinquents and urban youth: Correlates of survival and avoidance, Paper presented at the Annual Meeting of the American Society of Criminology, San Diego, CA.
- Feld, S. L., and Straus, M. A. (1989). Escalation and desistance of wife assault in marriage. *Criminology* 1: 141-161.
- Ferraro, K. J. (1988). An existential approach to battering. In Hotaling, G. T., Finkelhor, D., Kirkpatrick, J. T., and Straus, M. A. (eds.), *Family Abuse and Its Consequences: New Directions in Research*, Sage, Newbury Park, NJ, pp. 126-138.
- Gelles, R. J. (1976). Abused wives: Why do they stay? *J. Marr. Fam.* 38: 659-666.
- Gelles, R. J. (1972). *The Violent Home: A Study of Physical Aggression between Husbands and Wives*, Sage, Newbury Park, NJ.
- Giles-Sims, J. (1983). *Wife Battering: A Systems Theory Approach*. Guilford Press, New York.
- Goode, W. J. (1971). Force and violence in the family. *J. Marr. Fam.* 33: 624-636.
- Hosmer, D. W., and Lemeshow, S. (1989). *Applied Logistic Regression*, John Wiley, New York.
- Hotaling, G., and Sugarman, D. (1986). An analysis of risk markers in husband to wife violence: The current state of knowledge. *Viol. Vict.* 1: 191-125.
- Huizinga, D., and Elliott, D. (1986). Reassessing the reliability and validity of self-report delinquency measures. *J. Quant. Criminol.* 2: 293-327.
- Klecka, W. R. (1980). *Discriminant Analysis*, Sage, Newbury Park, NJ.
- Knoke, D., and Burke, P. J. (1980). *Log-Linear Models*, Sage, Beverly Hills.
- Laub, J. H. (1983). Urbanism, race, and crime. *J. Res. Crime Delinq.* 20: 183-198.
- Laub, J. H., and Hindelang, M. J. (1981). Juvenile criminal behavior in urban, suburban, and rural areas. Office of Juvenile Justice and Delinquency Prevention, Washington DC.
- Martin, D. (1976). *Battered Wives*, Glide Publications, San Francisco.
- O'Brien, J. E. (1971). Violence in divorce prone families. *J. Marr. Fam.* 33: 692-698.
- O'Leary, K., Barling, J., Arias, I., and Rosenbaum, A. (1989). Prevalence and stability of physical aggression between spouses: A longitudinal analysis. *J. Consult. Clin. Psychol.* 57: 263-268.
- Okun, L. (1986). *Woman Abuse: Facts Replacing Myths*, State University of New York Press, Albany.
- Pagelow, M. D. (1981). *Woman Battering: Victims and Their Experiences*, Sage, Beverly Hills.
- Rosenbaum, A., and O'Leary, K. D. (1981). Children: The unintended victims of marital violence. *Am. J. Orthopsychiatry* 51: 692-699.
- Saunders, D. G. (1988). Wife abuse, husband abuse, or mutual combat? A feminist perspective on the empirical findings. In Yllo, K., and Bograd, M. (eds.), *Feminist Perspectives on Wife Abuse*, Sage, Newbury Park, NJ, pp. 90-113.
- Sherman, L., and Berk, R. A. (1984). The specific deterrent effects of arrest for domestic assault. *Am. Sociol. Rev.* 49: 261-272.

- Straus, M. A. (1990a). Injury and frequency of assault and the "representative sample fallacy" in measuring wife beating and child abuse. In Straus, M. A., and Gelles, R. J. (eds.), *Physical Violence in American Families: Risk Factors and Adaptations to Violence in 8,145 Families*, Transaction Books, New Brunswick, NJ, pp. 75-91.
- Straus, M. A. (1990b). The national family violence surveys. In Straus, M. A., and Gelles, R. J. (eds.), *Physical Violence in American Families: Risk Factors and Adaptations to Violence in 8,145 Families* Transaction Books, New Brunswick, NJ, pp. 3-16.
- Straus, M. A. (1990c). Measuring intrafamily conflict and violence: The conflict tactics (CT) scales. In Straus, M. A., and Gelles, R. J. (eds.), *Physical Violence in American Families: Risk Factors and Adaptations to Violence in 8,145 Families*, Transaction Books, New Brunswick, NJ, pp. 29-47.
- Straus, M. A. (1990d). The conflict tactics scales and its critics: An evaluation and new data on validity and reliability. In Straus, M. A., and Gelles, R. J. (eds.), *Physical Violence in American Families: Risk Factors and Adaptations to Violence in 8,145 Families*, Transaction Books, New Brunswick, NJ, pp. 49-73.
- Straus, M. A., Gelles, R. J., and Steinmetz, S. K. (1981). *Behind Closed Doors: Violence in the American Family*, Anchor Press/Doubleday, New York.
- Strube, M. J., and Barbour, L. S. (1984). Factors related to the decision to leave an abusive relationship. *J. Marr. Fam.* 46: 837-844.
- Strube, M. J., and Barbour, L. S. (1983). The decision to leave an abusive relationship: Economic dependence and psychological commitment. *J. Marr. Fam.* 45: 785-793.
- Walker, L. (1984). *The Battered Woman Syndrome*, Springer, New York.
- Walker, L. (1979). *The Battered Woman*, Harper and Row, New York.