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## Spousal Violence among Alcoholic Women as Compared to a Random Household Sample of Women\*

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**ABSTRACT.** The purpose of this study is to examine the relationship between spousal violence and women's alcoholism problems. This study compares two samples: (1) 45 alcoholic women selected from local treatment agencies and Alcoholics Anonymous groups and (2) 40 nonalcoholic women selected randomly from households. Two-hour interview schedules were administered to both samples. The Conflict Tactics Scale was used to assess spouse-to-woman violence. Alcoholic women were found to have higher levels of spouse-to-woman negative verbal interaction, moderate violence and

severe violence as compared to the household women. Multivariate analyses revealed that spouse violence scores were strong predictors of type of sample. This was true even after controlling for presence of alcohol problems in the spouse, income, parental violence, parental alcohol problems and changes in parental family. These findings suggest that alcoholism treatment programs should screen for spousal violence among women alcoholics and that victims of spousal violence should be screened for alcohol-related problems. (*J. Stud. Alcohol* 50: 533-540, 1989)

**I**N THEIR RANDOM SAMPLE of 2,143 families in the United States, Straus et al. (1980) reported that 16% of marital couples experienced violence during the year before the survey. These acts of violence consisted of both moderately violent acts (i.e., threw something at spouse; pushed, grabbed, shoved spouse; slapped spouse) and severely violent acts (i.e., kicked, bit or hit with fist; hit or tried to hit with something; beat up spouse; threatened with a knife or gun; used a knife or gun). When incidences of moderate and severe violence were examined for the duration of the relationship, the figure rose to 28%. From the total sample, 6.1% had experienced an incidence of severe violence during the year before the survey (Straus and Gelles, 1986; Straus et al., 1980).

Other studies have found similar levels of spousal violence.<sup>1</sup> For example, 16.5% of a group of randomly selected women reported that they were hit or slapped by their present spouse at some point in their relationship and 2.6% were victims of severe

violence (defined as beating, burning, cutting or stabbing) within 2 years of the survey (Friedman et al., 1979). Schulman (1980) found that 21% of a random sample of Kentucky women reported at least one incident of spousal violence occurring during their present relationship, and 4.1% of these women reported being victimized by severe violence during the year before the survey.

Whereas spousal violence between marital couples has received most of the attention, some research has indicated high levels of violence between dating, engaged and cohabiting couples (e.g., Billingham and Sack, 1987; Makepeace, 1986, 1987; Roscoe and Benaske, 1985). For example, based upon a sample of college students, Makepeace (1986) reports that one-fifth of women reported courtship violence (e.g., slapping, beating with object, using a knife or gun). Surveying women in shelters in Michigan, Roscoe and Benaske (1985) report that half of the women in shelters revealed courtship violence. Further, the types of violence experienced during courtship were similar to the types of violence experienced during the marital relationship.

Few studies have examined the victim's use of alcohol in the context of violence. However, there is some evidence that female victims have been drinking prior to the abusive event or have patterns of heavy drinking. For example, Kantor and Straus (1986)

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reported that 46% of the severely assaulted women reported being drunk one or more times during the survey year as compared to 36% of the minor violence victims and 16% of the nonvictimized women. Other studies of battered women have found evidence that women used alcohol in connection with abusive events (Eberle, 1982; Frieze and Knoble, 1980; Gelles, 1972; Gerson, 1978). While these studies are suggestive of a link between the women's alcohol problems and their experiences of violence, there is a dearth of knowledge about alcoholic women's experiences of violence and how these experiences may be linked to their alcohol problems.

Other studies have examined the role of spouse's drinking and spousal violence. Spouse's drinking may explain contradictory results that are found among studies of women's drinking and spousal violence. For example, Walker (1983) reported that women who reported heavy drinking patterns were in relationships with men who also abused alcohol. Numerous studies have suggested a link between spouse abuse and the perpetrator's use of alcohol. For example, 72% of abused women admitted to a domestic violence shelter reported that their mates had a drinking problem and became abusive when drinking (Lehmann and Krupp, 1983/84). Kantor and Straus (1986) reported that 70% of the husbands who had severely assaulted their wives reported being drunk one or more times during the survey year as compared to 50% of the husbands who had moderately assaulted their wives and 31% of the husbands who did not victimize their wives. Thus, the role of both the victim's and the victimizer's drinking must be considered in assessing the role of alcohol in spousal violence.

### *Summary*

Patterns of heavy alcohol consumption and/or alcohol use at the time of the violence are indicated by some women who are victims of spousal violence. Little is known about whether alcoholic women's experiences of abuse are different from those of nonalcoholic women. Finally, the role of spouse's drinking in contributing to spousal violence needs further investigation. Thus, any attempt to understand the alcoholic woman's drinking patterns in relationship to abuse would require controlling for the spouse's drinking patterns.

Our study will examine three major issues: (1) whether spouses of alcoholic women are more violent and abusive than spouses of women in the general population, (2) whether there are certain types of violence that alcoholic women are more likely to experience and (3) the relative contribution of spousal

violence to the development of alcohol problems in women.

## **Method**

### *Subjects*

A sample of 45 alcoholic women and 40 women from a random household population was obtained for interviews. Informed consent was given for participation in the research. Subjects were defined as alcoholic if they had at some time participated or were currently participating in alcoholism treatment. Alcoholic women were identified through women's treatment groups at alcoholism outpatient treatment agencies (29%), with the remainder identified through Alcoholics Anonymous (AA) groups in Erie County, New York. Clinics allowed us access to women in their treatment groups who had at least 6 months sobriety. Of the women made available to the study by these alcoholism treatment agencies only one woman failed to participate. Women at the treatment agencies were interviewed immediately before or after their scheduled appointments at the clinic.

Women from the AA groups were selected using a snowball sampling technique.<sup>2</sup> Initial contacts ( $n = 17$ ) were made through alcoholism treatment personnel and female AA members. Additional respondents were then obtained via contacts made through these initial respondents: each AA respondent was asked to contact two or more other women who might be willing to participate in the study. Women from the AA groups were compensated \$15 for travel costs to the Research Institute to complete the interviews.

The household sample was selected through random digit dialing. If there was a woman in the household between the ages of 18 and 45, the study was briefly described to her and participation was solicited. The woman was informed that she was contacted randomly from a list of telephone numbers. Out of a total of 164 contacts with a woman aged 18-45 living at the residence, 42% of the women refused to respond to the screening questions, 28% refused to participate in the interview after screening, 28% were interviewed and 3% failed to establish or appear at interview times. Interviewees in the household sample were paid \$15 for transportation costs.<sup>3</sup>

### *Interview procedure and operationalizing measures*

Interviews were conducted from January until June 1986. Prior to the interview, which lasted approximately 2 hours, participants were given more detailed information before signing the informed consent form. They were told that the purpose of the study was to

assess the long-term impact of childhood family relationships on alcoholic and nonalcoholic women. Respondents were told that the interview would cover topics such as early family relationships, drug and alcohol use and sexual experiences. Questions on sexual abuse and alcohol use were embedded in a lengthy interview format. In addition, each respondent was asked to indicate whether her family of origin included any parent with alcohol-related problems.<sup>4</sup>

Because our sample of alcoholic women was drawn from clinic populations and from AA groups, where definitions of alcoholism may vary widely, we needed to ensure that all women identified via the alcoholism treatment system met some objective measure of alcoholism. Further, we needed to ensure that women from the household sample were not "hidden" alcoholics. The Michigan Alcoholism Screening Test (MAST) was used to address these issues. The MAST was devised by Selzer (1971) to provide a consistent, quantifiable, structured interview instrument to detect alcoholism. Although developed for a male population, this screening test has been found to assess women adequately (Selzer et al., 1979). The validity of the MAST has been substantiated by comparisons with record data and other diagnostic tests (Selzer, 1971). However, there is some concern that the MAST produces a high false positive rate of alcoholism (Brady et al., 1982; Gibbs, 1983; Jacobson, 1983). Therefore, questions on alcohol consumption were needed to exclude individuals that may be identified as alcoholic by the MAST but who had low intake levels of alcohol.

The questions and calculations for the Quantity-Frequency Index (QFI) for alcohol consumption were drawn from Armor and Polich (1982) and represent the measure of alcohol consumption recommended by a special advisory panel to the National Institute on Alcohol Abuse and Alcoholism. Neither the MAST nor the quantity-frequency measures were used to identify our samples; rather, they represent methods of excluding individuals who may have been inaccurately categorized by their group membership. Respondents with borderline MAST scores (i.e., 6-12) (Jacobson, 1983) were examined for their quantity-frequency of use. If the quantity-frequency of use were also low (i.e., less than three drinks per day), the respondent was excluded from the alcoholic sample.

To assess spouse's and parents' alcohol-related problems, respondents were first asked if there was any history of problems with alcohol in the family. If so, respondents were asked who had had problems of alcoholism. Finally, a series of structured questions

asked how respondent became aware of, assessed and knew about the relative's problem with alcoholism. These assessments of spouse's and parents' problems with alcohol represent the woman's own interpretation and should not be considered indicative of an alcoholism diagnosis.

The Conflict Tactics Scale (CTS) was used to measure spouse-to-woman violence (Straus, 1979; Straus et al., 1980). Women were asked to describe conflict resolution they experienced in their interactions with spouses. The CTS measures positive verbal interaction (3 items), negative verbal interaction (7 items), moderate physical violence (6 items), and severe physical violence (6 items). The CTS was modified slightly for the present study. First, two items were added to the negative verbal index: "insulted or swore at you in a sexual manner" and "threatened to abandon you." In addition, the item "threatened your life in some manner" was added to the severe violence index. Each item on the CTS was dichotomized into 0 = never happened and 1 = happened at least once. Totals were then summarized for each of the three indices: negative verbal, moderate violence and severe violence. A total spousal violence index was also formed, based on the sum of the dichotomized items from the three indices.

In a previous article, the four subscales of the CTS (positive verbal, negative verbal, moderate and severe violence) were used to assess father-to-daughter and mother-to-daughter conflict tactics for this sample of alcoholic and household women (Downs et al., 1987). Our analyses found that only father-to-daughter violence was significantly different for the two groups. For the current analyses, a father total violence score was computed, based on the sum of the dichotomized items in the negative verbal, moderate violence and severe violence indices, following the same method used to construct the total spousal violence score. This father total violence score was used in the multivariate analyses as a covariate.

## Results

### *Characteristics of the sample*

Most demographic comparisons between the samples of alcoholic and household women did not differ significantly (i.e.,  $p \leq .05$ ). For example, chi-square tests indicated that the alcoholic sample did not differ significantly from the household sample in race (73% and 82% white, respectively,  $\chi^2 = 0.48$ ), level of education (67% and 58%, respectively, had some college,  $\chi^2 = 0.42$ ), employment status (44% and 63%, respectively, were employed outside the home,  $\chi^2 = 2.09$ ) or marital status (40% and 53%, respec-

tively, were currently married or cohabiting,  $\chi^2 = 0.88$ ). For alcoholic and household women who lived with a spouse, there was not a significant difference in the percent who had formalized their relationship through marriage (78% and 86%, respectively,  $\chi^2 = .05$ ). Parental socioeconomic status did not differ significantly between the two groups (23.5% and 34.5%, respectively, were from the upper or upper middle class,  $\chi^2 = 8.59$ ).

However, there were some significant differences across samples for demographic comparisons. First, the alcoholic sample (average age = 39.44 years) was older than the sample of household women (average age = 30.98 years) ( $F = 22.7$ ,  $p < .0001$ ). Second, the alcoholic sample (41%) was more likely than the household sample (10%) to obtain the major source of their income from entitlements or unemployment compensation ( $\chi^2 = 8.46$ ,  $p < .01$ ). As a result, the average annual personal income of the sample of alcoholic women (\$5,032) was lower than the average annual personal income of the household sample (\$9,568) ( $F = 5.91$ ,  $p < .05$ ). Also, the average annual household income from all sources was lower for the sample of alcoholic women (\$17,320) than for the household sample (\$26,992) ( $F = 6.60$ ,  $p < .01$ ). An income index was subsequently formed, based on the three income variables. Each variable was recoded into a low/high classification. For income source, income from public assistance was coded as zero, and income from salary or investments was coded as one. For both household and personal income, income was split at the sample median, with 0 = below median and 1 = above median. These dichotomous variables were summed for an index with 0 = lowest to 3 = highest level of income.

With regard to childhood experiences in the family of origin, there were several important differences between alcoholic and household women. First, there were significant differences in the number of changes experienced in the childhood family, which were defined as parental divorce, parental separation, death in family, mother's remarriage, father's remarriage. The alcoholic sample reported a greater number of these summed changes (1.49) than did the household sample (.78) ( $F = 5.66$ ,  $p = .02$ ). Second, three of the four father-to-daughter CTS indices (negative verbal interaction, moderate violence and severe violence) had a significant relationship with level of alcoholism.<sup>5</sup> Finally, the alcoholic women (71%) were more likely than the household women (23%) to report having at least one alcoholic parent ( $\chi^2 = 18.14$ ,  $p < .0001$ ).

As anticipated, there was also an important significant finding across sample type relating to alcohol use. The sample of alcoholic women had a higher

average score (35.56) on the Michigan Alcoholism Screening Test (MAST) than did the household sample (1.73) ( $F = 565.85$ ,  $p < .001$ ). The range of MAST scores among the alcoholic sample was from 14 to 49; thus, MAST scores for the entire sample were higher than the cutoff score of 5 to indicate alcoholism. The range among the household sample was from 0 to 8, with three women scoring higher than the cutoff score of 5 to indicate alcoholism. The QFI scores of alcohol use for these three women were calculated. The highest QFI score was 0.57, which corresponds to an average of 1.2 drinks per day. This drinking was not high enough to indicate the presence of alcohol problems among these three women so they were included in the household sample for all further analyses.<sup>6</sup> These comparisons indicate that the sample of women from the alcoholism treatment centers were indeed alcoholic as compared with the sample of household women.

When comparing the spouses of alcoholic women with the spouses of the comparison group, we found that the alcoholic women were significantly ( $\chi^2 = 16.47$ ,  $p < .0001$ ) more likely to report that their spouse had alcohol problems. Approximately half (55%) of the alcoholic women versus 10% of the women from the comparison group reported spouses with alcohol problems.

#### *Differences in spouse-to-woman violence across samples*

Alcoholic women were significantly more likely to report higher levels of conflict with spouses as measured by the three indices from the CTS (see Table 1). Significantly greater levels of negative verbal, moderate violence and severe violence were reported by alcoholic as compared to household women. The level of spouse-to-woman positive verbal interaction was not significantly different across sample type.

Virtually all of the individual items that comprise the negative verbal, moderate violence and severe violence indices were reported by significantly more alcoholic women as compared to household women (see Table 2). Examination of the individual items

TABLE 1. Mean ( $\pm$  SD) scores of CTS for current spouse: Comparisons between alcoholic and household women

Conflict tactics subscales, spouse-to-woman	Alcoholic (n=45)	Household (n=40)	F ratio
Positive verbal	1.73 $\pm$ 0.95	1.92 $\pm$ 0.77	1.04
Negative verbal	4.67 $\pm$ 1.69	2.62 $\pm$ 1.80	28.92 <sup>§</sup>
Moderate violence	2.47 $\pm$ 1.77	0.64 $\pm$ 1.22	29.41 <sup>§</sup>
Severe violence	1.29 $\pm$ 1.96	0.26 $\pm$ 0.82	9.38 <sup>*</sup>

\*  $p \leq .01$     §  $p \leq .0001$ .

TABLE 2. Spouse-to-women CTS items

	Alcoholic % (n = 45)	Household % (n = 40)	Kendall's Tau-B
Discuss issue calmly	80	97	.27 <sup>†</sup>
Insulted or swore at women	80	44	-.38 <sup>‡</sup>
Insulted or swore at women in sexual manner	40	3	-.43 <sup>‡</sup>
Sulked or refused to talk	91	69	-.28 <sup>†</sup>
Stomped out	87	64	-.26 <sup>†</sup>
Cried	47	23	-.25 <sup>†</sup>
Said or did something to spite woman	87	49	-.41 <sup>§</sup>
Threatened abandonment	50	13	-.40 <sup>‡</sup>
Threatened to hit or throw something	51	13	-.41 <sup>§</sup>
Threw, smashed, hit or kicked something	58	26	-.32 <sup>†</sup>
Threw something at women	29	8	-.27 <sup>†</sup>
Pushed or grabbed woman	60	13	-.49 <sup>§</sup>
Slapped woman	44	5	-.45 <sup>§</sup>
Kicked, hit, or hit with fist	27	5	-.29 <sup>†</sup>
Hit with object	27	5	-.29 <sup>†</sup>
Beaten up	24	5	-.27 <sup>†</sup>
Threatened life in some manner	26	6	-.27 <sup>†</sup>
Threatened with knife or gun	20	5	-.22 <sup>*</sup>
Used knife or gun	9	0	-.21 <sup>*</sup>

\*  $p < .05$ . †  $p < .01$ . ‡  $p < .001$ . §  $p < .0001$ .

reveals that extreme violence is much more common among the alcoholic women as compared to the household sample. For example, approximately a quarter of the alcoholic women had experienced being kicked, hit, or hit with a fist as compared to 5% of the household women. Likewise, a quarter of the alcoholic sample had been beaten up and a quarter had had their lives threatened whereas only 5% of the household women had had such experiences.

The differences between the two groups were even greater for moderate violence items. For example, nearly half (44%) of the alcoholic women as compared to 5% of the household women had been slapped by their spouse. A majority of the alcoholic women (60%) had been pushed or grabbed as compared to 13% of the household women. Half of the alcoholic women had experienced some threat of being hit or having something thrown at them as compared to 13% of the household women.

Although negative verbal interaction was more common for both alcoholic and household women, alcoholic women were still much more likely to have experienced various forms of negative verbal interaction. For example, virtually all (87%) of the alcoholic women as compared to half of the household women had experiences of their spouse saying or doing something to spite them. Half of the alcoholic women had been threatened with abandonment as

compared to 13% of the household women. Also, 40% of the alcoholic women reported that their spouse had insulted them in a sexual manner compared to only 3% of the household women.

#### *Multivariate differences in spouse-to-woman violence across samples*

The bivariate analysis of variance is insufficient to untangle the relationship between CTS scores and presence of alcoholism in adulthood. To address the basic question of how spousal violence does statistically predict alcoholism in women a multiple regression was completed with group membership coded as 1 = alcoholic group and 0 = comparison group. To control for the effects of statistically significant differences in demographics (i.e., age, changes in parental family, income index) and conceptually important variables (e.g., parental alcohol problems, father-to-daughter violence scores, spouse alcohol problems) a hierarchical regression was performed. These independent variables were entered into the regression equation in the order listed in Table 3. Since spousal violence was entered last, the increase in  $R^2$  due uniquely to the variable is presented. This is also a very conservative estimate of the contribution of spousal violence since shared variance is attributed to variables entered prior to spousal violence. Table 3 presents the standardized regression coefficient for each variable (Beta), the unstandardized coefficient ( $B$ ), the one-tailed probability for the unstandardized coefficient, the  $R^2$  after each variable is entered and the  $R^2$  adjusted for sample size. The standardized coefficient can be compared across variables within the equation to assess the relative strength of the variables in predicting presence of alcoholism.

Once age is controlled, the strongest predictor of sample type was the spouse-to-woman CTS score. These were the only two significant predictors for the equation. Following the entry of all other variables, spousal violence still contributed uniquely to 6% of the variance. Spouse alcohol problems ap-

TABLE 3. Role of spousal violence, controlling for childhood and present family variables, in predicting type of sample

Independent variables	$B$	Beta	$p$ (1-tailed)	$R^2$
Present age	.02	.36	<.0001	.24
Parent alcohol problems	.12	.12	.1211	.36
Father violence index	.01	.11	.1089	.41
Changes in parental family	.05	.14	.0599	.44
Spouse alcohol problems	.17	.16	.0601	.51
Income Index	.03	.07	.2412	.53
Spouse violence index	.03	.29	.0036	.59

Adjusted  $R^2 = .53$ .

proaches significance but was not nearly as strong a predictor as was spousal violence score. The adjusted  $R^2$  (.53) indicates that the variables are powerful predictors of the differences between the two groups.

### Discussion

Alcoholic women experienced more violence from their spouses than did women from the household sample. This was demonstrated by the Conflict Tactics Scale, which included indices of negative verbal, moderate violence and severe violence. Examination of the individual items that comprise these indices indicates that there are no specific forms of violence that alcoholic women are more likely to experience, rather there is a generalized pattern of violence. Multivariate analyses indicate that spousal violence scores are very strong predictors of belonging to the alcoholic group, even when demographic differences and conceptually important independent variables such as spouse alcohol problems are controlled.

Much of the existing literature has suggested that spousal alcohol problems may explain women's experiences of violence. Our findings suggest a more complex relationship: women's drinking is independently linked to their experiences of violence. What is still unclear is the temporal order between these events. There is some indication that women's alcoholism leads to spousal violence. According to Sandmaier (1980), alcoholic women are labeled more negatively than nonalcoholic women and men and, even, alcoholic men, including a variety of labels that denote or connote "sexual looseness." This negative labeling may directly affect negative verbal interactions (including sexual and other insults) directed at them by the spouse and may indirectly increase spousal violence directed at the alcoholic woman. Violence may be perceived as more socially acceptable when directed at a negatively labeled woman and drinking may reinforce this negative label.

There is also the possibility that victimization leads to development of alcoholism for women. Earlier analyses of these two samples of women indicate that both child abuse and childhood sexual abuse predict belonging to the alcoholic group (Downs et al., 1987; Miller et al., 1987). For another sample of alcoholic women, violent experiences with father during childhood was found to predict involvement with violent spouse as an adult (Haver, 1987). Further, remaining with a violent spouse after treatment for alcohol problems was predictive of negative treatment outcome for female alcoholics (Haver, 1987). Thus, intergenerational patterns of violence may set the stage for the development of coping strategies such as heavy alcohol consumption.

Although the findings in this study suggest a strong link between spousal violence and women's alcoholism, there are some limitations that need to be acknowledged. A larger sample of women is needed to validate these results. Women who seek alcoholism treatment may differ from women with alcohol problems who do not seek treatment. Perhaps the level of spousal violence is one of the factors that precipitates a woman's seeking treatment. Further analyses should be completed with women who are heavy drinkers (with and without alcohol problems) to determine whether the same relationship exists with spousal violence.

Our study provides cross-sectional data, and the temporal ordering of spousal violence and women's alcoholism is unknown. Further research is needed to determine whether the alcoholism came before or after the spousal violence. Future research should also be directed at assessing the woman's violence in the relationship. Previous research has suggested that women tend to become aggressive in self-defense (e.g., Browne, 1987). However, little is known about whether this same type of behavior occurs for women who are alcoholic. Research should be conducted to examine violence both experienced and perpetrated by the alcoholic woman. Research is needed to examine how alcohol problems contribute specifically to spousal violence.

In summary, although spousal violence occurs in both alcoholic and nonalcoholic populations, the problems appear more extensive in the alcoholic population. This indicates the need for alcoholism treatment programs to screen for spousal violence among women alcoholics. The experiences of victimization may alter the woman's ability to respond to the alcoholism treatment process. Further, coordination of spousal violence resources in the community may be necessary during the treatment process to ensure a successful recovery period. For women identified through the spousal violence network, knowledge that alcohol problems may emerge from the experiences of battering or that alcohol consumption may precede battering episodes provides important information about victims of abuse. While there is no justification for battering, alcohol problems as a risk factor for victimization need to be considered.

### Notes

1. Spousal violence is conceptualized in this article as violence that occurs between married couples or unmarried couples who are in a relationship together.
2. Snowball sampling is efficient in locating rare populations such as women with alcohol problems. For example, the household survey screened 299 households and failed to locate one adult

woman with alcohol problems eligible for inclusion in the study and willing to participate. The snowball sampling technique located 32 recovering adult female alcoholics in approximately 2 months. Snowball sampling has the disadvantage of bias, since persons with larger social networks are more likely to be included in the sample. This source of bias may be serious if there are major differences in other variables across size of social network (Sudman, 1976). For example, if isolated women alcoholics differed from those with numerous AA contacts in level of spousal violence, then the snowball sampling technique may result in biased findings. However, in the variables of interest to this study, this bias should result in conservative estimates of the relationships between alcoholism and family violence. Gelles (1980) noted that social isolation is related to high levels of violence. Excluding isolated women alcoholics should therefore exclude those with higher levels of violence. Women included in the AA sample would be expected to have lower levels of violence than those excluded.

3. Based on Erie County census data for 1980 for the female population of Erie County aged 18-45 years, 54% were aged 18-29 and 46% were aged 30-44 (New York State Department of Commerce, 1980). In our comparison group, 48% of the respondents were between the ages of 30-44. Based on the same census data, 87% of the women in Erie County were white compared to 82% of our comparison group and 57% of the women in Erie County were ever married compared to 63% of our comparison group. The mean total household income in Erie County was \$19,549 compared to \$26,992 for our comparison group. Thus, there was a fairly close match between race, marital status and age for our comparison group and the census sample of Erie County women. However, our comparison group appeared to be from a higher income bracket. Despite the match with the census sample, there is a source of potential bias in the comparison group based on the relatively low (25%) response rate. Women with violent spouses may have been more likely to refuse participation. The net result would be to underestimate the prevalence of spousal violence in the comparison group.
4. Each woman was asked if any of her family members ever had a problem with alcohol use while the woman resided in the parental household. If the woman responded affirmatively, she was asked who had the problem and how she knew the individual had a problem. In all cases, the women described several alcohol-related problems of the family member or reported that their family member had been in alcoholism treatment. Because of the nature of the problems and number of problems reported, we concluded that the women were not overidentifying family members as having alcohol-related problems. However, there is a possibility that some parents remained unidentified. Further, we think that there is a possibility that alcoholic women who have received treatment are probably more likely to identify alcohol-related problems of other family members than a random sample of women in the community. There were no alcoholism diagnoses available for the family members.
5. The differences in both father-to-daughter and mother-to-daughter CTS indices across level of alcoholism are reported in detail in Downs et al., 1987.
6. Both the MAST and the QFI were considered as possible dependent variables to indicate level of alcoholism. However, given the two samples of alcoholic and nonalcoholic women, the distributions of both the MAST and the QFI were bimodal. The departure of these distributions from normality was sufficient to violate seriously assumptions underlying parametric statistics, such as multiple regression. In addition, the sample

size was too small for nonparametric statistics, such as loglinear analysis. Thus we excluded the MAST and the QFI from further analysis. Instead, we used sample as an indicator of level of alcoholism, with the household sample coded as 0 (nonalcoholic) and the alcoholic sample coded as 1.

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