AM. J. DRUG ALCOHOL ABUSE, 20(2), pp. 237-245 (1994)

Are Daughters of Alcoholics More Likely to Marry Alcoholics?

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ABSTRACT

This study evaluates the relationship between having an alcoholic (i.e., alcohol-dependent) parent and the presence of a spouse with a similar diagnosis. Data relating to 708 men and 708 women, the parents of the questionnaire respondents, revealed that even after controlling for the increased rate of alcohol-dependent spouses among alcoholics, assortative mating appears to be associated with positive family histories of alcoholism. Within this sample, nonalcoholic daughters of alcoholics were more than twice as likely to marry an alcoholic as nonalcoholic daughters of nonalcoholics, irrespective of the alcoholic parent's gender. In contrast, in the same sample daughters of alcoholics did not demonstrate a higher rate for having a spouse with another of the more common psychiatric syndromes, a major depressive

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episode. In this sample, sons of alcoholics did not demonstrate an increased rate for marrying an alcoholic when compared to sons of nonalcoholics.

INTRODUCTION

People do not marry randomly (1, 2). Men and women are likely to select mates who are like themselves on race, physical characteristics, religion, education, socioeconomic status, and many other traits (3–5). The phenomenon where people choose mates based on similar or dissimilar characteristics is known as assortative mating, and has many implications. For research, the lack of randomness in mate selection threatens the validity of a number of approaches to analyzing genetic data (6). The existence of various psychiatric disorders in both parents can increase the risk for a variety of psychiatric syndromes in the offspring, thus increasing the difficulty in interpreting results from family and genetic studies. Clinically, the presence of illness in the spouse of an ill individual complicates both treatment and efforts offering support to the children.

Assortative mating affects most psychiatric syndromes (2, 7), including alcoholism. There is evidence that both male and female alcoholics are significantly more likely than nonalcoholics to marry individuals with alcohol use disorders (8–11). Of equal interest is the anecdotal observation that nonalcoholic daughters of alcoholic men might be more likely to marry alcoholics than would be predicted by chance alone.

Despite the apparent widespread belief in this latter phenomenon, supporting data are scarce. One study reported that individuals identifying themselves as Adult Children of Alcoholics (COAs) were more likely than controls (29 vs 13%) to have an alcoholic spouse (12). However, it is difficult to interpret these results as the study sample consisted of volunteers from self-help groups, suggesting the influence of a self-selection bias on the data. Further, the rate of cooperation for subjects and controls in this study was only 63 and 24%, respectively, making it difficult to determine how well these results represent the population under investigation. A somewhat more rigorous attempt to determine whether COAs were more likely to marry alcoholics evaluated 416 couples recruited for study at the time of their marriage license application (13). A high rate of cooperation was achieved (83%), with results indicating that 28% of those with an alcoholic parent, and 21% of those without, married a heavy drinker. However, this study reported relatively high rates of alcoholism in the parents (21% of the men and 27% of the women) when compared to the general population (23% among males, 4.6% among females) (14), suggesting a bias toward alcohol problems and increasing the likelihood of assortative mating in this sample.

The development of definitive answers regarding assortative mating among children of alcoholics would require very large samples of personally interviewed subjects. However, more preliminary findings can be generated through alternative approaches. The purpose of the present report is to evaluate several questions. First, within a sample is the rate of marrying an alcoholic increased for daughters of alcoholics? Second, within the same sample is the rate of marrying an alcoholic higher among those with alcoholic fathers versus mothers? Third, are the findings similar for sons and daughters of alcoholic parents? Finally, do COAs marry spouses with another psychiatric disorder more often than non-COAs?

METHODS

Data for this study were generated from questionnaires completed by 736 18- to 25-year-old male Caucasian students or nonacademic staff at the University of California, San Diego during the winter of 1992. These men represent 74% of 1,002 randomly selected individuals; a rate achieved through a series of repetitive mailings as suggested by Eels (15). The questionnaire is a structured instrument based originally on the Schedule for Affective Disorders and Schizophrenia (SADS) (16) and the Alcohol Research Center (ARC) interview (17), and subsequently modified to meet DSM-III-R criteria (18). Briefly, the instrument gathers information on demography; alcohol use and problem histories; substance use and problem histories; mental health problems and treatment for respondents; along with psychiatric, alcohol, and substance problem histories for first- and second-degree relatives. For these relatives a history of severe alcohol-related problems was established in a manner that approximates the DSM-III-R diagnosis for alcohol dependence.

The present analyses focus on the relationship between the parental history of alcohol dependence and the selection of a spouse. The optimal sample to evaluate the major questions should be at an age where marriage is likely to have occurred, and when a considerable portion of the age of risk for substance use disorders has passed. The availability of information on both the parents and grandparents of the respondents to the questionnaire allows for such evaluations, using each parent of each respondent as a subject. Thus, the sample for these analyses began with the 736 male and 736 female biological parents of the respondents. Data for 28 respondents (4%), and thus 56 parents, were excluded because either the respondent or a parent was adopted, or because the respondent provided no information regarding first- or second-degree family history. Thus, these analyses included data for 708 mothers and 708 fathers of the respondents, or 1,416 people.

These individuals were divided into groups based on alcoholism in their parents (neither parent, mother, father, both parents); the presence or absence of alcoholism, affective disorder, and other psychiatric problems in their spouses; and their own alcoholism status. Chi-square tests evaluated the association between family history and marrying an affected individual, including Fisher's exact test when appropriate (19). Data for alcoholics and nonalcoholics were examined separately.

RESULTS

The major analyses relate to the relationship between having both an alcoholic parent and a spouse with alcoholism for the 695 female and 661 male subjects who themselves were not alcoholic. Data for the 13 female and 47 male alcohol-dependent subjects are discussed separately because of the additional influences that may contribute to the selection of a spouse due to their own alcoholism.

First, data were analyzed for the entire nonalcoholic female sample. As shown in Table 1, 11 (12%) of the 89 women with any alcoholic parent (63 with an alcoholic father only, 14 with an alcoholic mother only, and 12 with both parents alcoholic) had a spouse with alcoholism, compared to 30 (5%) of the 606 women with no alcoholic parent ($\chi^2 = 7.17$; $p < .01$). At the same time, none of the 89 women with an alcoholic parent, compared to 1 (<1%) of the 606 women with no alcoholic parent, had a spouse with a history of a major depression episode ($\chi^2 = .44$; $p = 1.00$).

Similar data for the 661 nonalcoholic males are shown in Table 1. Here, in contrast to the women, the 51 men with any alcoholic parent (40 with an alcoholic father only, 6 with an alcoholic mother only, and 5 with both parents alcoholic) did not have an alcoholic spouse more often than the 610 males with no alcoholic parent (2 vs 1%; $\chi^2 = .26$; $p < .50$). Nor did these 51 men more often have a spouse with a major depressive episode when compared with the 610 men without an alcoholic parent (4 vs 1%; $\chi^2 = 5.58$; $p < .10$).

Table 2 presents data to help explore whether the results differ depending on the sex of the alcoholic parent. The focus is only on individuals with either an alcoholic mother or an alcoholic father because too few people had both alcoholic parents to generate meaningful comparisons. Here, 3 of the 14 women (21%) with an alcoholic mother alone married a man with alcoholism compared to only 31 of the 606 (5%) lacking any alcoholic parent ($\chi^2 = 7.02$; $p < .05$). Similarly, 7 of the 63 women with only an alcoholic father (11%), as compared to 5% of those without an alcoholic parent, had an alcoholic spouse ($\chi^2 = 3.83$; $p <$

Table 1. Family History and Problems of the Spouse among Nonalcoholics

	Family history of alcoholism	
	Any parent alcoholic	Neither parent
Nonalcoholic females (N = 695)	89 (13%)	606 (87%)
Percent who marry spouse with:		
Alcoholism	12	5*
Major depressive episode	0	1
Nonalcoholic males (N = 661)	51 (8%)	610 (92%)
Percent who marry spouse with:		
Alcoholism	2	1
Major depressive episode	4	1

*$p < .01$.

Table 2. Gender of the Alcoholic Parent and Problems of the Spouse among Nonalcoholics

	Parental alcoholism[a]		
	Mother only	Father only	Neither parent
Nonalcoholic females (N = 683)	14 (2%)	63 (9%)	606 (89%)
Percent who marry spouse with:			
Alcoholism	21*	11	5
Major depressive episode	0	0	1
Nonalcoholic males (N = 656)	6 (1%)	40 (6%)	610 (93%)
Percent who marry spouse with:			
Alcoholism	0	3	1
Major depressive episode	0	5	1

[a]The table excludes data for individuals with both an alcoholic mother and an alcoholic father.
*$p < .05$ when compared to neither parent alcoholic group.

.08). However, these data do not reflect an association between the gender of the alcoholic parent (i.e., male versus female) and the presence of an alcoholic spouse ($\chi^2 = 1.08$; $p < .40$).

The relative importance of an alcoholic mother versus an alcoholic father is explored for the 661 nonalcoholic males at the bottom of Table 2. None of the 6 nonalcoholic males with only an alcoholic mother married an alcoholic compared to 7 (1%) of the 610 nonalcoholic males without an alcoholic parent ($\chi^2 = .07$; $p = 1.00$). Among nonalcoholic males with an alcoholic father only, 1 (3%) of 40 married an alcoholic compared to the 7% among those without an

alcoholic parent ($\chi^2 = 56$; $p < .40$). Thus, when the rate of marrying an alcoholic among those with an alcoholic mother only is compared with the rate among those with an alcoholic father only, no significant difference emerges ($\chi^2 = .15$; $p = 1.00$).

Finally, there is evidence that alcoholics are more likely to marry alcoholics. Alcoholism was diagnosed in 13 (2%) of the female subjects and 47 (7%) of the male subjects; these alcohol-dependent women and men and their spouses are not included in the tables. In the present sample, 10 (17%) of the 60 alcoholics married an alcoholic while the same was true for only 50 (4%) of the 1,356 nonalcoholics ($\chi^2 = 23.85$; $p < .01$). Among females, 38% of alcoholics versus 6% of nonalcoholics had an alcoholic spouse ($\chi^2 = 21.64$; $p < .01$), while among males these rates are 11 and 1%, respectively ($\chi^2 = 21.64$; $p < .01$).

DISCUSSION

These data explore some global questions that have been raised regarding an important aspect of assortative mating. While more definitive conclusions would require a much more expensive approach using personal interviews with members of two, and preferably three, generations of many families, the present data can compare subgroups within a sample to generate more preliminary answers. In addition to the higher rate of marrying an alcoholic among alcoholics versus nonalcoholics, the results show an association between a family history of alcoholism and marrying an alcoholic as well. Consistent with the clinical impressions of many in the field, daughters of alcoholics in this sample were more likely than daughters of nonalcoholics to have an alcoholic spouse. Contrary to some hypotheses, within this sample the results presented here suggest that this outcome may not be associated with the gender of the alcoholic parent.

This phenomenon does not appear to reflect a propensity to select a mate with any type of behavioral impairment. For example, the data demonstrate no evidence that daughters of alcoholics are more likely to have a mate who has had a major depressive episode. However, because of the low rate of major depressions reported for this sample, these conclusions must be considered tentative. Additionally, assortative mating for alcoholism related to having an alcoholic parent is not evident for the nonalcoholic males in our sample. Nor was there evidence that a history of alcohol dependence in a males' parents was associated with an increased rate of marrying a woman with a history of a major depressive episode.

The findings of this study offer correlates consistent with some theories, while not supporting others. First, contrary to some observations of assortative mating

and psychiatric disorders overall (8), having an alcoholic spouse when a parent has severe alcohol problems is observed more in daughters than in sons. Second, it does not appear that, at least as regards alcoholism, the selection of a spouse is more strongly influenced by alcoholism in the opposite sex parent (20–22). Thus, daughters of female alcoholics are every bit as likely to have an alcoholic spouse as daughters of male alcoholics.

At the same time, it is not possible for a single study to pinpoint the specific mechanisms involved. Thus, the findings are consistent with, but do not prove, a number of other theories. First, it is possible that, despite our best efforts, these daughters of alcoholics are themselves exceptionally heavy drinkers and are choosing spouses who have alcohol consumption trends that are relatively similar to their own. Second, it is possible that these daughters have acquired personality characteristics or other attributes from their alcoholic mothers or fathers that are similar to those that increase the risk for alcoholism, but which have not manifested themselves as alcohol dependence. Thus, consistent with other theories, these women might choose a mate based on similar psychological characteristics which lead to alcohol dependence in that mate but, due to other factors, not in the woman herself (23). On the other hand, none of these theories have received definitive support because similar phenomena are not observed in sons of alcoholic parents.

These speculations aside, the data do support evidence of assortative mating. Daughters, but not sons, of alcohol dependent men *and* women are indeed more likely to have spouses who have alcohol dependence, but not spouses with increased rates of major depressive disorder. However, there are several methodological limitations of this work. First, the sample was generated from a Caucasian group of male students and nonacademic staff at a university in southern California. It is possible that different results would accrue from different samples. Second, the information on the male and female subjects was provided by their sons, the individuals who completed the original questionnaire. While this may result in underreporting of illness rates, positive reports are generally reliable (24–26). At the same time, it is possible that the results might have been influenced by differences in the manner in which the men and women noted and then communicated information about disorders in the families to their sons. However, the comparisons within our sample of the mate selection for sons versus daughters of alcoholics, children of alcoholics men versus women, and the comparison of children of alcoholics with children of parents with major depression might be relatively more reliable. In addition, the sample was relatively large, and there are no reasons to believe that any of these caveats systematically affected comparisons between the impact of alcoholic fathers vs mothers, males

females, or the relative impact of an alcoholic parent on marrying an alcoholic vs marrying an individual with a major depressive episode.

ACKNOWLEDGMENTS

This work was supported by NIAAA Grants 08401 and 08403, and by the Veterans Affairs Research Service.

REFERENCES

1. Feingold, A., Gender differences in mate selection preferences: A test of the parental investment model, *Psychol. Bull.* **112**(1):43–51 (1976).
2. Merikangas, K. R., and Spiker, D. G., Assortative mating among in-patients with primary affective disorder, *Psychol. Med.* **12**:753–764 (1982).
3. Burgess, E. W., and Wallin, P., Homogamy in social characteristics, *Am. J. Sociol.* **49**:109–124 (1943).
4. Hollingshead, A. B., Cultural factors in the selection of marriage mates, *Am. Sociol. Rev.* **15**:619–627 (1950).
5. Vandenberg, S. G., Assortative mating or who marries whom?, *Behav. Genet.* **2**:127–157 (1972).
6. Vogel, F., and Motulsky, V., *Human Genetics*, Springer-Verlag, Berlin, 1979, pp. 413–414.
7. Merikangas, K. R., Divorce and assortative mating among depressed patients, *Am. J. Psychiatry* **141**(1):74–76 (1984).
8. Jacob, T., and Bremer, D. A., Assortative mating among men and women alcoholics, *J. Stud. Alcohol* **47**(3):219–222 (1986).
9. Beckman, L. J., Women alcoholics: A review of social and psychological studies, *J. Stud. Alcohol* **36**:797–824 (1975).
10. Jacob, T., Favorini, A., Meisel, S. S., et al., The alcoholic's spouse, children and family interactions, *J. Stud. Alcohol* **39**(7):1231–1251 (1978).
11. Schuckit, M. A., and Morrisey, E. R., Alcoholism in women: Some critical and social perspectives, in *Alcoholism Problems in Women and Children* (M. Greenblatt and M. A. Schuckit, Eds.), Grune and Stratton, New York, 1976, pp. 5–35.
12. Black, C., Bucky, S., and Wilder-Padilla, S., The interpersonal and emotional consequences of being an adult child of an alcoholic, *Int. J. Addict.* **21**(2):213–231 (1986).
13. Boye-Beaman, J., Leonard, K. E., and Senchak, M., Assortative mating, relationship development, and intimacy among offspring of alcoholics, *Fam. Dyn. Addict. Q.* **1**(2):20–33 (1991).
14. Helzer, J. E., Burnam, A., and McEvoy, L. T., Alcohol abuse and dependence, in *Psychiatric Disorders in America* (L. N. Robins and D. A. Regier, Eds.), Free Press, New York, 1991, pp. 81–115.
15. Eels, K., Marijuana and LSD: A survey of one college campus, *J. Couns. Psychol.* **15**:459–467 (1968).
16. Endicott, J., and Spitzer, R., A diagnostic interview: The schedule for affective disorders and schizophrenia, *Arch. Gen. Psychiatry* **35**:837–844 (1978).
17. Schuckit, M. A., Irwin, M., Howard, T., et al., A structured diagnostic interview for identification of primary alcoholism: A preliminary evaluation, *J. Stud. Alcohol* **49**(1):93–99 (1988).
18. American Psychiatric Association, *Diagnostic and Statistical Manual of Mental Disorders*, Third Edition, Revised, Washington, D.C., 1987.

19. Fleiss, J. L., *Statistical Methods for Rates and Proportions*, Wiley, New York, 1981.
20. Hall, R. L., Hesselbrock, V. M., and Stabenau, J. R., Familial distribution of alcohol use: I. Assortative mating in the parents of alcoholics, *Behav. Genet.* **13**(4):361–372 (1983).
21. Hall, R. L., Hesselbrock, V. M., and Stabenau, J. R., Familial distribution of alcohol use: II. Assortative mating in the parents of alcoholics, *Behav. Genet.* **13**(4):373–382 (1983).
22. Gleiberman, L., Harburg, E., DiFranceisco, W., et al., Familial transmission of alcohol use: V. Drinking patterns among spouses, Tecumseh, Michigan, *Behav. Genet.* **22**(1):63–79 (1992).
23. Merikangas, K. R., Assortative mating for psychiatric disorders and psychological traits, *Arch. Gen. Psychiatry* **39**:1173–1180 (1982).
24. Andreasen, N. C., Endicott, J., Spitzer, R. L., et al., The family history method using diagnostic criteria, *Arch. Gen. Psychiatry* **34**:1229–1235 (1977).
25. Andreasen, N. C., Rice, J., Endicott, J., et al., The family history approach to diagnosis: How useful is it?, *Arch. Gen. Psychiatry* **43**:421–429 (1986).
26. Thompson, W. D., Orvaschel, H., Prusoff, B. A., et al., An evaluation of the family history method for ascertaining psychiatric disorders, *Arch. Gen. Psychiatry* **39**:53–58 (1982).