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## **PATTERNS OF DRINKING AMONG THE DEAF**

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### **ABSTRACT**

Thirty-nine White deaf persons functioning normally within the general hearing community were surveyed on a variety of factors concerning their use of alcohol, and compared to the data from two comparable hearing samples reported previously in the literature. No significant differences were found between the deaf and hearing

samples on patterns of drinking or other parameters of alcohol use. Heavier alcohol use among the deaf correlated significantly with reported frequency of driving after having drunk too much, age of having had the first drink, ever having been drunk, feeling guilt over drinking too much, and others criticizing the respondent for drinking behavior. Heavier use also tended to be correlated with attendance at an all-deaf school. Implications of the findings of similar drinking patterns for the deaf and the hearing are discussed in terms of the lack of specific rehabilitation facilities for the deaf, along with possible reasons for the lack of use by deaf clients of alcohol rehabilitation agencies in the community.

## INTRODUCTION

The past few years have seen a growing tendency to integrate the disabled into the community-at-large rather than to relegate them to specialized agencies for all their problems [1]. With this increased mainstreaming has come a slowly growing recognition that the problems which they share with the general population should be handled by those agencies that deal with these problems for the entire community [2]; the specific problems of the disability itself should continue to be handled by those specialized agencies that focus on the disability .

An area that appears to have been lost in this division is that of the use and abuse of alcohol by the disabled. Alcohol usage is pervasive in our culture; Chafetz [3] estimates that there are roughly 100 million users of alcohol in the United States of which approximately 10% are heavy users or problem drinkers. A survey of the research literature, however, found no research studies on the use of alcohol among the deaf (nor any other handicapped group, for that matter). (The terms "deaf" and "hearing-impaired" are used interchangeably in this report.) It is a sobering fact that we know more about the alcohol use patterns of the few thousand Lepcha of the Himalayas [4] than we do about the estimated 13 million hearing-impaired [5] persons in our country. On an a priori basis, a case could be made to expect hearing- impaired people to, on the average, drink more, less, or the same amount as the nonimpaired.

1. Since alcohol usage as a coping mechanism has been called "self-medication" [6] by drinkers for the problems and stresses of daily life, and since it might be expected that a severe disability would increase ordinary problems as well as add additional adjustment

difficulties of its own, one might expect the hearing-impaired to exhibit a greater use of alcohol than the hearing.

2. It could be argued, however, that those who became hearing-impaired during early childhood (or at birth) have had to learn to handle daily stresses and conflicts to participate successfully in the hearing world. During this early adjustment period, alcohol would not be available as a coping mechanism, and they would therefore have had to adapt and use other methods of handling stress. It might be expected that these other mechanisms would carry over to adulthood, leaving less need for and usage of alcohol than would be found in the hearing.

3. Lastly, since the hearing-impaired do exist within the complex cultural matrix of our society, they as well as the hearing have been exposed to advertisements, stories, newspaper articles, etc., as well as sharing daily contact with peers who are not deaf. These influences might be expected to overwhelm any particularity due to their disability, resulting in similar amounts and patterns of drinking as their hearing peers.

Hearing-impaired people do drink alcohol; they sometimes abuse it and become alcoholics or problem drinkers as do hearing people. (There is a great dispute in the literature over the definition of terms like "problem drinker," "alcoholic," and "alcohol abuser." Since the present study is not directed at identifying alcoholism, the terms will be used interchangeably throughout this paper. See Kessel and Walton [7] for a discussion of this issue.) Programs to aid the hearing-impaired problem drinker have only begun within the past few years, and exist in a handful of locations (e.g., San Francisco, St. Joseph, Columbus, Washington, D.C., Seattle) [8]. All of these programs draw their clients by referrals from other community agencies; among them they treat a total of roughly 300 clients. In many states (e.g., New York) no rehabilitation programs for the deaf problem drinker currently exist.

None of the rehabilitation programs has sampled the use of alcohol among the hearing-impaired general community nor is there at present any basis for stating whether this group drinks more, less, or the same amount as the hearing population. The present study is a preliminary effort to randomly sample the drinking patterns of hearing-impaired persons functioning normally within the general community in the Rochester, New York, area, and to compare the results with those

collected in the general population of a similarly sized city in the same geographical region.

## METHOD

A recent study [the Western New York State (WNYS) survey] [9] conducted of a random sample of hearing adults served as a comparison group for the present research. The WNYS survey used a questionnaire which obtained information from the respondents on the amount, frequency, and variability of their consumption of various different alcoholic beverages. From this information a Quantity-Frequency-Variability (QFV) Index was calculated for each respondent which categorized the respondent's level of drinking into five categories: heavy, moderate, light, infrequent, and abstainer.

The QFV Index was first introduced by Cahalan et al. [10] in their study of the drinking patterns of the general American public. Their results for the American Drinking Public-Middle Atlantic Region (ADP-MAR) survey, which includes New York State, will also be reviewed in the present study. The WNYS questionnaire used Cahalan's QFV Index as slightly modified by Jessor et al. [11]. This questionnaire served as the basis for the present data collection, with the following modifications.

1. The appropriateness and difficulty level of the vocabulary used in the questionnaire was reviewed by a National Technical Institute for the Deaf (NTID) specialist in linguistics of the deaf. Where deemed necessary, simpler words of a more specific nature were substituted to avoid any ambiguities in meaning.

2. The two interviewers were themselves hearing-impaired, able to use and understand both speech and signing. However, they consulted a NTID specialist in signing for the appropriate signs for the questionnaire concepts; where confusion might exist, they learned parallel or alternative signs in both American Sign Language (ASL) and Signed English so that the meaning would be clear to the respondents regardless of their linguistic level.

ASL is a language which has its own syntax, grammar, and vocabulary. Signed English uses signs borrowed from ASL, but places them within the syntactical structure of standard American English. As with oral languages, vocabulary differences in ASL signs occasionally develop in different regions Of the country. The researchers therefore

believed it important that the key phrases and concepts of the questionnaire be checked for the common signs used in the Rochester area, so that all respondents would be fully aware of the exact meaning of each question;

3. Additional questions were included inquiring specifically about details of the respondent's disability (e.g., age of onset of deafness, type of school attended) .

4. Four questions known as the CAGE test were included [12]; these have been utilized to distinguish alcoholic from nonalcoholic patients in a clinical setting.

### SUBJECT SELECTION

Initial difficulty was encountered in obtaining a population list of hearing-impaired persons in the Rochester area from which a sample could be drawn. Ethical considerations of privacy prohibit indiscriminate publication of lists of handicapped persons, and no master list of the hearing-impaired exists for the Rochester area. The researchers therefore held a series of meetings with officers and leaders of various organizations for the deaf (fraternal, church, recreational, and educational) where the general research objective was described and their cooperation solicited. The leaders returned to their groups and in open meeting requested permission to submit the list of their members' names, addresses, and phone numbers for the purpose of this research only. Using this method more than 600 names of hearing-impaired persons were collected, which formed the population from which the sample was drawn.

It is clear that this procedure has flaws. Only those hearing-impaired persons who are members of an organized group could be sampled and this population is self-selected for those who join groups, those who share common interests with others, those who self-consciously choose identification with a "deaf" group, etc. Perhaps the most obvious omission is that no Black or Spanish-speaking persons appear in the sample. Efforts are still under way to correct this by obtaining individual names of some members of these subpopulations.

This list was then placed in a computer and 120 names randomly selected for requests for interviews. Letters were sent to these subjects followed by personal phone calls using TTY facilities. This

ultimately resulted in 39 persons consenting to be interviewed; all who consented were surveyed, and their responses are analyzed herein.

## PROCEDURE

Subjects to be interviewed were visited in their homes by one of the two interviewers randomly chosen for that respondent. The interviewers were a male and a female NTID student whose home residence is outside the Rochester area. Upon arriving at the respondent's home, the interviewer introduced him/her self, established rapport with the subject, and then administered the questionnaire either in English, ASL or Signed English as appropriate. The interviewer recorded the answers on a numbered answer sheet, the number being connected with the respondent's name and address only through a secured computer listing.

At the end of the interview the respondent was asked to sign a release form which specified that the information would be used only for this research study.

The interviewers reported little difficulty in establishing rapport with the respondents or in communicating with them once the interview had begun. The general nature of the research was described to the respondent following the interview and before the consent forms were signed.

## DESCRIPTION OF THE SAMPLE

There were 21 males and 18 females in the sample with ages ranging from 18 to 66 years (median age of 44). Nineteen of the respondents were Catholic, 17 were Protestant, and three were Jewish. They had a median religious attendance at church/synagogue of once per month. All of the respondents were White and the majority were married; the married respondents had a modal number of two children.

Twenty-four of the respondents were employed full-time and four part-time, the balance being either students, retired, ill, or not looking for work. The median family income was \$15,500, obtained by-and-large from the salary of the head of the household, often supplemented by an additional salary of the spouse. More than half had lived in the Rochester area for greater than 20 years, 54% owning

their own homes and 39% living in rental apartments. The modal educational level was a high school diploma (36%), although 23% had an Associate Degree, 18% a Bachelor Degree, and 10% a Master Degree. Most had received no vocational training, although 18% had received a certificate for vocational training and 15% had received some training but without a certificate .

### SPECIFIC RESPONDENT INFORMATION ON DEAFNESS

Eighty-two percent of the respondents self-identified themselves as "deaf," 15% called themselves "hard of hearing," 3% called themselves hearing-impaired," and none classified themselves as "hearing." Most of the respondents had had their hearing loss from birth (46%) or before two years of age (13%); of the rest, all but one had had their hearing loss by 10 years of age.

Sixty-seven percent of the respondents had attended only a school for the deaf, 13% had attended exclusively public schools with no special program for the deaf, and 15% had attended both public schools and schools for the deaf. While at school, 54% had resided in dorms, 23% had remained at home and commuted to the school, and the others at various times had done both.

### RESULTS

#### General Drinking Behavior

The vast majority of the subjects reported that they drank some alcoholic beverage at least occasionally (95%), having had their first drink usually between 13 and 25 years of age (72%). They appeared to make a sharp distinction between getting "high" on alcohol and getting "drunk."

There are no agreed upon signs in ASL for "drunkenness" as opposed to "getting high or "being tipsy" or any of the other distinctions which exist in English between loss of coordination and a pleasant emotional feeling and/or lessening of inhibitions as a result of alcohol use. Two separate questions were therefore asked with two different signs to tap this distinction.

Twenty eight percent of those who drink said they had never gotten high on alcohol, 21% said it had happened once, 21% said two



or three times, and 26% said four or more times a year. As to being "drunk," 62% of drinkers said they had never gotten drunk, 18% said once, 5% said two or three times, and 8% said four or more times per year.

### Health Problems Due to Alcohol Use

Of the 37 out of 39 respondents who reported drinking, 46% reported having experienced at least one hangover after drinking, with 16% reporting having had four or more hangovers. During a hangover, 43% reported having experienced headaches, 22% a sick stomach, 22% tiredness and irritability, 22% a feeling of depression, 19% had vomiting, 17% reported shakiness of hands, 14% had hot or cold flashes, and 11% reported nervousness. In addition, 38% responded "yes" to the question of whether they felt that alcohol had had any changes or bad influence on their health.

### Drinking and Driving

Forty-six percent of the drinking respondents reported driving a car at least once after drinking too much, with 11% of the drinkers reporting driving a car six or more times a year after drinking too much. An information question as to how many bottles of beer a 150-pound person can drink in 1 hour and not become drunk produced the following responses: 38% of the sample estimated 5 or more, 28% estimated 3 or 4 bottles, 21% said 1 or 2 bottles and 13% said they did not know. When questioned as to the type of person arrested for driving while drunk 18% said most of them are "alcoholics," the majority of the respondents (51%) said "heavy drinkers," 21% said "moderate drinkers," 5% said "light drinkers," and 5% didn't know.

The four questions of the CACE test to identify alcoholics and the one additional question in the same area from the WNYS were answered as follows: 21% of the respondents said that they feel the need to cut down on their drinking, 8% reported feeling guilty when they drink, 3% reported the need to have a drink in the morning, and 3% answered that criticism from close relatives or friends bothered them when they drank. Asked how many times a year relatives or close friends criticized them for drinking, 72% said "never," 21% reported 1 to 5 times, and 8% reported having been criticized six or more times a year.

## Quantity-Frequency-Variability (QFV) Index

In accordance with the methodology described in the WNYS survey [9], the QFV Index was computed separately for wine, beer, and liquor based upon a complex interaction of the quantity of the specific beverage normally consumed, the frequency with which the subject consumed that beverage, and the variability between the amount usually consumed and the highest amount the subject reports consuming on one occasion. As in the WNYS, these indices were then compared and the index indicating heaviest drinking assigned the respondent as the QFV Index category. Based upon this procedure, 15.4% were labeled "heavy drinkers," 23.1% "moderate drinkers," 46.2% "light drinkers," 5.1% "infrequent drinkers," and 10.3% "abstainers." (For more detailed description of the assignment criteria. see Ref. 8, pp. 14-17).

## COMPARISON OF DATA TO THE WNYS AND THE ADP-MAR SURVEYS

Two-tailed chi-square tests were performed comparing the data from the deaf sample to that reported in the hearing samples of the WNYS and the ADP-MAR surveys. No differences significant at the  $p < .05$  level were found on the distribution of the QFV Indices between the deaf population and that of either the WNYS or the ADP-MAR respondent sample for either the total sample or for the male and female sub-samples tested separately. Testing of the patterns of frequency of consumption of the three different beverage categories (beer, wine, and liquor) produced only one significant difference across groups; the deaf sample reported drinking wine more frequently ( $X = 12.98$ , 6 df,  $p = .043$ ) than did the WNYS subjects.

Chi-square testing of the deaf population with the results from the WNYS survey on the relationship of age and of employment status to the QFV Index also showed no significant differences between the deaf population and the WNYS sample.

Since sex of the respondent has been shown to be such an important factor in various drinking correlations [13], its relationship to the other variables in the study was calculated. [As the present sample is relatively small, response categories were collapsed into two groups and the resulting 2 X 2 tables tested using the Fisher Exact Probability Test (two-tailed) with a .05 level of significance.] The respondent's sex was significantly related to the following variables:

Men were more likely to report driving after having drunk too much ( $p=.01$ ), being more frequently high ( $p=.008$ ) (but not more frequently drunk), feeling tired after drinking ( $p=.039$ ), and to more frequently drink beer ( $p<.001$ ). Sex difference also tended to be related to the QFV Index ( $p=.072$ ), with men tending to be heavier drinkers than women.

Respondent's sex was not significantly related to responses as to how many drinks a driver can have and still drive safely nor as to what kind of drinker is arrested for drunken driving, nor was it related to the age of having had the first drink, the frequency of reporting being drunk, or to any of eight symptoms sometimes experienced with hangovers (headache, sick stomach, hands shaking, nervousness, depression, feeling hot or cold, vomiting, or general health problems). There were no significant sexual differences in the reported total number of these hangover problems, nor in the four CAGE items designed to identify alcoholism problems. Lastly, neither wine nor liquor use showed sex-related differences.

Significant relationships were found between the QFV Index and the respondent's reports on the following factors: frequency of driving after having drunk too much ( $p=.041$ ), age of having had the first drink ( $p=.050$ ), being drunk ( $p=.042$ ), feeling guilt over drinking too much ( $p=.051$ ), and others criticizing the respondent for drinking ( $p=.09$ ). The QFV Index tended to be related to the school attended, with heavy drinkers attending only schools specifically for the deaf while all others split between schools for the deaf and other types of schools ( $p=.071$ ).

The QFV Index was not related to the two information questions on driving and drinking, the frequency of having hangovers or the eight symptoms inquired about during hangovers, nor to the total number of hangover problems reported. Three of the four CAGE items were not significant ("need a morning drink," "annoyed by criticism of drinking by others," and "wish I drank less"), although this last tended to significance (Chisquare = 8.21, 4 df,  $p=.084$ ). Lastly, on the specific questions regarding deafness, the QFV Index was not related to the age of onset of deafness, self-identification by the respondents as "deaf" versus "hard of hearing," nor to the residence while attending school ("live-in" versus "commute").

## DISCUSSION

The major question addressed in this study was whether deaf respondents functioning normally within a community have drinking patterns similar to those of a comparable hearing population. The answer appears to be an unequivocal "yes." No significant differences emerged from the comparison of the deaf sample to the hearing samples of either the WNYS study nor the ADPMAR sample drawn from roughly equivalent populations, either for the total sample or the separate sub-samples of men and women. The variables in this study that were significantly related to drinking patterns in the deaf (e.g., age and employment status) are the same as those related to drinking patterns in the hearing. There is every reason to predict, therefore, that just as there are heavy drinkers among the hearing population that abuse alcohol, so are there among the deaf.

Estimates of drinking behavior from questionnaires are generally conceded to underestimate the actual incidence of drinking in the population [14] . If minimal figures are used for the deaf population of Rochester (about 3,000) and minimal figures for the number of alcohol abusers in the general population (5%), then it can be estimated that at least 150 deaf persons are having problems due to or compounded by alcohol use within the Rochester area.

No specific program to aid these persons or to identify them exists at present in this area. Informal inquiries of alcoholism rehabilitation agencies and of agencies to aid the deaf in this region revealed no deaf person who has been aided by them for alcohol abuse within the memory of any of the persons contacted in the agencies, including Alcoholics Anonymous. Most agencies were at a loss as to what they would do if a deaf person (nonverbal) should come in and ask for help. It is obvious that this is a social problem that has been completely neglected.

The responses to the questions on drinking and driving given by the respondents emphasize this point. Betros [14] reported that in 1972 at least half of the deaths and automobile related accidents in New York State involved the use of alcohol by one of the parties (p. 14). Forty-six percent of the respondents on this survey reported driving a car after drinking too much, and 11% said they did so six or more times a year. More than 1/3 of the respondents estimate that a person of normal weight could drink five or more drinks in 1 hour and still drive safely. The clear lack of knowledge as to how much can be drunk and still drive safely leads to the behavioral consequences of driving while under the influence of alcohol

The lack of any significant difference on these information questions attributable to sex shows that women as well as men lack basic knowledge of alcohol's effects. Further, the fact that the QFV Index only tended to be significantly related to sex indicates that female drinking practices do appear to be increasing for the deaf population as for the hearing, as has been reported by Gomberg [15]. The implications of these findings for increasing problems in the deaf community are obvious.

If there are deaf persons who do abuse alcohol, why don't they utilize the same rehabilitation facilities as do the hearing? There are probably many interrelated reasons for this which can be answered with certainty only by further research. However, several different factors can be listed based upon past research.

### Deaf Community Opposition

The deaf community within an area tends to be a closely-knit body [16]; most of the deaf people in the community have ties in one way or another to other deaf people. Deaf community leaders have expressed the sentiment that they have just emerged from the stereotype of "deaf and dumb" to where they are considered potentially employable, useful citizens. Attempts to start rehabilitation programs in other cities for the deaf alcoholic have met with massive denial by the organized deaf community of the existence of the problem [17] as well as occasionally active hostility to its being raised as a possibility. The fear has been expressed that "We have been fighting to rid the hearing community of the stereotype 'deaf and dumb'; we don't want to spend the next hundred years trying to erase another devastating slur, 'deaf and drunk'" [18].

### Lack of Knowledge of Community Resources

Deaf people tend to be cut off from regular modes of communication and hence often have restricted knowledge of community resources available to help [16]. Much of the general information held by deaf adults comes from personal contact with other deaf persons rather than from the media; hence they may be unaware of the existence of agencies to help with this problem. Lack of Trained Personnel in Alcoholism Agencies

Members of the deaf community are generally aware of those places where individuals are employed who can use Signed English or ASL to communicate with them effectively, and tend to consider the placement of such individuals in an agency as a symbol of the agency's awareness of and desire to aid in the special problems of deafness. At present, few of the alcoholism rehabilitation agencies in the United States have any personnel who can communicate with the deaf in Signed English or ASL.

### Schools for the Deaf and Their Programs

Much of the programming in schools for the deaf has a moralistic slant [17]. In many, children are "overprotected" from exposure to films, magazines, and other media which discuss alcoholism and drug use realistically. Although not reaching significance, the fact that all the heavy drinkers had attended only schools for the deaf while 13 of the other 33 respondents attended mixed or regular public schools might indicate that specific attention to the proper use of alcohol in schools for the deaf would be fruitful.

### SUGGESTIONS FOR FURTHER RESEARCH

There are several areas in which further research is vitally needed to delineate more clearly the problem of alcohol use and abuse among the deaf.

1. A more diversified sample of the deaf population should be surveyed (specifically Black and Spanish-speaking persons) to discover whether their drinking patterns are similar to those of the White deaf persons reported on herein.

2. The attitudes of the deaf population toward alcohol use and abuse should be assessed to determine whether a moralistic attitude toward alcohol misuse is preventing deaf persons from seeking treatment for alcoholism.

3. Programs specifically aimed at the deaf community should be designed and tested to see whether information on and availability of rehabilitation programs for the problem drinker will serve to change the atmosphere enough to permit those who need help to seek it.

4. Agencies that deal with alcohol problems should be made aware of the existence of deaf alcoholics, and plans drawn up for help for these individuals if and when they do come for assistance.

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