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This document is part of a collection that serves two purposes. First, it is a digital archive for a sampling of unpublished documents, presentations, questionnaires and limited publications resulting from over forty years of research. Second, it is a public archive for data on college student drinking patterns on the national and international level collected for over 20 years. Research topics by Dr. Engs have included the exploration of hypotheses concerning the determinants of behaviors such as student drinking patterns; models that have examine the etiology of cycles of prohibition and temperance movements, origins of western European drinking cultures (attitudes and behaviors concerning alcohol) from antiquity, eugenics, Progressive Era, and other social reform movements with moral overtones-Clean Living Movements; biographies of health and social reformers including Upton Sinclair; and oral histories of elderly monks.

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The Drinking Patterns and Attitudes Towards Alcoholism of Female Tertiary Helping Professional Students in Brisbane, Australia*

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In Western society, individuals in the helping professions such as doctors, nurses, lawyers, police and social workers will generally have contact at some point in their careers with alcohol abusers or alcoholics.¹⁻³ Moreover, studies involving a variety of helping professionals indicate that their attitudes towards alcoholics or alcoholism have a significant relationship to interpersonal interactions with and treatment outcomes for alcoholic persons. It is thought by many that a major impediment to achieving better help for the alcoholic from helping professionals is their attitude toward alcoholism.⁴⁻⁷ Also, it has been estimated that among helping professionals there is a high incidence of alcohol abuse which reflects the consumption patterns and alcoholism rate for the particular culture in which the professional resides; and this abuse is thought to decrease the effectiveness of the individual in his or her profession and influence attitudes towards alcoholic patients or clients.^{3,4,10}

Australia ranks tenth in the world in per capita consumption of alcoholic beverages, consuming approximately ten liters of absolute alcohol per year per person.¹¹ Studies in Australia in the late 1970's indicate that 66 to 82 per cent of the adult population consume alcohol, and 2 to 17 per cent consume it on a daily basis.¹¹⁻¹³ Among tertiary students in Australia, the rate of alcohol consumption has been found to be 80 to 90

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per cent of the population with 7 to 11 per cent using it on a daily basis, which is as high or higher than for the adult population.^{14,15}

Although several studies outside of Australia in recent years have investigated the drinking patterns and practices of university-age students in general,¹⁶⁻¹⁹ and helping professional students in particular,²⁰⁻²² only a few investigations have been carried out in Australia to determine drinking patterns of tertiary students,¹¹ and in particular, female students in the helping professions. Similarly, while reports on attitudes towards alcoholism have been published in other countries by practicing or student helping professionals,²¹⁻³¹ a review of the literature reveals no studies among Australian helping professionals or students.

Studies outside of Australia have indicated that as students go through their course of study, drinking patterns¹⁶⁻²¹ and attitudes towards alcoholism and alcoholics change.^{6,26,33,34} Studies have also indicated that drinking patterns and attitudes towards alcoholics are related to religion or the importance of religion in a person's life.³⁵⁻³⁷ Similarly, differences in drinking patterns and attitudes towards alcoholics have been found in other countries between different professional groups or university majors.^{1,4,6,23,25,28-30,32,40}

Thus, in view of the fact that Australia has the highest per capita consumption of alcohol in the English-speaking world and that few studies have been done with women tertiary students in general, and with women helping professional students in particular, it would be of interest to investigate the drinking patterns and attitudes towards alcoholism of Australian women students. The results could provide baseline data for cross-cultural comparisons, and to determine the effect of year in school, religiosity, and course of study to drinking patterns and attitudes towards alcoholics among Australian women students.

METHODOLOGY

Sample

All first and final-year women students from the law and pharmacy school, the social work and applied psychology department, and the first and fourth-year students in the medical school (the last year for which medical students are together in large lecture classes) at Queensland University were asked to participate in the study. First and last-year students from all religious seminaries in the Brisbane area were also asked to take part in this survey. First and last-year students in four nursing schools representing a large and small public and private institution were also asked to participate in the project.

Before administering the questionnaire, the purpose of the study, pro-

cedures used to safeguard students' anonymity, and the fact that participation was voluntary were discussed. From the total possible number of students, 64 individuals (10%) either did not wish to participate in the study or returned questionnaires with obvious faked responses, e.g., filling in 99 bottles of beer, spirits, etc., for daily consumption of alcohol. The final sample included 646 students, of which 50.5 per cent were first-year students and 49.5 per cent were last-year students. Of the total sample, 56.5 per cent indicated that religion was important to them and 43.5 per cent did not feel that religion was important to them.

The Questionnaire

Drinking Patterns. Items asking for the quantity and frequency of alcohol use were compiled based on WHO recommendations for standardization in drug and alcohol research and procedures utilized in these and other investigations.⁴¹⁻⁴³

Based on a technique developed by Khavari and Farber⁴³ the amount of alcohol consumed on a daily basis was calculated. To determine this, the amount of each beverage drunk was converted into grams of absolute alcohol.† The frequency of each beverage consumed was assigned a loading value,* with 365 being given to those who stated that they drank the beverage daily down to zero for those who indicated that they had not used a particular alcoholic beverage during the past year. The loading value was multiplied by grams of absolute alcohol in each drink consumed, and this was divided by 365 to obtain the amount consumed on a daily basis for each beverage.

To calculate the total amount of absolute alcohol consumed on a daily basis, the amounts of absolute alcohol consumed each day in the form of beer, wine and spirits were added together.

Attitudes. Attitudes towards alcoholism including etiology and treatment approaches were determined using the *Attitudes Towards Alcoholism* (ATA) Questionnaire.⁴⁴ This instrument has 24 items which are divided into six independent scales. It is easy to administer and has been used in previous studies with helping professionals.⁴⁵ The scales include: *Psychological Etiology*, which refers to statements that embrace the notion that the cause of alcoholism is psychological; *Physical-Genetic*

†Each 10 oz. (285 ml) beer was considered to contain 10.4 grams, each wine glass of wine (90 ml) was considered to contain 8.2 grams, and each "nip" (30 ml) of spirits to contain 9.2 grams of absolute alcohol.⁴⁶

*The factors used in calculation of the amount of substance consumed were: Every day = 365, 3 or 4 times a week = 182, 1 or 2 times a week = 78, 2 to 4 times a month = 34, 2 or 3 times a year = 3.5, about once a year = 1.0, have used or experimented with = 0.1, never used = 0.

Etiology, which applies to statements presenting the idea that alcoholism has physical or inherited causes; *Moral Weakness*, which consists of assertions embracing the view that the alcoholic has weak moral character; *Medical Illness*, which refers to propositions articulating the notion that the alcoholic is sick and that alcoholism can be treated as an illness; *Humanism*, which contains assertions supporting a kind, fair and humanistic treatment of the alcoholic; and *Social Rejection*, which refers to statements that support the view that the alcoholic should be avoided or rejected. The higher the score on a particular scale the more the individual agrees with the related concept. The scales are only minimally influenced by sex, age, and education of the respondent, according to the authors.

Four attitude items were developed asking how important it was to learn about alcohol problems and how prepared students felt they were to manage alcohol problems in their respective professions.

This report is part of a comprehensive study investigating Australian students' substance use patterns and their attitudes towards various drugs and alcohol.^{47,48}

RESULTS

Drinking Patterns

General. Most students (90%) drank at least once during the previous twelve months, almost two thirds (65.7%) drank once a month or more, about a fourth (24.6%) drank at least once a week, and 1.1% drank once a day. Of all students 24.2% drank beer, 54.8% drank spirits and 65.7% drank wine once a month or more. The results appear to be comparable to a study of Australian nursing students which indicated that 85.5% considered themselves drinkers.¹¹

The average consumption of absolute alcohol for those students who drink was 4.1 liters per year and 8.7 gm/day (Table 1). Most students (79.2%) consumed between zero and 20 grams of absolute alcohol on a daily basis and would be considered "light drinkers" while only 0.5% consumed over 60 gm/day (6 drinks) and would be considered "heavy" drinkers, according to the WHO.^{41,42}

The students in this sample appear to drink less (8.7 gm/day) than the national average for females (10.5 gm/day) and about the same as females in Queensland (8.8 gm/day).¹⁵

Year in School and Importance of Religion. There was no significant difference in the quantity of alcohol consumed or the drinking patterns between first and last-year students. This appears to be in contrast with

Table 1. Grams of absolute alcohol consumed per day by year in school and importance of religion. †

Year in School	Mean Grams/Day X (SD)	None	Light (0 < 20)	Moderate (20 to 39)	Moderate/ Heavy (40 to 59)	Heavy (60 +)	Very Heavy (> 80)
<i>First</i> N = 288	7.8 (10.4)	11.1	79.0	8.3	1.2	0	0.3
<i>Last</i> N = 293	9.5 (11.7)	8.7	79.4	8.7	2.5	0.6	0
Importance of Religion							
<i>Very</i> N = 304	6.5 (18.1)*	15.3	79.1	4.7	0.8	0	0*
<i>Not</i> N = 273	11.2 (130)	2.8	80.1	13.2	2.8	0.7	0.4
Total Possible	8.7 (11.2)	9.9	79.2	8.5	1.7	.3	.2

† Mean calculated with number who drank per day and not total N for each group

* p < .001

Table 2. Comparison of alcohol consumption patterns in grams of absolute alcohol per day of students in different majors.[†]

	Mean grams* Per day X (SD)	None %	Light (>0 <20) %	Moderate (20 to 39) %	Moderate/ Heavy (40 to 59) %	Heavy (60 to 79) %	Very* Heavy (>80) %
Law n=69	14.2 (14.0)	8.0	70.7	16.0	4.0	1.3	0
Medical n=128	6.6 (9.4)	7.2	85.5	5.1	2.0	0	0
Nursing n=184	9.0 (10.3)	6.1	83.2	9.2	1.0	0.5	0
Pharmacy n=69	9.2 (12.6)	2.8	81.7	11.3	4.2	0	0
Seminary n=12	1.3 (2.5)	58.6	41.4	0	0	0	0
Social Work/ Psychology n=68	7.2 (12.6)	17.1	76.8	4.9	0	0	1.2
Total n=1449	8.7 (11.2)	9.9	79.2	8.9	1.9	0.3	0.2

[†] Mean calculated with the number who drank/day and not the total N for each group

* P < .001

Table 3. Comparison of Mean Scores on the Attitude Towards Alcoholism Instrument by Year in School and Importance of Religion

	# Cases†	Psychological Etiology	Social Rejection	Physical Genetic	Humanitarian	Moral Weakness	Medical Illness
		X (SD)	X (SD)	X (SD)	X (SD)	X (SD)	X (SD)
YEAR IN SCHOOL							
First	322	12.5 (1.8)	10.1 (2.3)	9.9 (2.3)*	12.4 (1.9)	7.4 (2.4)	10.3 (2.2)+
Last	316	12.4 (1.9)	10.4 (2.2)	9.1 (2.1)	12.7 (1.9)	7.3 (2.4)	9.7 (2.2)
IMPORTANCE OF RELIGION							
Not	224	12.3 (1.7)	10.3 (2.2)	9.3 (2.1)	12.6 (1.8)	6.8 (2.2)*	9.8 (2.3)
Very	336	12.6 (1.8)	10.2 (2.4)	9.6 (2.3)	12.5 (1.8)	7.7 (2.4)	10.1 (2.1)
Total		12.5 (1.8)	10.2 (2.3)	9.5 (2.3)	12.6 (1.8)	7.3 (2.4)	10.1 (2.1)

+ p < .05

* p < .001

† Maximum possible cases. Actual number for each variable varied due to missing data. Because of space limitation actual number for each calculation not included.

other studies which show that as students go through their course of study they consume more alcohol.^{17,18,22,23}

Individuals who considered religion not important drank significantly more ($t=5.5$ $df=525$ $p<.001$) gm/day of alcohol than did those who considered religion important to them. There was also a significant difference in their drinking patterns ($X^2=45.7$ $df=5$ $p<.001$). More individuals who considered religion not important consumed alcohol per year (97.2%) compared to individuals who considered religion important (84.7%), and no individuals who considered religion important compared to those who considered religion not important (1.3%) were heavy drinkers, consuming over 60 gm/day absolute alcohol. Other studies have also shown that the importance of religion is a factor in drinking patterns.

Course. A significant difference was found for both the amount of alcohol consumed $F=5.7$ $df(BG)=3$ $df(WG)=576$ $p<.001$ * and for drinking patterns ($X^2=113.3$ $df=25$ $p<.001$) between the different courses of study. It was found that the highest consuming group were the law students with a mean of 14.2 gm/day absolute alcohol which is above the national mean of 10.5 gm/day for women Australia-wide. The lowest alcohol-consuming group were the seminary students with 1.3 gm/day absolute alcohol. Over (50%) of seminary students were non-drinkers compared to only 3% of pharmacy students (see Table 2).

Attitudes in Comparison with the American Norm. When the mean scores of the ATA were compared to the American norm, significantly higher scores were found for *social rejection* ($t=4.3$ $df=754$ $p<.001$) and *moral weakness* ($t=4.6$ $df=768$ $p<.001$). The students scored significantly lower than the American norm on *psychological etiology* ($t=-6.4$ $df=752$ $p<.001$) of alcoholism and that it was a treatable *medical illness* ($t=2.8$ $df=773$ $p<.05$). They also scored significantly lower on *humanitarian feelings* ($t=-2.4$ $df=772$ $p<.05$) towards alcoholics compared to the American norm. These Australian students appeared to be more negativistic compared to the American norm towards alcoholism on all scales except physical etiology for which there was no significant difference.

First-year students have significantly higher scores (4.11 $df=615$ $p<.001$) on *psychological etiology* and the *medical illness* (3.4 $df=636$ $p<.001$) model of alcoholism. There were no significant differences for any of the other scales (Table 3). This appears to confirm some other studies which have indicated that there is either little change in attitude or more

*Due to space limitations ANOVA Tables will not be included.

negative attitudes towards alcoholic persons or alcoholism as individuals go through their course of study.^{1,20}

Individuals who feel that religion is important to them recorded significantly higher scores on the *moral weakness* scale ($= -6.5$ $df=558$ $p<.001$), which suggests that they see alcoholism as a moral problem (see Table 3).

Course. Examination of Table 4 shows that there is a significant difference between the courses of study on four attitude scales. Belief in the *physical-genetic etiology* of alcoholism was highest among nursing and pharmacy and lowest among law students ($F=4.0$ $df(BG)=5$ $df(WG)=566$ $p<.001$).† The supposition that alcoholism is a treatable *medical illness* was highest among nursing and lowest among seminary students ($F=3.0$ $df(BG)=5$ $df(WG)=578$ $p<.05$).† Social work/psychology students had the most *humanitarian* view towards the alcoholic and law students the least ($F=5.0$ $df(BG)=5$ $df(WG)=579$ $p<.001$).† Similarly, social work/psychology students were least likely and seminary students the most likely to view alcoholism as a moral weakness ($F=3.9$ $df(BG)=5$ $df(WG)=575$ $p<.001$).†

Other studies have indicated that nurses or nursing students tend to view alcoholism as a physical or medical illness as did this sample.^{6,25} Other studies have also found that social workers are less likely to subscribe to the concept that alcoholics are morally weak and are more apt to view the alcoholic with humanitarian feelings compared to other groups. These findings appear to agree with the results of this study.^{22,23,25,38}

Seminary students tended to view the alcoholic as morally weak and had the least humanitarian feelings towards them. This would also concur with other studies which have reported that clergy tend to have moralistic views towards alcoholic persons.^{1,23}

It appears that the students in different majors in this study have varying attitudes towards alcoholism which are similar to the results of some previous studies. This leads to the hypothesis that attitudes towards alcoholics may be cross-cultural in nature in English-speaking countries.

Importance of Learning About Alcoholism and the Ability to Manage It

Table 5 shows that a significantly higher ($p<.001$) percentage of first-year students feel prepared to manage alcoholism compared to last-year

†Due to space limitations ANOVA Tables will not be included.

Table 4. Comparison of mean score of different majors on the attitudes towards alcoholism instrument

	# Cases†	Psychological* Etiology X (SD)	Social Rejection X (SD)	Physical Genetic X (SD)	Humanitarian* X (SD)	Moral* Weakness X (SD)	Medical+ Illness X (SD)
Law	73	11.9 (1.9)	10.3 (2.2)	9.7 (2.1)	11.9 (1.9)	7.3 (2.2)	10.1 (2.2)
Medical	133	12.1 (1.8)	10.2 (2.4)	9.3 (2.1)	12.0 (1.9)	7.3 (2.4)	10.1 (2.1)
Nursing	195	12.8 (1.8)	10.1 (2.4)	9.9 (2.3)	12.5 (1.8)	7.5 (2.5)	10.4 (2.1)
Pharmacy	71	12.7 (1.9)	10.4 (2.3)	9.7 (1.9)	12.6 (1.7)	7.6 (2.1)	10.1 (1.9)
Seminary	29	12.3 (2.0)	10.7 (2.6)	9.5 (2.5)	12.6 (1.6)	8.2 (2.3)	9.2 (2.2)
Social Work/ Psychology	84	12.5 (1.5)	9.9 (2.4)	9.1 (2.5)	13.5 (1.7)	6.6 (2.5)	9.8 (2.3)
Total		12.5 (1.8)	10.2 (2.3)	9.5 (2.3)	12.6 (1.0)	7.3 (2.4)	10.1 (2.1)

+ p < .05

* p < .001

† Maximum possible cases. Actual number for each variable varied due to missing data. Because of space limitation actual number for each calculation not included.

students ($X^2 = 215.7$ $df = 1$ $p < .05$). It is interesting to speculate why students, after being in school, should have feelings of not being prepared compared to those who are just beginning their course of study. Perhaps first-year students are idealistic and as they go through school they begin to see that it is difficult to handle alcohol-related situations. Or perhaps last-year students have had little positive material about alcohol abuse and feel insecure in this area.

Table 5. Comparison of Year in School, Importance of Religion, Course of Study to the Importance of Learning About Alcoholism and the Preparedness to Manage Alcohol Abuse Problems in Per Cent Agreement

	# Cases	Importance of Alcoholism Information	Prepared To Manage Alcoholism
YEAR IN SCHOOL			
First	320	84.7	47.4 ⁺
Last	315	83.8	31.6
RELIGIOSITY			
Not	273	79.7 ⁺	37.0
Very	357	87.7	42.1
COURSE			
Law	72	42.2 [*]	19.2 [*]
Medical	135	99.3	30.6
Nursing	194	91.2	54.1
Pharmacy	71	75.1	38.0
Seminary	29	82.8	34.5
Social Work/Psychology	82	93.9	41.5
Total		84.3	39.8

⁺ $p < .05$

^{*} $p < .001$

A significantly higher percentage of students who feel religion is important to them ($X^2 = 6.6$ $df = 1$ $p < .05$) feel that it is important to study alcoholism. Perhaps individuals who are very religious, and tend not to drink, feel that it is important to know about alcohol so that they can encourage abstinence or religion as an alternative. It is interesting to note that on several questionnaires, individuals who indicated that religion was highly important to them wrote comments to the effect that "Christ or the Church is the *only* answer to solving or preventing alcoholism problems."

There was a significant difference ($X^2 = 127.6$ $df = 5$ $p < .001$) in course of study and attitudes toward the importance of alcohol education and

to preparedness to treat or manage alcohol abuse ($X^2=35.9$ $df=5$ $p<.001$). Except for law students, over 75 per cent of all the other groups considered it important to study alcoholism information. Only 47 per cent of law students felt that this was important; over 50 per cent of the nursing students felt prepared to manage drug and alcohol abuse problems while only 20 per cent of law students did. It is interesting to speculate on the low scores for law students. Perhaps these students do not feel that it is important to learn about alcoholism because they do not see themselves coming in contact with alcoholic persons.

SUMMARY AND CONCLUSIONS

Most of these women helping profession students tended to drink alcoholic beverages at least once a year. However, it appears that they consumed less alcohol and tended to be light to moderate drinkers compared to women in general in other studies done in Australia. Law students, and individuals who did not consider religion important, tended to drink more than individuals in the other groups. There was no difference in drinking patterns due to year in school, which is contrary to other studies.

In regard to attitudes concerning alcoholics, students in this sample had more negative attitudes towards alcoholics compared to the American norm.

Seminary students, and students who regarded religion as important had more moralistic and negative attitudes towards alcoholic persons. On the other hand, social work/psychology students had more positive and humanitarian attitudes towards alcoholics.

First-year students had more positive feelings about the ability to manage alcohol abuse problems than last-year students. Over 70 per cent of all students, with the exception of the law students, felt that it was important to study about alcohol abuse in their courses of study.

Some of these results are similar to other studies carried out in other English-speaking countries on attitudes towards alcoholism with regard to profession and religiosity, which tends to suggest transcultural relevance. It would be interesting to investigate why different helping professions have different attitudes towards alcoholic persons and alcoholism, and if similarities in attitudes within the different professions are also found in non-English-speaking countries. It would also be of interest to determine which factors might be causing differences in attitudes towards alcoholism among different helping professional students.

Though generalizations from the results of this study cannot be made to other populations or countries, nevertheless, it is recommended that individuals in the helping professions, who have a high probability of

treating or managing alcoholic persons, be given much more information on the nature of alcoholism and its treatment. This would increase their knowledge and information about the etiology of the disease and increase their feelings of preparedness to cope professionally with alcoholic persons.

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