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THE DRINKING PATTERNS OF AMERICAN AND POLISH UNIVERSITY STUDENTS: A CROSS-NATIONAL STUDY

Ruth C. Engs^a,

Jadwiga B. Slawinska^b

David J. Hanson^c

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Abstract

A study of 3375 American and 1408 Polish university students was accomplished to test the hypotheses that cultural differences influence drinking patterns and beverage preferences between countries. Using the same questionnaire in both samples, the results revealed that significantly ($p < .001$) more drinks per week were consumed by both Polish male (24.9) and female (15.2) students compared to American male (15.0) and female (7.6) students. Significantly ($p < .001$) more wine was consumed by Polish (8.7) compared to the American (0.8) students. American female students consumed more beer than Polish female students. There was no difference between beer and spirits consumption between American and Polish males and Polish students in latter school years consumed more alcohol compared to students in the first years of school. It was concluded that the samples of students in this study reflected their cultures in terms of drinking patterns and beverage preference.

Introduction

University students have had reputations as heavy drinkers since the Middle Ages. In the 13th and 14th century the Goliards, (Austin, 1985) traveled from school to school in what is now Poland taking or teaching classes. They frequented taverns and engaged in heavy drinking along with gambling and song. The aim of drinking was to get drunk. However, drunkenness was rarely treated as an offense at the universities. Needless to say, these wandering scholars developed an unsavory reputation and being a student was associated with drunkenness. Students are still sometimes seen as abusing alcohol in many western cultures, including Poland and the United States.

There have been a few studies concerning collegiate patterns in Poland over the past 20 years. In the mid-1960s a survey by the Center of Public Opinion indicated that 25% of students were abusing alcohol. A later study (Rydzuyoski in Slawinska, 1988) found that 34% of students

^aHPER 116, Indiana University, Bloomington, IN 47405 (U.S.A.), ^bDepartment of Studies of Alcohol and Drug Dependence Sobieskiego 1/9, 02-957, Warszawa (Poland) and ^cSociology, SUNY Potsdam, Potsdam, NY 13676 (U.S.A.)

abused alcohol in Lodz. In the early 1980s a study of students from one Polish University, reported that 43% of males and 39% of females were abusing alcohol. Conversely, the percent of abstainers was only 3% for males and 6% for females. A study in 1986 - 1987 with 1255 students revealed that there also was a high correlation between the frequency and quantity of wine, beer and vodka consumed among students (Slawinska, 1988).

Alcohol consumption in Poland is characterized by a relatively low drinking frequency and a concentrated consumption of large quantities when drinking does occur (Wald, Morawski and Moskalewicz, 1985). Almost every drinking occasion ends in intoxication (Moskalewicz, 1981) and this pattern of infrequent drinking punctuated by drunkenness is one that has endured for generations according to Morawski and Swiatkiewicz (1987). Common occasions for drinking include birthdays, holidays, festivals, weddings, visits by friends or relatives, payday, or arrival of the weekend. There is no enforced drinking age limit in Poland.

However, drinking patterns and beverage preference appear to differ between rural and urban populations. Higher income and education in urban areas is reflected in higher consumption of imported wines, brandies and beer, which supplement or substitute vodka consumptions. Beer is seen as the drink of the working class. In rural areas lower quality vodkas, low quality domestic or home made wines and illegally produced spirits are more common (Florkowski and McNamara, 1988)

Over the past decade Poland has undergone some political changes which have impacted drinking patterns. Alcohol consumption increased from the decade of the 50s until 1980. Social and economic crisis of the early 1980s led to alcohol rationing from 1981 - 1983 (Wald, Morawski and Moskalewicz, 1985; Wald, Moskalewicz and Morawski, 1990). This caused a decrease in recorded consumption but an increase in the production and distribution of illegal alcohol. During the past decade there has also been increased concern about work-related drinking (Morawski and Swiatkiewicz, 1987) and alcohol use in relation to crime and family problems (Osterberg, 1986). Alcohol abuse has been a long time concern of the Polish Roman Catholic Church (Moskalewicz, 1981) and there has been a movement within the church to reduce intoxication and its negative consequences. As part of this and the Solidarity movement young adults have begun to take pledges not to drink or to curtail their drinking. This could result in less drinking among younger students.

However, alcohol has traditionally been seen by Poles as a healthful substance that could serve as a cushion against bitter weather and a palliative for political and economic difficulties. Thus, there has generally been sympathy for inebriation and inebriates (Case, 1985). Combined with tolerance of drinking has often been intolerance of abstinence (Florkowski and McNamara, 1988).

In contrast to Poland, a great diversity of drinking patterns are found among adults in the United States. Often these patterns are related to the cultural backgrounds of the individuals. However, regardless of ethnic background or social status, intoxication is generally not the aim of drinking and usually does not occur among the typical adult drinker.

There is also less class distinction in beverage preference, compared with Poland. Beer is the

most common beverage consumed and is not just viewed as a working class beverage. There is little status associated with drinking wine. However, as in Poland, expensive wines is generally consumed by those who can most easily afford it. Furthermore approximately 30% of all Americans abstain from alcohol for religious, medical or other reasons. While alcoholism and alcohol abuse are widely seen as critical social problems, there are no clear national norms concerning either the use or abuse of alcohol.

In contrast to the adult population, most American students report they sometimes consume alcohol to get drunk. Not surprisingly, approximately 20% of all students are considered heavy drinkers -- consuming more than 5 drinks more than once a week at any one sitting (Engs and Hanson, 1988). It appears that from 80 to 90% of all students consume alcohol beverages at least once a year, with beer being the most popular beverage. As has been found in Poland females consume less alcohol than do males.

Likewise in the United States there have been political changes which may have affected drinking patterns. In 1987 Congress deemed that all states must have 21-year-old alcohol purchase laws in order to continue to receive federal highway funding. However, studies to date have found few differences in drinking patterns of older and younger university students since the law change. Some studies show more abusive drinking among illegal drinkers and others show little difference between younger and older students (Engs and Hanson, 1989; Lotterhos, 1988; Gonzalez, 1989; George, 1989).

Based upon these cultural differences there are likely to be differences between American and Polish students' drinking preferences and patterns. It is likely that more alcohol in the form of beer will be consumed by American college students, and in particular by the American women, and that more wine will be consumed by Polish students. There will be more abstainers in the American sample. Among both the American and Polish samples there will be little differences in alcohol consumption by age as indicated by year in school. Thus, the purpose of this study was to test the following null hypotheses: (1) There will be no significant difference in drinking patterns or beverage choice between (1) American and Polish students, (2) American and Polish male and female students within and between countries (3) or between American and Polish students with regard to year in school.

Methods

Questionnaire

The Student Alcohol Questionnaire which contains 6 items for determining quantity-frequency levels of drinking and other items representing problems associated with alcohol abuse and knowledge of alcohol was used (Engs and Hanson, 1988).

Quantity-frequency items from the Student Alcohol Questionnaire

We would like to ask you about your drinking patterns.

1. Let's first take beer. How often, on the average, do you usually have a beer? (If you do not drink beer at all go to question 3).

1. every day
2. at least once a week but not every day
3. at least once a month but less than once a week
4. more than once a year but less than once a month
5. once a year or less

2. When you drink beer, how much, on the average, do you usually drink at any one time?

1. more than 1 six pack (6 or more cans or tavern glasses)
2. 5 or 6 cans of beer or tavern glasses
3. 3 or 4 cans of beer or tavern glasses
4. 1 or 2 cans of beer or tavern glasses
5. less than 1 can of beer or tavern glass

3. Now let's look at table wine. How often, on the average, do you usually have wine? (If you do not drink wine at all go to question 5).

1. every day
2. at least once a week but not every day
3. at least once a month but less than once a week
4. more than once a year but less than once a month
5. once a year or less

4. When you drink wine, how much, on the average, do you usually drink at any one time?

1. over 6 wine glasses
2. 5 or 6 wine glasses
3. 3 or 4 wine glasses
4. 1 or 2 wine glasses
5. less than 1 wine glass

5. Next we would like to ask you about liquor or spirits (whiskey, gin, vodka, mixed drinks, etc.). How often, on the average, do you usually have a drink of liquor? (If you do not drink liquor or beer at an go to question x).

1. every day
2. at least once a week but not every day
3. at least once a month but less than once a week
4. more than once a year but less than once a month
5. once a year or less

6. When you drink liquor, how much, on the average, do you usually drink at any one time?

1. more than 6 drinks
2. 5 or 6 drinks
3. 3 or 4 drinks
4. 1 or 2 drinks
5. less than 1 drink

For this report only the quantity-frequency items will be discussed as the data from the other items are not yet available from Poland. The questionnaire was translated into Polish by the second author for administration to the Polish students. A limitation to the study could

be differences in the meaning of various items arising through translation.

Sample

The Polish sample was collected from 20 departments in 8 separate universities in different regions of Poland during the academic year 1987 - 88. Undergraduate students from psychology, biology, commerce, physical science, language, education and physical education faculties were asked to complete the Student Alcohol questionnaire along with Polish psychological tests. During the in-class administration, students were instructed to place their names on the questionnaires for follow-up to the other tests. A total of 1407 students completed usable questionnaires and two declined to participate. This sample included 663 males, 744 females, 485 first, 741 second, 91 third, 56 fourth and 34 fifth or higher year students. A limitation to this method of data collection is that students may have either over or under-reported consumption of various alcoholic beverages due to the fact that their names were on the questionnaires.

The American sample was collected during the same academic year and consisted of undergraduate students attending 57 universities in every state of the United States. The universities were selected so as to be generally representative of baccalaureate granting institutions in the country*. At each university, sociology or health or physical education instructors, who teach survey type classes which have a high probability of containing students from every academic major and class level, were contacted. They were asked to administer the Student Alcohol Questionnaire to no more than 75 students in the classroom. Students were requested, as is required by the first author's University Human Subjects Review committee, not to place their names on the questionnaires so as to preserve their anonymity. Approximately 2% of students had unusable questionnaires. The resulting sample contained 3375 students. Of this group there were 1338 males, 2021 females, 883 first, 844 second, 853 third, 700 fourth year students (note: some students did not report their gender or year in school).

Alcohol consumption

Based upon a method by Lemmens, Tan and Knibbe (1988) and adopted by Glikzman et al. (1989), the number of drinks consumed on a weekly basis were assessed using the following steps. The frequency of consumption for each beverage type was quantified using a 5-point scale. These frequencies of use response were assigned constant values, in the following manner: every day = 7; at least once a week, but not every day = 3.5; at least once a month, but less than once a week = 0.5; more than once a year, but less than once a month = 0.12; once a year = 0.02; none = 0. For quantity, data were recorded in the following manner: more than 6 drinks = 7.0; 5 - 6 drinks = 5.5; 3 to 4 drinks = 3.5; 2 to 3 drinks = 1.5; less than 1 drink = 0.5; no drinks = 0.

To establish the total number of drinks consumed on a weekly basis, a score was computed by multiplying the recoded quantity by the recoded frequency weight for each of the three beverage types and adding the three products. A limitation to this method is that it may result in an over- or under-estimation of consumption.

*The demographic characteristics of the American sample are as follows: Type of school: public (88%), private (12%). Gender: Male (40%), Female (60%). Year in School: First (29%), second (25%), third (25%), fourth (21%). These categories are similar to the percent of students attending all four year institutions of higher learning in the United States. In 1985 the latest year for which statistics have been published by the Department of Education (Snyder, 1987), 47.5% of American college students were male, 77.4% at-attended public institutions, and there were 29% First, 27% second, 22% third and 20% fourth year students. For Poland no data were found which described the characteristics of students attending institutions of higher learning.

For data analysis the SPSSX version 2.0 program was used. Chi-square analysis was used to determine the percent of students who consumed different types of alcoholic beverages. *T*-test analysis was accomplished to compare the mean number of drinks consumed per week between the two countries for all students and for males and females. To compare the American and Polish mean number of drinks consumed on a weekly basis in regards to effects of country, gender and year in school, computations by means of a 2 (country) x 2 (gender) x 4 (year in university) analysis of variance was used.

Results

Total sample

Ninety-one percent of Polish and 78.8% of American students drank. More significantly, chi-square analysis showed that a significantly higher ($p < .001$, $df = 1$, $\chi^2 = 101$) percentage of Polish students consumed an alcoholic beverage during the preceding 12 months compared to American students. Chi-square analysis indicated that a significantly higher percentage ($p < .001$, $df = 1$, $\chi^2 = 68$) of Polish students (38%) consumed over 21 drinks per week compared to American students (21%). Consuming over 21 drinks per week is often considered potential problematic drinking.

Results of a *t*-test analysis using separate variance estimates indicated that significantly more ($p < .001$, $df = 2013.1$, $t = 13.9$) drinks per week were consumed by Polish (18.6) compared to American students (10.6) (Table Ia).

There was no difference in beer or spirit consumption between the Polish and American students. However, Polish students consumed significantly ($p < .001$, $df = 1494.9$, $t = 27.5$) more glasses of wine per week (8.7) compared to American students (0.8).

Males

Chi-square analysis indicated that a significantly higher ($p < .05$, $df = 1$, $\chi^2 = 22$) percent of Polish (92.0%) compared to American male students (84.6%) had consumed alcohol over the preceding 12 months. Chi-square analysis also revealed that a significantly ($p < .001$, $df = 1$, $\chi^2 = 29.2$) higher percent of Polish (53.0%) compared to American (34%) males consumed 21 or more drinks per week.

A *t*-test showed that significantly ($p < .001$, $df = 1029.4$, $t = 10.0$) more drinks per week were consumed by Polish (24.9) compared to American male (15.0) students. A *t*-test also revealed that significantly ($p < .001$, $df = 692.4$, $t = 18.8$) more glasses of wine per week were consumed by the Polish compared to the American students. On the other hand, there was no difference between beer and spirit consumption between males in the two countries (See Table Ib).

Females

Chi-square analysis indicated that a significantly higher ($p < .001$, $df = 1$, $\chi^2 = 72$) percent of Polish female (90.1%) compared to American female students (75.3%) consumed alcohol during the preceding 12 months. Significantly more ($p < .001$, $df = 1$, $\chi^2 = 43$) Polish (25%) compared to American (13%) female students reported consuming over 21 drinks per week as revealed by chi-square analysis. A *t*-test analysis showed that significantly ($p < .001$, $df = 1038.4$, $t = 8.96$)

more drinks per week were consumed by Polish female (13.0) compared to American female (7.6) students (See Table Ic). *t*-test analysis showed that significantly ($p < .001$, $df = 800.9$, $t = 20.4$) more drinks of wine were consumed per week by Polish (8.3) compared to American (0.9) students. On the other hand, *t*-test analysis revealed that American females (4.7) drank significantly ($p < .001$, $df = 1769.4$, $t = 7.8$) more drinks of beer on a weekly basis compared to Polish females (2.5). There was no difference in spirits consumption (See Table Ic).

Country, Gender and Year in School interactions

The results of ANOVA showed significant main effects for Gender ($p < .001$, $f = 381$, $df = 1$), Year in School ($p < .05$, $f = 2.8$, $df = 3$) and Country ($p < .001$, $f = 204$, $df = 1$). The main effects revealed that more drinks per week were consumed by males (18.3) than females (9.4) and as described above Polish students consumed more alcohol per week compared to American students. The main effect indicated that the mean number of drinks per week is slightly higher in the second year of university but is again lower in subsequent class years (Year 1 = 12.6; Year 2 = 14.8; Year 3 = 11.6; Year 4 = 12.12).

The ANOVA also revealed a significant two-way interaction between Gender and Country ($p < .001$, $d = 22.4$, $df = 1$) and Year in School and Country ($p < .05$, $f = 3.0$, $df = 3$). The two-way interaction between Gender and Country showed that Polish males and females consumed more alcohol compared to their Gender counterparts in the United States and that males consumed more drinks per week than females as described above. The two-way interaction between Year in School and Country indicated that there was higher alcohol consumption the higher the year in school among the Polish but little change in consumption for American students

Discussion

Patterns and preferences between American and Polish sample

The results revealed that Polish students consumed more alcohol compared to American students and that more American students were abstainers. Thus the null hypothesis that there would be no difference between the two countries in drinking patterns is rejected. The results appear consistent with the cultural norm of heavier alcohol consumption in Poland with few abstainers and of lighter alcohol consumption and more abstainers in the United States. Given the fact that Polish students were required to place their names on their questionnaires it is interesting to note the very high alcohol consumption among about a third of the Polish students. Since there is no strong cultural norm against drinking, drunkenness, or even an age limit on drinking in Poland, perhaps alcohol consumption was not considered an issue to under-report as it could have been among American students in the same circumstances.

This higher consumption on the part of Polish students resulted primarily from drinking wine. Beer and spirits consumption between the two cultures is almost identical but the Polish students consumed approximately 8 times as much wine per week compared with their American counterparts.

Wine is usually expensive in Poland and associated with urban and upper classes. Since very few Polish students go to university they are often seen as the nation's elite. Wine drinking may

have reinforced this status and specialness and may reflect Poland's culture values in regards to social class and beverage preference.

In contrast the American culture has little social class stigma associated with a given alcoholic beverage. Since a large proportion of American youth attend institutions of higher education there is little status associated with this activity. The American students appear to reflect their cultural values in the preference of beer. Also in America wine is often associated with meals. Students are less likely to entertain by 'wining and dining' than by 'throwing a kegger' party. These results support the null hypotheses that there would be no differences in beverage preferences in regards to spirits and beer but reject it for wine consumption.

Gentler differences in patters and references

The results indicated an interaction of gender and country. As has been found in most cultures, males consume more alcohol than females. In this sample the males consumed almost twice as many drinks per week compared to the female within each culture. Furthermore, the Polish males and females consumed almost twice as many drinks compared to the American males and females. Potential problematic drinking was found in a high proportion of Polish males, with slightly over a half consuming over 21 drinks per week compared to about a third of the American males. Almost a quarter of the Polish females consumed this amount of alcohol. These results reject the null hypothesis that there would be no differences between gender or within gender between the two cultures in drinking patterns.

For males, the reported beer and spirit consumption between the two countries was almost identical. In both cultures the similarity in spirits and beer consumption may reflect social acceptability of these drinks for men and the relatively inexpensive price, particularly of beer. Beer is the cheapest beverage in both cultures and it is of interest to note that in both countries the most frequently consumed alcohol beverage for males was beer. In Poland wine was the second most frequently drunk beverage but it was rarely consumed by the American students, thus reflecting their culture in terms of use of these beverages.

On the other hand, there appear to be differences in the beverage preferences between the female students in the two cultures. American females drink almost twice as much beer as Polish females with beer being their beverage of choice. In the United States there is no stigma against women drinking beer. It is socially accepted, which is reflected in the higher consumption among the American females compared to the Polish female students. In Poland beer may not be as culturally acceptable for Polish females. Wine, also may, as previously mentioned, reinforce the upper class and elite values of the female university students within Poland. The low consumption of spirits between females in both of the cultures may reflect the fact that spirits may be seen as less socially acceptable for females in both countries or that they are expensive.

Differences by Year in School

The results indicated a significant interaction of Year in School and Country, thus rejecting the null hypothesis. For the Polish sample more alcohol is consumed by students in each year of school peaking in third year. Among the American sample there is little difference in terms of the amount of alcohol consumed. Polish students for each year in school consume about twice as much alcohol as the American students.

In both the United States and Poland there have been political changes in the past decade which may be reflected in these results. Perhaps the lower consumption among students in the earlier years in schools reflects more students choosing to support the Solidarity goal of reducing alcohol problems in Poland. An alternative explanation may be that there may be more stress at higher grade levels leading to heavier drinking and that heaviest drinking students by the last year may have left school. For the American sample the lack of difference suggests that there has been little impact due to the 21-year-old purchase law on alcohol consumption between younger and older students.

Conclusion

This study has revealed differences in drinking patterns and preferences between the students in the Polish and the American samples. Hypotheses of no differences in drinking patterns or beverage preference due to gender, country, or year in school have been rejected. Polish students were found to consume almost twice as much alcohol on a weekly basis and eight times as much wine compared to the American students. Wine among Polish females and beer among American females were the most consumed beverages. Beer was the most consumed beverage among both Polish and American males. Polish students had higher levels of consumption in higher years in school while the American students did not.

These results lead to more questions and caveats. It needs to be kept in mind that it is often difficult to compare two different cultures as their underlying norms concerning various aspects of life, including alcohol, are often quite subtle. What is considered to be heavy consumption for students in one culture may not be for another. In view of the results, it is recommended that further cross cultural research between different cultures be undertaken to determine, in depth, the underlying norms which affect each culture's uniqueness. It is then up to the country, within its cultural norms, to decide for itself whether there are potential problems among any segments of its population.

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Table Ia. Results of individual *t*-tests comparing the mean and standard deviation (in parentheses) for the number of drinks of beer, of wine, of spirits and of all drinks per week between all American and Polish students.

	Total Sample			
	American N=3375		Polish N= 1408	
	Mean	Drinks (S.D.)	Mean	Drinks (S.D.)
Beer	7.4	(10.2)	7.3	(11.7)
Wine	0.8	(2.9)	8.7*	(10.6)
Spirits	2.4	(5.3)	2.6	(6.5)
All drinks	10.6	(14.0)	18.6*	(20,0)

* $p < .001$.

Table Ib. Results of individual *t*-tests comparing the mean and standard deviation (in parentheses) for the number of drinks of beer, of wine, of spirits and of all drinks per week between all American and Polish male students.

	Males			
	American No. of students 3378		Polish No. of students 663	
	Mean	Drinks (S.D.)	Mean	Drinks (S.D.)
Beer	11.4	(11.1)	12.6	(12.5)
Wine	0.5	(2.5)	9.0*	(11.6)
Spirits	3.1	(6.3)	3.3	(7.1)
All drinks	15.0	(16.6)	24.9*	(22.4)

* $p < .001$.

Table Ic. Results of individual t-tests comparing the mean and standard deviation (in parentheses) for the number of drinks of beer, of wine, of spirits and of all drinks per week between American and Polish female students.

	Females			
	American No. of students 2021		Polish No. of students 744	
	Mean Drinks (S.D)		Mean Drinks (S.D.)	
Beer	4.8	(7.7)	2.5*	(5.7)
Wine	0.9	(3.1)	8.3*	(9.7)
Spirits	1.9	(4.5)	2.2	(5.7)
All drinks	7.6	(10.9)	13.0*	(15.2)

*p < .001

Table II. Analysis of variance comparing total number of drinks per week by Gender, Year in school and Country.

Source of variation	df	Mean Square	F
Main effects	5	30906	131.2*
Gender	1	89769	381.4*
Year	3	678	2.8**
Country	1	48054	204.1*
2-way Interaction	7	1302	5.5*
Gender/year	3	422	1.8
Gender/Country	1	5738	24.4*
Year/Country	3	898	3.8**
3-way Interaction	3	92	0.4
Gender/Year/Country			
Explained	15	10928	46.4*
Residual	4637	235	
Total	4652	270	

**p < .05.

Fig. 1. Comparison of American and Polish students by Year in School

