

CHAPTER IV
RESEARCH RESULT

- PART 1 To present prevalence of alcohol use disorders in the community of Nakhon Sawan Province, general data and epidemiological data of alcohol use disorders in percentage.
- PART 2 To present the result of analysis of drinking behavior, pattern of drinking, behavioral consequences, co-morbid mental problems, general well-being and personality profile among alcohol use disorders in the value of percentage, average and mean value and compare among groups of non-alcohol drinking, alcohol drinking without disorders and alcohol use disorders.
- PART 3 To present the result of analysis on factors associated with alcohol use disorders by comparing among groups of non-alcohol drinking, alcohol drinking without disorders and alcohol use disorders. The statistical tests that were used were Chi-square test, analysis of variance and F-test and t-test to test differences in mean value of some variables.

Characters and distribution of sample population

Table 4.1 Distribution of Sample Population by Sex.

Sex	Number	Percent
Male	187	45.7
Female	222	54.3
Total	409	100.0

From total 409 sample population were male 45.7 percent and female 54.3 percent.

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Table 4.2 Distribution of Sample Population by Age.

Age (year)	Number	Percent	Mean
15-24	49	12.0	42
25-34	87	21.3	
35-44	87	21.3	
45-54	74	18.1	
55-64	64	15.6	
over 65	48	11.7	
Total	409	100.0	

From table 4.2 showed that the most common age range of sample population was between 25-44 year, mean was 42 year.

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Table 4.3 Distribution of Sample Population by Marital Status.

Marital status	Number	Percent
Single	49	12.0
Married	360	88.0
Present status		
- live together	331	80.4
- separate	10	2.4
- divorced	2	0.5
- widowed	17	4.2
Total	409	100.0

From table 4.3 most of sample population are married.

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Table 4.4 Distribution of Sample Population by Occupation.

Occupation	Number	Percent
No occupation	57	13.9
Government office, retired	34	8.3
Business, employee	100	24.5
Agriculturists	218	53.3
Total	409	100.0

From table 4.4 most of sample population are agriculturists.

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Table 4.5 Distribution of Sample Population by Education.

Education level	Number	Percent
never enter school	22	5.4
1-4 year in school	233	57.0
5-9 year in school	82	20.0
10-12 year in school	32	7.8
Bachelor degree	20	4.9
higher than Bachelor degree	4	1.0
now studying	16	3.9
Total	409	100.0

From table 4.5 most of sample population finished primary school (Pratom 4) about 57 percent.

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Table 4.6 Distribution of Sample Population by Income.

Income (Baht/month)	Number	Percent
no own income	57	13.9
1-3000	213	52.2
3,001-10,000	55	13.4
10,001-20,000	10	2.4
Pay by relatives	74	18.1
Total	409	100.0

From table 4.6 average income per head was lower than 3,000 Baht per month. For distribution of sample population by religion : all 409 are Budhists.

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The result of data analysis

PART 1 Data analysis on prevalence of alcohol use disorders.

Data analysis on prevalence of alcohol use disorders and their general data are as follow :

Table 4.7 Prevalence of Alcohol Use Disorders in The Community of Nakhon Sawan Province.

Alcohol Drinking	Number	Percent
no	115	28.1
drinking	294	71.9
- alcohol dependence	(68)	(16.6)
- alcohol abuse	(58)	(14.2)
- non dependence nor abuse	(168)	(41.1)
Total	409	100.0

From table 4.7 showed that alcohol drinking is high about 71.9 percent. The diagnoses are alcohol dependence 16.6 percent, alcohol abuse 14.2 percent, combining these two groups are alcohol use disorders 30.8 percent. Alcohol drinking without disorders are 41.4 percent.

For general informations of alcohol use disorders are as follow :

Table 4.8 Percentage of Sex Distribution in Alcohol Use Disorders.

Sex	Alcohol Dependence		Alcohol Abuse	
	Number	Percent	Number	Percent
Male	56	82.4	30	51.7
Female	12	17.6	28	48.3
Total	68	100.0	58	100.0

$$\chi^2 = 13.6 \quad P < .001$$

From table 4.8 we found the number of male more than female who were diagnosed as alcohol use disorders both in the group of alcohol dependence and alcohol abuse. Alcohol dependence were found in male more than female that was statistical significance $P < .001$.

Table 4.9 Percentage of Age Distribution in Alcohol Use Disorders.

Age (year)	Alcohol Dependence		Alcohol Abuse	
	Number	Percent	Number	Percent
15-24	6	8.8	7	12.1
25-34	15	22.1	18	31.0
35-44	14	20.6	8	13.8
45-54	17	25.0	10	17.2
55-64	10	14.7	8	13.8
over 65	6	8.8	7	12.1
Total	68	100.0	58	100.0

From table 4.9 we found alcohol abuse was high in the age range between 25-34 year and alcohol dependence was high in the older age range between 45-54 year.

Table 4.10 Percentage of Marital Status Distribution in Alcohol Use Disorders.

Marital Status	Alcohol Dependence		Alcohol Abuse	
	Number	Percent	Number	Percent
Single	8	11.8	2	3.4
Married	60	88.2	56	96.6
Total	68	100.0	58	100.0

From table 4.10 we found alcohol use disorders in married persons higher than single, combine both groups of alcohol use disorders we found in married persons 92.1 percent but there was no difference between alcohol dependence and alcohol abuse.

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Table 4.11 Percentage of Occupation Distribution in Alcohol Use Disorders.

Occupation	Alcohol Dependence		Alcohol Abuse	
	Number	Percent	Number	Percent
No Occupation	3	4.4	5	8.6
Government Officer and Retired	5	7.3	7	12.1
Business, Employee	25	36.8	21	36.2
Agriculturists	35	51.5	25	43.2
Total	68	100.0	58	100.0

From table 4.11 we found alcohol use disorders in agriculturists about 47.6 percent.

Table 4.12 Percentage of Education Distribution in Alcohol Use Disorders.

Education Level	Alcohol Dependence		Alcohol Abuse	
	Number	Percent	Number	Percent
No school Entrance	2	2.9	3	5.2
1-4 year in School	41	60.3	32	55.2
5-9 year in School	10	14.7	12	20.7
10-12 year in School	10	14.7	6	10.2
Bachelor Degree	4	5.9	3	5.2
Higher than Bachelor Degree	1	1.5	1	1.7
Now Studying	-	-	1	1.7
Total	68	100.0	58	100.0

From table 4.12 we found alcohol use disorders 57.9 percent in the population that finished Pratom four or primary school that was most common in sample population.

Table 4.13 Percentage of Income Distribution in Alcohol Use Disorders.

Income (Baht per Month)	Alcohol Dependence		Alcohol Abuse	
	Number	Percent	Number	Percent
No income by their owns	3	4	5	8.6
1-3,000	35	51.5	33	57.0
3,001-10,000	13	19.1	5	8.6
10,001-20,000	2	2.9	2	3.4
Paid by Relatives	15	22.1	13	22.4
Total	68	100.0	58	100.0

From table 4.13 we found alcohol use disorders most common in the group of income less than 3,000 baht per month.

Table 4.14 Percentage of Familial History of Alcohol Drinking Distribution in Alcohol Use Disorders.

Familial History	Alcohol Dependence		Alcohol Abuse	
	Number	Percent	Number	Percent
No	7	10.3	6	10.3
Yes	61	89.7	52	89.7
- Both Parents	5	7.4	3	5.2
- Father or Mother or Grandfather or Grandmother	13	19.1	11	19.0
- Others	43	63.2	38	65.5
Total	68	100.0	58	100.0

From table 4.14 we found high percentage of alcohol use disorders who had familial history of alcohol drinking.



PART 2 Data analysis on drinking behavior, patten of drinking, behavioral consequences, co-morbid mental problems, general well-being, personality profile among alcohol use disorders.

The results are as follow :

Table 4.15 Distribution of Alcohol Use Disorders According to age Onset of Drinking .

Age Onset (year)	Alcohol Dependence		Alcohol Abuse	
	Number	Percent	Number	Percent
Befor 15	4	5.9	2	3.4
15-24	48	70.6	34	58.6
25-34	11	16.2	20	34.6
35-44	4	5.9	2	3.4
over 45	1	1.4	-	-
Total	68	100.0	58	100.0

From table 4.15 we found the age onset of drinking in alcohol use disorders started at the age between 15-24 year about 65 percent.

The characters of drinking in alcohol dependence were continuous and regularly but for alcohol abuse were episodic drinking.

Table 4.16 Distribution of Alcohol Use Disorders According to Reasons to Start Drinking.

Reasons	Alcohol Dependence		Alcohol Abuse	
	Number	Percent	Number	Percent
Mental Stress	7	10.3	1	1.7
Persuasion by Friends	19	27.9	12	20.7
Want to try	14	20.6	12	20.7
Social Activity	14	20.6	21	36.2
Mix with Herbal Medicine	7	10.3	11	19.0
Others	7	10.3	1	1.7
Total	68	100.0	58	100.0

From table 4.16 we found that the most common reasons for starting alcohol drinking among alcohol use disorders are social activities, persuasion from friends and want to try.

Table 4.17 Frequency of Alcohol Drinking in the Past 30 Days among Alcohol Use Disorders.

Frequency	Alcohol Dependence		Alcohol Abuse	
	Number	Percent	Number	Percent
None	25	36.8	32	55.2
Less than 1 time/week	15	22.1	12	20.7
1 time or more/week daily	19	27.9	8	13.8
2-3 times/day	6	8.8	6	10.3
More than 4 times/day	2	2.9	-	-
	1	1.5	-	-
Total	68	100.0	58	100.0

From table 4.17 we found that in the past 30 days, alcohol use disorders, were still going on drinking 63.2 percent and 44.8 percent in alcohol dependence group and alcohol abuse group. In the past 6 months alcohol dependence were still going on drinking 75 percent, alcohol abuse 56.9 percent and in the past 24 hours; alcohol dependence and alcohol abuse were still going on drinking 33.8 and 17.2 percent.

Table 4.18 Distribution of Type of Alcohol Beverages Used by Alcohol Use Disorders

Types of Alcohol	Alcohol Dependence		Alcohol Abuse	
	Number	Percent	Number	Percent
Arrack	32	47.1	30	51.7
Whiskey	4	5.9	2	3.4
Local-made alcohol	1	1.4	1	1.7
Beer	5	7.4	4	6.9
Brandy	-	-	1	1.7
Cocktail	1	1.4	-	-
Mix in Herbal Medicine	5	7.4	8	13.8
Combine > 1 type	20	29.4	12	20.8
Total	68	100.0	58	100.0

From table 4.18 the most commonly used among alcohol use disorders are white alcohol about 49.2 percent.

Table 4.19 Amount of Alcohol Drinking per Day Among Alcohol Use Disorders

Amount of Alcohol/Day	Alcohol Dependence		Alcohol Abuse	
	Number	Percent	Number	Percent
Less than 1 little bottle	25	36.8	12	20.7
1 little bottle-1 big bottle	7	10.3	5	8.6
More than 1 big bottle	3	4.4	-	-
Little bottle of beer	4	5.8	2	3.4
Big bottle of beer	2	2.9	1	1.7
More than big bottle of beer	1	1.5	-	-
1-3 glasses of alcohol (mixed)	21	30.9	34	58.7
4-5 glasses of alcohol (mixed)	4	5.9	3	5.2
6-7 glasses of alcohol (mixed)	1	1.5	1	1.7
Total	68	100.0	58	100.0

From table 4.19 amount of alcohol vary from 1-3 glasses of alcohol mixed and less than 1 little bottle of whiskey.

Table 4.20 Characters of Drinking Behavior Among Alcohol Use Disorders

Characters	Alcohol Dependence		Alcohol Abuse	
	Number	Percent	Number	Percent
Time of regular drinking				
- Morning	-	-	2	3.4
- late morning	-	-	1	1.7
- afternoon	3	4.4	3	5.2
- evening	58	85.3	44	75.9
- night	2	2.9	4	6.9
- all day	1	1.5	-	-
- before meal	4	5.9	1	1.7
- not exactly	-	-	3	5.2
Period of time used				
- less than 1 hour	7	10.3	7	12.1
- 1-2 hour	38	55.9	40	68.9
- 2-4 hours	16	23.5	7	12.1
- 4-6 hours	4	5.9	-	-
- more than 6 hours	3	4.4	1	1.7
- missing	-	-	3	5.2

Table 4.20 (continue)

Characters	Alcohol Dependence		Alcohol Abuse	
	Number	Percent	Number	Percent
Place				
- inside home	31	45.6	31	53.5
- outside home	20	24.4	20	34.5
- restaurants	6	8.8	2	3.4
- clubs	-	-	-	-
- any where	11	16.2	5	8.6
With whom				
- alone	10	14.7	18	31.0
- with friends	48	70.6	33	56.9
- with others	4	5.9	-	-
- relatives	6	8.8	7	12.1
Total	68	100.0	58	100.0

From table 4.20 we found that alcohol use disorders like to drink in the evening, time take about 1-2 hours, both inside and outside home and like to drink with friends.

Table 4.21 Feeling or Emotional Changes Before and After Drinking Among Alcohol Use Disorders.

Changes	Alcohol Dependence		Alcohol Abuse	
	Number	Percent	Number	Percent
Yes	37	54.4	28	48.3
No	31	45.6	30	51.7
Total	68	100.0	58	100.0

From table 4.21 we found that there were changes about 51.6 percent. The changes before drinking were :- could not control awareness, irritable easily, decrease appetite. The changes after drinking were : hanging, intoxication, impulsive, itching, headache, dizziness, hot sensation in the stomach, talkative, louder noise, increase appetite, palpitation, hypomotor retardation and good sleep.

Table 4.22 Alcohol Use for Relief of Stress.

Alcohol use as Relief	Alcohol Dependence		Alcohol Abuse	
	Number	Percent	Number	Percent
Yes	35	51.5	14	24.1
No	33	48.5	44	75.9
Total	68	100.0	58	100.0

$$\chi^2 = 9.8 \quad P < .005$$

From table 4.22 we found that alcohol dependence used alcohol as relief of their stress more than alcohol abuse, statistical significantly $P < .005$.

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Table 4.23 Cessation, Reduce Drinking Habit and Requesting for Help.

Behavior	Alcohol Dependence		Alcohol Abuse	
	Number	Percent	Number	Percent
Try to stop or reduce				
- ever	58	85.3	51	87.9
- never	10	14.7	7	12.1
Request for help				
- ever	6	8.8	2	3.4
- never	62	91.2	56	96.6
Request help from physician				
- ever	2	2.9	3	5.2
- never	66	97.1	55	94.8
Total	68	100.0	58	100.0

From table 4.23 we found that alcohol use disorders have tried to stop or reduce their drinking. The reasons were own motivation, health problems, family asked for, grow older and drug holiday associated with religious belief. Most of them could stop in the period of 1-3 month and

then came to drink again because of friends, social activities. Most of them thought that drinking cessation was easy but they did not want to stop so they did not go to request for help about this process.



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Table 4.24 Other Drugs and Substances Used.

Drug and substances	Alcohol Dependence		Alcohol Abuse	
	Number	Percent	Number	Percent
Never	5	7.4	6	10.3
Ever - Cigarettes	10	14.7	4	6.9
- Tea, Coffee	1	1.5	6	10.3
- Areca-nuts	-	-	1	1.7
- Analgesics	2	2.9	7	12.2
- C.N.S. Stimulants	5	7.4	-	-
- Transquilizers	4	5.9	1	1.7
- Kratom	2	2.9	2	3.4
- Heroin	2	2.9	4	6.9
- Poly-drugs used	37	54.4	27	46.6
Total	68	100.0	58	100.0

From table 4.24 Most of alcohol use disorders were poly drug users.

Table 4.25 Frequency of Other Drugs Used in the Past 6 Months.

Frequency of Used	Alcohol Dependence		Alcohol Abuse	
	Number	Percent	Number	Percent
Never	18	26.5	21	36.2
Less than 1 time/week	13	19.1	9	15.5
1 time or more/week	11	16.1	9	15.5
daily	8	11.8	12	20.7
2-3 times/day	8	11.8	1	1.7
4 or more times/day	10	14.7	6	10.4
Total	68	100.0	58	100.0

From table 4.25 we found that in the past 6 months they were still using drugs 73.5 percent and they were still using in the past 24 hours about 63.8 percent.

Data analysis on behavioral consequences of alcohol use disorders

Table 4.26 Percentage of Behavioral Consequences Among Alcohol Use Disorders.

Behavioral Consequences	Alcohol Dependence				Alcohol Abuse			
	Never Occurred	Ever		Never Occurred	Ever		Not Associate	
		Associate	Not Associate		Associate	Not Associate		
1. Hospital admission	66.2	13.2	20.6	55.2	8.6	26.2		
2. Mental Hospital admission	89.7	5.9	4.4	94.8	5.2	-		
3. Health problems	54.4	19.1	26.5	39.7	8.6	51.7*		
4. C.N.S. problems	94.1	1.5	4.4	86.3	3.4	10.3		
5. Liver problems	94.2	2.9	2.9	96.6	1.7	1.7		
6. pancrease problems	95.6	1.5	2.9	98.3	1.7	-		
7. Stomach problems	72.1	16.1	11.8	67.3	8.6	24.1		
8. CVD problems	92.6	1.5	5.9	89.7	1.7	8.6		
9. accidents	79.4	16.2	4.4	72.4	6.9	20.7*		
10. Caught by police	89.7	1.5	8.8	89.7	1.7	8.6		
11. Fighting	82.3	10.3	7.4	93.1	-	6.9*		
12. Self-injury	98.5	1.5	-	96.6	1.7	1.7		
13. Injured by others	92.7	4.4	2.9	89.7	3.4	6.9		

Table 4.26 (continue)

Behavioral Consequences	Alcohol Dependence			Alcohol Abuse		
	Never	Ever		Never	Ever	
	Occurred	Associated	Not Associate	Occurred	Associate	Not Associa
14. Injury to others	86.8	10.3	2.9	89.7	3.4	6.9
15. Familial problems and conflict	61.8	11.7	26.5	44.8	20.7	34.5
16. Social problems	83.8	7.4	8.8	84.5	5.2	10.3
17. Financial problems	55.9	14.7	29.4	58.6	6.9	34.5
18. Working problems	67.6	11.8	20.6	62.1	5.2	23.8
19. Sexual problems	89.7	4.4	5.9	89.6	5.2	5.2

* P < .05

From table 4.26 we found that most common problems among alcohol use disorders were health problems, accidental problems, familial problems, financial and working problems. The problems that were statistical significantly different between 2 groups were health problems, accidental problems and fighting.

To study co-morbid mental problems and general well-being by using GWB scale. GWB scale divided into 3 groups :

severe distress
 moderate distress
 positive well-being

the results show that :

Table 4.27 Percentage of General Well-being Score Groups in Alcohol Use disorders.

Groups	Alcohol Dependence		Alcohol Abuse	
	Number	Percent	Number	Percent
Severe distress	22	32.4	14	24.1
Moderate distress	30	44.1	27	46.6
Positive well-being	16	23.5	17	29.3
Total	68	100.0	58	100.0

From table 4.27 we found that scores of general well-being among alcohol use disorders were in moderate to severe distress.

Data analysis on personality profile.

In the process of analysis we combine alcohol dependence and alcohol abuse into one group of alcohol use disorders.

Table 4.28 Show Minimum, Maximum and Mean Score of Personality Profile Among Alcohol Use Disorders.

Personality Profile	Minimum Scores	Average	Maximum Scores	Mean	Characters
A reserved-outgoing	4	10	16	11.0	outgoing
B low-high intelligence	0	5.5	11	5.0	low
C emotionally instability or weakness-stability	5	13.5	22	12.6	instability
E submissive-dominance	3	10.5	18	10.5	between
F serious-happy	4	11.5	19	11.2	serious
G self-indulgent- conscientious	4	11	18	12.2	conscientious
H shyness-bold, venturesome	4	11.5	19	12.2	bold
I tough-tender minded	3	9.5	16	9.8	tender
L trust-suspicious	0	8.5	17	9.8	suspicious
M practical-imaginative	3	12	21	9.6	practical
N genuine-astute	0	0.5	18	10.3	astute
O self-assured-apprehension	0	0.5	19	12.4	apprehension
Q1 conservative-experimenting	3	11	19	9.1	conservative

Table 4.28 (continue)

Personality Profile	Minimum Scores	Average	Maximum Scores	Mean	Characters
Q2 group dependency-self sufficiency	3	11	19	10.7	groups dependence
Q3 undiscipline-self-control	5	11	17	11.4	undiscipline
Q4 relaxed -tense	5	12	19	12.7	relaxed

From table 4.28 found that in each personality profile, the scores were not deviate charly from average scores except for profile L, M and O.

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PART 3 Data analysis on factors associated with alcohol use disorders.

We divided the population into 3 groups :

Group 1 No drinking, population of 115.

Group 2 Alcohol drinking without disorders, population of 168.

Group 3 Alcohol use disorders (alcohol dependence combined with alcohol abuse) population of 126 and brought the data to compare each variables and used statistical tests to test differences among 3 groups.



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Table 4.29 Comparing on Sex Factors.

Sex	No Drinking		Alcohol Drinking		Alcohol Use Disorders	
	Number	Percent	Number	Percent	Number	Percent
Male	26	22.6	75	44.6	86	68.3
Female	89	77.4	93	53.4	40	31.7
Total	115	100	168	100	126	100

$$\lambda^2 = 50.6 \quad P < .001$$

From table 4.29 we found that there were difference in sex among 3 groups. We found that male were alcohol drinking and alcohol use disorders than female by statistical significance ($P < .001$). If we test only 2 groups of alcohol drinking and alcohol use disorders $\lambda^2 = 16.20$, $P < .001$.

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Table 4.30 Comparing on Factor of Age.

Group	Mean	S.D	S.E	P-value
1. No drinking (115)	38.95	17.33	1.62	<.05
2. Alcohol drinking (168)	46.72	14.67	1.13	
3. Alcohol use disorder (126)	42.71	14.56	1.29	

From table 4.30 we calculate analysis of variance (ANOVA) found that there were differences between group 2 and 1, and 2 and 3 ($F = .0002$, $P < .05$). Age was a factor associate with alcohol drinking.

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Table 4.31 Comparing on Factor of Marital Status.

Marital Status	No Drinking		Alcohol Drinking		Alcohol Use Disorders	
	Number	Percent	Number	Percent	Number	Percent
Single	29	25.2	10	6.0	10	7.9
Married	86	74.8	158	94.0	116	92.1
Total	115	100	168	100	126	100

$$\chi^2 = 26.9 \quad P < .001$$

From table 4.31 we found that there were differences among 3 groups on marital status factors ($P < .001$). When we test only 2 groups of alcohol drinking and alcohol use disorders $\chi^2 = .44 \quad P > .05$.

There were differences between no drinking and drinking.

Table 4.32 Comparing on Factors of Occupation.

Occupation	No Drinking		Alcohol Drinking		Alcohol Use Disorders	
	Number	Percent	Number	Percent	Number	Percent
No occupation	29	25.2	20	11.9	8	6.3
Government office, retired	9	7.8	13	7.7	12	9.5
Business, employee	22	19.2	32	19.1	46	36.5
agriculturists	55	47.8	103	61.3	60	47.6
Total	115	100	168	100	126	100

$$\lambda^2 = 31.8 \quad P < .001$$

From table 4.32 we found differences among 3 groups were occupation factors. If we tested only alcohol drinking and alcohol use disorders $\lambda^2 = 13.3 \quad P < .005$ so occupation is one factor associate with alcohol use disorders.

Table 4.33 Comparing on Factor of Education.

Education Level	No Drinking		Alcohol Drinking		Alcohol Use Disorders	
	Number	Percent	Number	Percent	Number	Percent
No school entrance	6	5.2	11	6.6	5	4.0
1-4 year in school	54	47.0	105	62.9	74	58.0
5-9 year in school	25	21.7	35	21.0	22	17.5
10-12 year in school	10	8.7	6	3.6	16	12.7
Bachelor degree	6	5.2	7	4.2	7	5.6
Higher than Bachelor Degree	-	-	2	1.2	2	1.6
Now studying	14	12.2	1	0.6	1	0.8
Total	115	100	168	100	126	100

$$\chi^2 = 42.19 \quad P < .001$$

From table 4.33 showed that there was statistical significance about educational factors among 3 groups.

Table 4.34 Comparing on Factor of Familial History of Alcohol Drinking.

Familial History	No Drinking		Alcohol Drinking		Alcohol Use Disorders	
	Number	Percent	Number	Percent	Number	Percent
No	41	35.7	51	30.4	13	10.3
Yes - both parents	8	7.0	10	6.0	8	6.3
- others	66	57.4	107	63.7	105	83.3
Total	115	100	168	100	126	100

$$\chi^2 = 24.29 \quad P < .001$$

From table 4.34 showed that there was statistical significance among 3 groups. We found more alcohol drinking and alcohol use disorders in the population that had familial history of alcohol drinking. If we tested only 2 groups of alcohol drinking and alcohol use disorders we also found that there was statistical significance $P < .001$. Familial history of alcohol drinking was a factor associated with alcohol use disorders.

Data analysis on drinking behavior among alcohol drinking and alcohol use disorders.

Table 4.35 Comparing Reasons of Starting Alcohol Use.

Reasons	Alcohol Drinking		Alcohol Use Disorders	
	Number	Percent	Number	Percent
Mental stress	5	3.2	8	6.8
Persuasion by friends	35	22.2	31	26.3
Want to try	21	13.3	26	22.0
Social activity	38	24.1	35	29.7
Mix with Herbal Medicine	58	36.7	18	15.3
Others	1	0.6	-	-
Total	168	100	118	100

Missing cases = 18 $\chi^2 = 18.23$ $P < .005$

From table 4.35 we found that the reason that were common in the group of alcohol drinking was using with herbal medicine while the reason in alcohol use disorders was social activity and there was difference by statistical significance $P < .005$.

Table 4.36 Comparing on Feeling and Emotional Changes Before and After Drinking.

Changes	Alcohol Drinking		Alcohol Use Disorders	
	Number	Percent	Number	Percent
No	104	61.9	61	48.4
Yes	64	38.1	65	51.6
Total	168	100	126	100

$$\chi^2 = 5.32 \quad P < .05$$

From table 4.36 we found that there were changes among alcohol use disorders higher than alcohol drinking without dependence nor abuse ($P < .05$).

ศูนย์วิทยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย

Table 4.37 Comparing on Using Alcohol as A Relief of Stress.

Use as a Relief	Alcohol Drinking		Alcohol Use Disorders	
	Number	Percent	Number	Percent
Never	151	89.9	77	61.1
Ever	17	10.1	49	38.9
Total	168	100	118	100

$$\chi^2 = 34.23 \quad P < .001$$

From table 4.37 showed that alcohol use disorders used alcohol as a tool to relief mental and emotional stress more often than alcohol drinking ($P < .001$).

ศูนย์วิทยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย

Table 4.38 Comparing on Requesting for Help about Alcohol Drinking.

Requesting for Help	Alcohol Drinking		Alcohol Use Disorders	
	Number	Percent	Number	Percent
Never	167	99.4	118	93.7
Ever	1	0.6	8	6.3
Total	168	100	126	100

$$\chi^2 = 8.03 \quad P < .005$$

From table 4.38 showed that alcohol use disorders requested for help more often ($P < .005$).

ศูนย์วิทยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย

Table 4.39 Comparing on Requesting for Help from Physician.

Requesting for Help from Physician	Alcohol Drinking		Alcohol Use Disorders	
	Number	Percent	Number	Percent
Never	167	99.4	121	96
Ever	1	0.6	5	4.0
Total	168	100	126	100

$$\chi^2 = 4.09 \quad P < .05$$

From table 4.39 showed that alcohol use disorders requested for help more often ($P < .05$).

ศูนย์วิทยุทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย

Data analysis on behavioral consequences of alcohol drinking among no alcohol drinking, alcohol drinking and alcohol use disorders.

Table 4.40 Behavioral Consequences from Alcohol Drinking "Treatment in the Hospital".

Hospital Treatment	No Drinking		Alcohol Drinking		Alcohol Use Disorders	
	Number	Percent	Number	Percent	Number	Percent
Never	83	72.2	99	58.9	77	61.1
Ever						
- not associate with alcohol drinking	32	27.8	67	39.9	35	27.8
- associate with alcohol drinking	-	-	2	1.2	14	11.1
Total	115	100	168	100	126	100

$$\chi^2 = 30.81 \quad P < .001$$

From table 4.40 showed that alcohol use disorders had been treated in the hospital more often ($P < .001$). If we calculated only 2 groups : alcohol drinking and alcohol use disorders we found differences with statistical significance $\chi^2 = 16.12$, $P < .001$.

Table 4.41 Behavioral Consequences from Alcohol Drinking
"Treatment in Mental Hospital".

Mental Hospital Treatment	No Drinking		Alcohol Drinking		Alcohol Use Disorders	
	Number	Percent	Number	Percent	Number	Percent
Never	114	99.1	165	98.2	116	92.1
Ever						
- not associate with alcohol drinking	1	0.9	3	1.8	3	2.4
- associate with alcohol drinking	-	-	-	-	7	5.6
Total	115	100	168	100	126	100

$$\chi^2 = 16.92 \quad P < .001$$

From table 4.41 showed that alcohol drinking and alcohol use disorders had been treated in mental hospital more often than no drinking ($P < .01$). If we calculated only 2 groups : alcohol drinking and alcohol use disorders; we found differences as the same with statistical significance $\chi^2 = 9.74, P < .05$.

Table 4.42 Behavioral Consequences form Alcohol Drinking
"Health Problems".

Health Problems	No Drinking		Alcohol Drinking		Alcohol Use Disorder	
	Number	Percent	Number	Percent	Number	Percent
Never	83	72.2	109	64.9	60	47.6
Ever						
- not associate with alcohol	32	27.8	58	34.5	48	38.1
- associate with alcohol	-	-	1	0.6	18	14.3
Total	115	100	168	100	126	100

$$\chi^2 = 44.79 \quad P < .001$$

From table 4.42 showed that alcohol drinking had health problems more than no drinking ($P < .001$). If we calculated 2 groups between alcohol drinking and alcohol use disorders we found alcohol use disorders had health problems more often $\chi^2 = 24.87$, $P < .001$.

Table 4.43 Behavioral Consequences form Alcohol Drinking
"Brain and C.N.S. Problems".

Brain and C.N.S. Problems	No Drinking		Alcohol Drinking		Alcohol Use Disorders	
	Number	Percent	Number	Percent	Number	Percent
Never	114	99.1	163	97.0	114	90.5
Ever						
- not associate with alcohol	1	0.9	5	3.0	9	7.1
- associate with alcohol	-	-	-	-	3	2.4
Total	115	100	168	100	126	100

$$\chi^2 = 14.09 \quad P < .01$$

From table 4.43 showed that alcohol drinking had differences. If we calculated only 2 groups between alcohol drinking and alcohol use disorders we found alcohol use disorders had brain and C.N.S. problems more often $\chi^2 = 6.95, P < .05$.

Table 4.44 Behavioral Consequences among Alcohol Drinking
"Liver Problems".

Liver Problems	No Drinking		Alcohol Drinking		Alcohol Use Disorders	
	Number	Percent	Number	Percent	Number	Percent
Never	115	100	165	98.2	120	95.2
Ever						
- not associate with alcohol	-	-	3	1.8	3	2.4
- associate with alcohol	-	-	-	-	3	2.4
Total	115	100	168	100	126	100

$$\chi^2 = 9.40 \quad P < .05$$

From table 4.44 alcohol drinking had more liver problems, for only 2 groups alcohol drinking and alcohol use disorders $\chi^2 = 4.19, P > .05$.

Table 4.45 Behavioral Consequences among Alcohol Drinking "Stomach Problems".

Stomach Problems	No Drinking		Alcohol Drinking		Alcohol Use Disorders	
	Number	Percent	Number	Percent	Number	Percent
Never	104	90.4	143	85.1	88	69.8
Ever						
- not associate with alcohol	11	9.6	25	14.9	22	17.5
- associate with alcohol	-	-	-	-	16	12.7
Total	115	100	168	100	126	100

$$\chi^2 = 42.15 \quad P < .001$$

From table 4.45 showed that alcohol drinking had more stomach problems and calculated between alcohol drinking and alcohol use disorders $\chi^2 = 23.77$, $P < .001$ so alcohol use disorders found stomach problems more often.

Table 4.46 Behavioral Consequences among Alcohol Drinking "Accidents".

Accidents	No Drinking		Alcohol Drinking		Alcohol Use Disorders	
	Number	Percent	Number	Percent	Number	Percent
Never	102	88.7	138	82.1	96	76.2
Ever						
- not associate with alcohol	13	11.3	30	17.9	15	11.9
- associate with alcohol	-	-	-	-	15	11.9
Total	115	100	168	100	126	100

$$\chi^2 = 37.57 \quad P < .001$$

Calculated only alcohol drinking and alcohol use disorders
 $\chi^2 = 21.99, P < .001$. So accidents were associated with alcohol drinking and alcohol use disorders.

Table 4.47 Behavioral Consequences among Alcohol Drinking
"Caught by Police".

Caught by Police	No Drinking		Alcohol Drinking		Alcohol Use Disorders	
	Number	Percent	Number	Percent	Number	Percent
Never	114	99.1	163	97.0	112	89.7
Ever						
- not associate with alcohol	1	0.9	5	3.0	11	8.7
- associate with alcohol	-	-	-	-	2	1.6
Total	115	100	168	100	126	100

$$\chi^2 = 15.03 \quad P < .005$$

Calculated only alcohol drinking and alcohol use disorders
 $\chi^2 = 7.46, P < .05$. So caught by police consequences were
 associated with alcohol drinking and alcohol use disorders.

Table 4.48 Behavioral Consequences among Alcohol Drinking "Fighting".

Fighting	No Drinking		Alcohol Drinking		Alcohol Use Disorders	
	Number	Percent	Number	Percent	Number	Percent
Never	164	99.1	165	98.2	110	87.3
Ever						
- not associate with alcohol	1	0.9	3	1.8	9	7.1
- associate with alcohol	-	-	-	-	7	5.6
Total	115	100	168	100	126	100

$$\chi^2 = 26.08 \quad P < .001$$

Calculated only alcohol drinking and alcohol use disorders $\chi^2 = 15.31$, $P < .001$. So fighting consequences were associated with alcohol drinking and alcohol use disorders.

Table 4.49 Behavioral Consequences among Alcohol Drinking
"Injuries by Others".

Injuries by Others	No Drinking		Alcohol Drinking		Alcohol Use Disorders	
	Number	Percent	Number	Percent	Number	Percent
Never	114	99.1	167	99.4	115	91.3
Ever						
- not associate with alcohol	1	0.9	1	0.6	6	4.8
- associate with alcohol	-	-	-	-	5	4.0
Total	115	100	168	100	126	100

$$\chi^2 = 19.17 \quad P < .001$$

Calculated between alcohol drinking and alcohol use disorders
 $\chi^2 = 12.41, P < .005$. So "injuries by others" consequences
 were associated with alcohol drinking and alcohol use
 disorders.

Table 4.50 Behavioral Consequences among Alcohol Drinking "Injuries to Others".

Injuries to Others	No Drinking		Alcohol Drinking		Alcohol Use Disorders	
	Number	Percent	Number	Percent	Number	Percent
Never	114	99.1	167	99.4	111	88.1
Ever						
- not associate with alcohol	1	0.9	1	0.6	6	4.8
- associate with alcohol	-	-	-	-	9	7.1
Total	115	100	168	100	126	100

$$\chi^2 = 28.71 \quad P < .001$$

Calculated between alcohol drinking and alcohol use disorders $\chi^2 = 18.22, P < .001$. So "Injuries to Others" consequence were associated with alcohol drinking and alcohol use disorders.

Table 4.51 Behavioral Consequences among Alcohol Drinking "Familial Problems".

Familial Problems	No Drinking		Alcohol Drinking		Alcohol Use Disorders	
	Number	Percent	Number	Percent	Number	Percent
Never	102	88.7	127	75.6	68	54.0
Ever						
- not associate with alcohol	13	11.3	35	20.8	38	30.2
- associate with alcohol	-	-	6	3.6	20	15.9
Total	115	100	168	100	126	100

$$\chi^2 = 47.81 \quad P < .001$$

Calculated between alcohol drinking and alcohol use disorders $\chi^2 = 19.91, P < .001$. So "Familial Problems" consequences were associated with alcohol drinking and alcohol use disorders.

Table 4.52 Behavioral Consequences among Alcohol Drinking
"Social Problems".

Social Problems	No Drinking		Alcohol Drinking		Alcohol Use Disorders	
	Number	Percent	Number	Percent	Number	Percent
Never	112	97.4	160	95.2	106	84.1
Ever						
- not associate with alcohol	3	2.6	8	4.8	12	19.5
- associate with alcohol	-	-	-	-	8	6.3
Total	115	100	168	100	126	100

$$\chi^2 = 24.85 \quad P < .001$$

Calculated between alcohol drinking and alcohol use disorders
 $\chi^2 = 14.09, P < .001$. So "Social Problems" consequences were
associated with alcohol drinking and alcohol use disorders.

Table 4.53 Behavioral Consequences among Alcohol Drinking "Financial Problems".

Financial Problems	No Drinking		Alcohol Drinking		Alcohol Use Disorders	
	Number	Percent	Number	Percent	Number	Percent
Never	87	75.7	90	53.6	72	57.1
Ever						
- not associate with alcohol	28	24.3	77	45.8	40	31.7
- associate with alcohol	-	-	1	0.6	14	11.1
Total	115	100	168	100	126	100

$$\chi^2 = 43.06 \quad P < .001$$

Calculated between alcohol drinking and alcohol use disorders $\chi^2 = 19.36$, $P < .001$. So "Financial Problems" consequences were associated with alcohol drinking and alcohol use disorders.

Table 4.54 Behavioral Consequences among Alcohol Drinking "Working Problems".

Working Problems	No Drinking		Alcohol Drinking		Alcohol Use Disorders	
	Number	Percent	Number	Percent	Number	Percent
Never	100	87.0	143	85.1	82	65.1
Ever						
- not associate with alcohol	15	13.0	25	14.9	33	26.2
- associate with alcohol	-	-	-	-	11	8.7
Total	115	100	168	100	126	100

$$\chi^2 = 36.71 \quad P < .001$$

Calculated between alcohol drinking and alcohol use disorders $\chi^2 = 23.11, P < .001$. So "Working Problems" consequences were associated with alcohol drinking and alcohol use disorders.

Table 4.55 Behavioral Consequences among Alcohol Drinking
"Sexual Problems".

Sexual Problems	No Drinking		Alcohol Drinking		Alcohol Use Disorders	
	Number	Percent	Number	Percent	Number	Percent
Never	114	99.1	161	95.8	113	89.7
Ever						
- not associate with alcohol	1	0.9	7	4.2	7	5.6
- associate with alcohol	-	-	-	-	6	4.8
Total	115	100	168	100	126	100

$$\chi^2 = 17.86 \quad P < .005$$

Calculated between alcohol drinking and alcohol use disorders
 $\chi^2 = 8.58, P < .05$. So "Sexual Problems" consequences were
associated with alcohol drinking and alcohol use disorders.

Data analysis for co-morbid mental problems and general well-being among sample population.

Table 4.56 General Well-being Grouping by Scores.

GWB Scores	No Drinking		Alcohol Drinking		Alcohol Use Disorders	
	Number	Percent	Number	Percent	Number	Percent
Severe distress	24	20.9	32	19.0	36	28.6
Moderate distress	44	38.3	65	38.7	57	45.2
Postive well-being	47	40.9	71	42.3	33	26.2
Total	115	100	168	100	126	100

$$\chi^2 = 9.78 \quad P < .05$$

From table 4.56 we found that alcohol drinking and alcohol use disorders had high percentage in moderate to severe distress score-group of GWB ($P < .05$).

If we calculated differences between and among groups by using ANOVA, the result was :

Table 4.57 General Well-being Comparing by Using Mean Scores.

Group	Mean	S.D.	S.E.	P-value
No drinking (115)	69.42	9.63	0.89	< .05
alcohol drinking (168)	69.79	10.40	0.80	
alcohol use disorders (126)	69.79	10.40	0.80	

Alcohol use disorders was significant different from other groups at $P < .05$.

ศูนย์วิทยทรัพยากร
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From GWB total scores, we analysed subscore labels that were divided into :

1. anxiety subscore
2. Depression subscore
3. Positive well-being subscore
4. Self-control subscore
5. Vitality subscore
6. General health subscore

We used ANOVA, the results were as follow :

Table 4.58 GWB Subscore of "Anxiety".

Group	Mean	S.D.	S.E.	P-value
No drinking (115)	14.22	3.13	0.29	< .05
alcohol drinking (168)	14.48	2.74	0.21	
alcohol use disorders (126)	13.32	3.33	0.29	

Alcohol use disorders was significant different from other groups at $P < .05$.

Table 4.59 GWB Subscore of "Depression".

Group	Mean	S.D.	S.E.	P-value
No drinking (115)	14.45	2.51	0.23	< .05
alcohol drinking (168)	14.31	3.12	0.24	
alcohol use disorders (126)	13.55	3.37	0.30	

Alcohol drinking and alcohol use disorders were significant different at $P < .05$.

ศูนย์วิทยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย

Table 4.60 GWB Subscore of "Positive well-being".

Group	Mean	S.D.	S.E.	P-value
No drinking (115)	9.22	1.96	0.18	< .001
alcohol drinking (168)	8.96	2.33	0.18	
alcohol use disorders (126)	8.08	2.14	0.19	

Alcohol use disorders were significant different from other groups at $P < .001$.

For other subscore labels of GWB : Self-control, Vitality and General Health after calculated by using ANOVA and F-test we found that there were no significant differences.

ศูนย์วิทยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย

Data analysis on personality profile.

We used mean scores in each profile and analyse by ANOVA and F-test to find differences among no drinking, alcohol drinking and alcohol use disorders. We found that there were not significant different in every profiles except "trust-suspiciousness" profile.

Table 4.61 Personality profile "Trust-Suspiciousness".

Group	Mean	S.D.	S.E.	P-value
No drinking (115)	9.22	2.39	0.23	< .05
alcohol drinking (168)	9.83	2.70	0.21	
alcohol use disorders (126)	10.22	2.46	0.22	

Alcohol use disorders was significant different from no drinking at $P < .05$.

ศูนย์วิทยุทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย