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THE GENDER GAP IN DRINKING HABITS AMONG YOUNG KOREANS, 2001~2014

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Abstract

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While the existence of widespread differences between males and females' drinking behaviours is widely acknowledged and has been explored several times, yet mostly in Western countries on both national and international scales, this paper aims at exploring the gender gap among young Koreans, aged from 12 to 24, and at analysing its evolution over a 13 year period by comparing some of the data made available by the KNHANES report, a Korean national survey carried out annually. For this paper the answers from respondents surveyed in 2001 and in the last 2014 survey have been used. The final goal of the research is to investigate whether convergence in drinking patterns has occurred or not, and to determine its nature. To do so, the paper mostly relies on the analysis of key variables such as the abstinence rate, the age of onset, the average quantities drunk, the frequencies at which drinking occurs as well as the likelihood to receive criticisms because of one's drinking. The sample distributions and the sex ratio analysis over time will be major indicators. Among the most significant outcomes of the research, it has been shown that if most of the variables follow rather similar orientations for both males and females, namely less abstinence, a younger age of onset, greater quantities drunk, it has not necessarily led to a convergence in drinking patterns: if the 2014 alcohol intake indicators clearly show closer patterns between male and female drinkers, others such as the age of onset or the likelihood of getting criticized are not as assertive while indicators linked to drinking frequency clearly point toward diverging patterns. Lastly, whether drinking habits converge or not, a large majority of the analysis carried out in this paper highlights the existence of a wide gap among young females and males, who remain still much more likely to drink more, more often and earlier in their life.

Keywords: drinking, young, adolescent, gender gap, Korea, convergence, alcohol

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INTRODUCTION

1.1 Definitions

In this paper, Korea will refer to South-Korea and as in most similar research, drinking habits or drinking behaviours are decomposed in several items encompassing different notions revolving around alcohol consumption such as the abstinence rate, the age of onset, the quantity drunk at once or the frequency at which drinking occurs.

In this context, the gender gap refers to the differences in male and female relative distributions among the various variable based on their sex. Therefore, most of the indicators used to assess the existence of a gender gap are based on male/female ratio or proportion comparisons.

Because the research focuses on the gender gap, the analysis of one sex drinking behaviours evolution if insight will only be used as a tool to account for the observed evolution of the gender gap, namely a convergence or a divergence in proportions and ratio among the various variables between young males and females.

1.2 Drinking gender gap worldwide: empirical findings

In every society where surveys and analysis on drinking behaviours have been conducted, males always drink more than females, and numerous indicators can be used: in terms of abstinence, women are more likely to embrace it (Wilsnack, 2000). When dealing with drinkers only, if female and male drinkers' patterns are compared, the same conclusion can be drawn: men drink more often and in larger quantities (GENACIS project, 2009). They also tend to experience more problematic behaviours than female drinkers do (Assailly 2014).

By the late 1990, the GENACIS project was initiated by Wilsnack and other social scientists with the ambition to compare drinking behaviours among different populations with a particular interest on differences between males and females. They first conducted a survey on 16 population samples from 10 different countries and compared drinking patterns based on gender. In a similar analysis conducted on 25 countries in 2009 (but not including South Korea), Wilsnack and his colleagues found that, out 104 comparisons for all age groups, in 98 cases the prevalence of drinking rates ratio (males over females) were greater than 1. Out of 95 comparisons, 86 showed women to outpace men in terms of lifetime abstention. Among 12-months drinkers, involving all age groups, 104 comparisons out 104 showed men to be more likely to engage in high-volume drinking.

If such general tendencies have been shown over different studies, large variations are observed among countries, including cases when samples gathered populations from the same age group. For example, they found out that when Irish drinkers' rates of heavy drinking prevalence reached 91% among males and 62% among females, Israeli drinkers' reach 22% for males and 11% for women.

The question of the gender in terms of drinking behaviour is of a high significance in the sense that it can be considered as one of the few universal characteristics found in all human societies (Assailly, Wilsnack).

1.3 Alcohol consumption in Korea

If more research focusing on women's increasing drinking is done than before and acknowledges an increase in women's alcohol consumption over the last decades (Wooksoo Kim and Sungjae Kim 2008) it should not hide the large differences characterizing typical males and females' drinking behaviours.

According to the World Health Organizations figures for 2010, alcohol consumption per capita among all Korean population aged more than 15 reached 12.3 litres (steady over a decade) of pure alcohol a year, which is more than twice the world's average. Men drink much more than women, with a ratio greater than 5 to 1. When considering drinkers only, the average Korean male drinks 37.6 litres a year when his female counterpart drinks 11.5 litres.

The example of Korea is of relevancy in the sense that the country is one of the largest alcohol consumers in the world and was excluded from the GENACIS project. Because the link between excessive alcohol consumption and health damage has been long proven in the scientific literature, this question is also of high interest in terms of public health:

10% of Korean males suffer from alcohol disorders while 8% are considered by the WHO as dependent. As far as women's drinking is concerned, 2.2% of them suffer from alcohol related disorders whilst 1.7% are considered as dependent, less than the women's average in the Western Pacific Region.

Furthermore, studies suggest that early adopted drinking behaviours are to have more severe consequences across the life spam of individuals. Understanding and therefore being able to address if needed excessive behaviours among the youngest drinkers is a matter of social responsibility.

1.4 Gender gap among youths

It has been suggested that the legal environment may have an influence on drinking patterns among the youngest, namely through the legal age of drinking, potential exposure would be reduced and drinking behaviours would therefore be more homogenized (Assailly, 2014). For example, as this legislation is more strictly enforced in the USA than in Europe, drinking patterns among young people are closer in the former simply as less exposure occurs.

However, over the past decades, several surveys have suggested that a gap in drinking behaviour was also prevalent among younger drinkers. (1991 Lex, Barbara; 1986 Barnes and Welte) The differences could be accounted both in terms of frequency, quantity and alcohol related problems.

A recent research led on American citizens from all ages (White, Castle 2012) showed that young males, aged from 12 to 25, started drinking earlier than females with an average of 6 months and were likely to consume on average 1.5 more glasses than females while their drinking frequency was up to 25% higher than same aged females.

On the contrary, Nordic and Anglo-Saxon countries have recently seen the gender gap among youths to sharply decrease to an almost non-existing point in some cases (Alström, Bloomfield 2001), whereas for some indicators, the trend has been inversed with girls experiencing heavier drinking behaviours than males as suggested in 2013 published survey on youths aged 11 to 18 in the United Kingdom (Armitage 2013).

BACKGROUND AND EXPLANATORY THEORIES

2.1 Biological explanations

To account for these differences in terms of drinking behaviours, two alternatives are often offered (Huselid, Cooper 1992).

The first one suggests biological causes implying that women naturally tend to suffer more from alcohol intake than men. Corrigan in 1985and McCrady 1988 together showed indeed that for an equivalent dose of alcohol consumed, thus taking into account the age, the weight and other factors female drinkers would see their blood alcohol level to reach higher levels than males' would.

More recently, Nolen and Hoeksema (2004), showed females to be more likely to undergo liver inflammation due to alcohol consumption while a more recent study (Nixon et al, 2014) proved that female alcoholics are less efficient and productive in a series of cognitive tasks, even after fewer years of drinking than males.

Hence, females would naturally be more reluctant to engage is larger drinking behaviour because they are more likely to suffer from more negative effects than males would do.

2.2 Sociological explanations and gender role

However if there is a widespread gap in terms of drinking habits, its size and characteristics vary a lot among countries which suggest that biological causes only can't explain it all: cultural as well as social explanations have to be taken into account to understand the observed differences .

In the 2009 GENACIS report, Wilsnack and his colleagues, show after analysing drinking patterns among women and men in 25 countries that even though women from one country would drink less than their male nationals, they may drink more than males from another country. The authors concluded their analysis by mentioning the "*strong influence of social and cultural factors, such as alcohol related norms, values and constraints, which may interact with biological gender ton influence drinking patterns"*

Gender norms and their representations would therefore be a major explanatory tool in the different drinking behaviours among men and women. A series of researches suggest indeed that societies in which gender roles are the most distinguishable are often linked with the greatest drinking gap. (Child and al, 1965; Gefou-Madianou 1992; McDonald 1994)

Drinking would indeed be more significant among males to the extent that it reinforces expected traits and masculine attributes by showing, boldness (Driessen 1992), virility or self-control. Drinking alcohol can also be seen as a social lubricant, fostering and developing group interactions in the private or business spheres, traditionally dominated by males. Yoon, Bae Lee An and Kim 2006 conducted a study on Korean company male workers and found out that for nearly 82% of them, after-hour gathering (with alcohol) was a way to maintain close relationships while Sungsoo Chun (2012) considers alcohol as a non-verbal communication tool within work and leisure time in the Korean Society.

On the contrary, women's drinking is much more negatively perceived as it is often associated with a greater sexual vulnerability and disinhibition both leading to a weaker control of their sexuality (Gomberg 1982, Snare 1989) but also because it is considered as an impediment towards the fulfilment of their household and familial responsibilities (McLaughlin 1991, Ikuesan 1994..).

Landrine, Bardwell and Dean (1988), found out that drunkenness and more generally drinking is more widely accepted in the society for men than for women while another study conducted a few years before suggested that adolescent males shared the idea of social image building among their peers through drinking whereas teenage girls did not consider drinking as socially desirable (Chassin, Tetzloff and Hershley 1985). This idea was backed by Davis' findings (2007) who figured out that the familial context was the main influence of youth's gender ideology but as they age, their own life experiences and social interactions were better predictors for their gender related behaviours.

2.3 Conformity model among adolescent

Hence the link between drinking behaviour and the gender differences would lie in a large extent to gender roles and alcohol perceptions and behaviours linked to it.

Huselid and Cooper in 1992, tested their "conventionality model" on a sample of 1 077 adolescents aged 13 to 19 and found that among all the interviewees, those who had conventional gender identities, ie a more lenient attitude towards men's drinking than women's, were more likely to follow these drinking patterns whereas adolescent expressing non-conventional or "deviant" attitudes such as feminine typed attributes (emotional warmth and concerned for others) were not.

LITTERATURE REVIEW AND RESEARCH QUESTION

3.1 Converging drinking patterns

Overall, if biological causes in the drinking gender gap among males and females can't be totally ruled out, values, norms and their perceptions are to a much larger extent the explanations for it.

Because norms, education are socially constructed, they can change and are likely to evolve along with economic and social changes such as a greater female access to labour market, similar education levels…and therefore influence predicted drinking patterns.

It could be therefore expected that while women gain more access to positions traditionally occupied by men as well as the traditional frontier between males and females roles vanishes, differences in terms of drinking habits should follow (Wilsnack 2000).

3.2 Previous studies

In the late 1970's some evidence suggested that such a convergence was to occur among youths in the US population researches showed that in terms of alcohol prevalence, the gap was narrowing down mostly because fewer female adolescents and young adults abstained from drinking. (Weschler and McFaddin, 1976) and 1980 (Ference)

However, other surveys found out that the gap in terms of frequency and quantity remained stable (Barnes and Welte 1986, Lex 1991)

More recently, White, Jen-P and colleagues in a survey designed to compare drinking patterns among 12+ years US citizen and their evolutions between 2002 and 2012 found on the contrary the gap to narrow among female and male drinkers in terms of number of drinking days per year, alcohol abuse, and age of onset for young drinkers.

Recent research on drinking habits among Koreans point out the increasing rate of female drinkers in the population, and attribute it to a cultural changes in the Korean society: according to the ministry of Health and welfare (2006), while less than 25% of women between 20 and 59 years old used to drink in 1989, in 2005, more than 40% of this population was considered as drinkers.

Females start drinking earlier than they did: in two generations age of onset has been divided by more than 2, from 42 years to 20 (Wooksoo Kim and Sungjae) and the trend seems particularly true for female college students from comfortable backgrounds. (Jang 2001).

However, most studies related to women's drinking in Korea focus on negative social and health related consequences (Kim and Kim 2008, Yoon, 2006), which can be explained by the weight of traditional perceptions on gender roles in Korean society. Chung et al, 2014, explored the concept of a glass ceiling preventing women from reaching high corporate positions due to them lacking of equal possibilities to take part to post-work drinking gathering because of their domestic responsibilities.

While many authors insist on the cultural context of Korean drinking habits, mentioning the centrality of alcohol in business circles to ease negotiation or conflict settlement, few studies have been conducted on the gender gap in terms of drinking, and especially among young Koreans which is yet the population the most likely to embrace changes and convergence in its drinking patterns.

3.3 Research question

Given the recent changes in Korean society and (young) women's greater access and consumption of alcohol, the question of youth drinking behaviour is particularly interesting, both in terms public health and social studies.

However, young females drinking more than before is not enough to talk about convergence, being more specific in the behaviours analysis is required and makes sense only by comparing trends and evolutions in differences for both males and females, using precise and standardized indicators.

The scarcity of research on this specific issue and the release of a new set of data (2014) encompassing drinking behaviours among the population has justified the existence of this paper aiming at answering the question of converging trends among young Koreans drinking patterns over the last 13 years period.

RESEARCH METHODOLOGY

4.1 Research design

The purpose of the research is to compare the difference in terms of drinking habits between young males and females in Korea from 2 different generations in order to question first the nature of the gender gap, and second the question of its trend on a 13 years period.

The first generation of respondents (aged from 12 to 24) answered the survey in 2001 whereas the second group with the same age range answered the same questions in 2014. Therefore, there will be no overlapping in terms of potential respondents.

Rather than qualitative interviews, the paper will be based on quantitative analysis and drinking patterns will be explored through a series of variables encompassing the abstinence rate, age of onset, the average quantity drunk at once, the frequency at which drinking occurs as well as the likelihood to get criticized for one's drinking.
The types of analysis to be carried will encompass descriptive statistics as well as cross tabulations as in order to compare the nature and the size of the gap separating males drinking patterns from females' and its evolution from 2001 to 2014.

4.2 Data sources

The major data source used in this paper is the KNHANES (Korea National Health & Nutrition Examination Survey) database:

"*KNHANES is an ongoing surveillance system in the Republic of Korea that assesses the health and nutritional status of Koreans, monitors trends in health risk factors and the prevalence of major chronic diseases, and provides data for the development and evaluation of health policies and programmes in Korea. In addition, it produces statistics regarding smoking, drinking, physical activities, and obesity for which the World Health Organization (WHO) and the Organization for Economic Cooperation and Development (OECD) request".*

As for the data used, they're part of an exhaustive sample of the Korean population, covering 576 regions, among each, 20 households were targeted in 2014 whereas the design of the survey was slightly different back in 2001 with 200 target regions. In total the survey collects answers from more than 10,000 respondents in 2014 and 100.000 in 2001, all aged from 1 to more than 100. (See table 1)

Since its elaboration, the national survey got more and more exhaustive and now covers 3 major topics related to national health:

- A health Interview
- A Health Examination
- A Nutrition survey

For this paper, only the variables directly linked to alcohol consumption and were selected.

4.3 Sample selection

A fundamental question for the research was the age range of the sample to consider. If the legal drinking age in Korea is 19, it would be highly misleading not to considered respondents under this legal threshold. As a matter of fact, a brief overview of the available data is enough to convince any reader of it. *(See Table 2 in appendix)*

Indeed, if the surveys don't consider respondents under 12 for alcohol related questions, reducing the relevant sample size by automatically removing from the database any interviewee younger than 12, it is interesting to note that some respondent aged of 12 admitted having drunk alcohol already.

The lower limit for the sample in terms of age will then be 12 years old. Yet, this question will raise some issues as, especially in the 2001 survey, some respondents' answers were excluded from the dataset because of their young age, in spite of them having experienced alcohol.

As for the upper limit, if such a choice is somehow more debatable, its distinction has nonetheless been motivated by a series of arguments:

According to the UNESCO (United Nations Educational, Scientific and Cultural Organization) standards[2], "Youth" should be best understood as *"a period of transition from the dependence of childhood to adulthood's independence and awareness of our interdependence as members of a community"*, mentioning later that even though the age limit is flexible and has to be considered as such, the organization uses the age boundaries of 15 (for the lower one) and 24 years.

Furthermore, according to KOSTAT[1]'s own classification, a Korean national statistical agency which main focus is to provide the government and public opinion with *"reliable official statistics of prices, employment and income, which are sensitive to people's lives, and to help Koreans*

lead happier lives through statistical production", the youth designates the population aged from 9 to 24, representing 19% of the total population.

As the KOSTAT *(See table 3)* shows it, the age of 25 seems to initiate a milestone period with regards the access to employment among Koreans. Therefore the age limit of 24 years old already set by the UNESCO seems relevant.

As a consequence, the respondents whose answers will be considered in the survey will all be aged from 12 to 24 years.

[1]: http://kostat.go.kr/portal/eng/aboutUs/1/1/index.static

[2]: http://www.unesco.org/new/en/social-and-human-sciences/themes/youth/youth-definition/

FINDINGS AND DISCUSSIONS

5.1 Drinkers and non-drinkers

The 2001 KHNANES database gathers information from more respondents as, as many as 6 694 people are within the 12-24 age range. However, the quality of the answer set has proven to be lower than the 2014 database and only 889 males have proper answers regarding their alcohol consumption, as for the female respondents, they are 982 to have usable data.

The first part of this paper's findings focuses on analysing the experience of alcohol the respondents had and use it to build up an appropriate sample for the following variables.

To the first question related to their drinking experience, respondent were given different possible answers:

1- Drinks often
2- Drinks sometimes
3- Almost never drink
4- Never drinks
5- Used to drink
6- Does not reply or does not know

See table 4

In the case of male respondents, 70 answered (1), 239 answered (2), 141 answered (3), 430 answered (4), 8 answered (5) and 1 person chose not to answer.
Unlike the 2014 dataset, the question of having experienced alcohol (1 glass of alcohol) before is not asked; we can however try to simulate it by aggregating answers and consider that any person answering (1), (2), (3) or (5) has drunk before whereas a person who never drinks is considered as an abstinent (assumption reinforced by the possibility to choose ‘’almost never drink").

Doing so, a first computation brings a previous alcohol experience rate of 51.6%[1]
However, for the rest of the research, all interviewees which answered to (3)- Almost never drink, (4) never to drink or who did not reply (6) will be sorted out of the sample as the dataset does not provide

[1:] (70+238+141+8)/(889)

any information about their drinking patterns in terms of frequency, amount drunk or age of onset. Furthermore, most of the studies quoted in this paper have embraced this convention.

The direction implication is a reduction of the sample size, down to 317 male interviewees.

The age repartition for the 2001 male population is the following:

Ranging from 13 year old to 24, with a mean of 20.63 and standard variation of 2.607

See appendix, table 4 for the complete age repartition among the male 2001 sample

As far the female respondents are concerned, 37 answered (1), 232 answered (2), 210 answered (3), 497 declared never to drink (4) and 6 used to drink (5).
Using the same reasoning than before, we can compute that among the sample, 49.3%[2] of the females have already experienced alcohol.

For similar reasons than before, it appears that 707 respondents out of the 982 can't show usable data as they answered they "never drink" or "almost never drink" and therefore provide no answer to questions related to drinking patterns and are therefore excluded of the sample

At the end of the day, the female sample responds to following criteria and reassembles 275 respondents, aging from 15 to 24 with a mean of 21 year old, slightly older than the males but more condensed as the standard deviation reaches 2.164, lower than in the male group.

See, appendix table 5 for the complete age repartition among the female 2001 sample

In the case of the 2014 dataset, the question of the drinking experience was directly asked to the respondents and 3 options were given:

1- They have already experienced alcohol, (at least one glass of alcohol and sipping does not count)
2- They have never

3- They do not answer

The 2014 panel used was composed of 449 males and 494 females, all aged between 12 and 24.

Among the males, 56% declared they had a previous experience of drinking while only 0.2% did not answer the question. In the rest of study, non-respondent will be considered as non-drinkers to gain a better consistency in the outcome.

The final male sample is composed of 226 respondents, which ages range from 12 to 24. The mean is 19.19 and the standard deviation is the highest of the 4 samples (3.146).

See, appendix table 6 for the complete age repartition among the 2014 male sample

Among the female population, 57.6% said they had already drunk a glass of alcohol while the rate of non-respondent rose to 1.4%. After removing interviewees which answers are to no relevance to rest of the study, the final female sample for the 2014 dataset is characterized by a mean of 20.19 and a standard variation of 2.719.

See, appendix table 7 for the complete age repartition among the 2014 male sample

Comparison

Nature of samples:

Overall the size of the samples used with the 2001 Data are slightly larger than the ones used in 2014, another difference that can be pointed out would be that of the gender structure: females outnumbered males on a 1,12 ratio whereas the it is of 1.15 in favour of males in 2001. However, as the study mainly focuses and gender based behaviours, this variation will have very little impact on the final results.

In average, compared to the 2001 samples, both males and female 2014 sample are older. The difference is reduced to a few months in the case of the females whereas it reaches 1 year for the male samples.

In 2001, females were 5 months younger than their male counterparts, whereas in 2014 the female sample is 1 year older.

Experience of drinking:

Because the methods used to determine the proportion of the respondents who had already experienced alcohol when they were surveyed are different as of the modification that took place in

the questions set in 2014, simply comparing the raw figures calculated previously has to be done with care, yet they suggest an increase in the rate alcohol experience for both males and females.

However, comparing the difference within each dataset could be more insightful and shed some light on the trends at stake:

In 2001, 51.6% of male respondents declared they have already experienced alcohol consumption whereas 49.3% of 2001 females said so. Therefore, in proportion, more males have experienced alcohol than females. This result fits the theory and previous empirical findings mentioned earlier in the paper stating than males are more likely to experience alcohol than females. The gap, is however rather moderate.

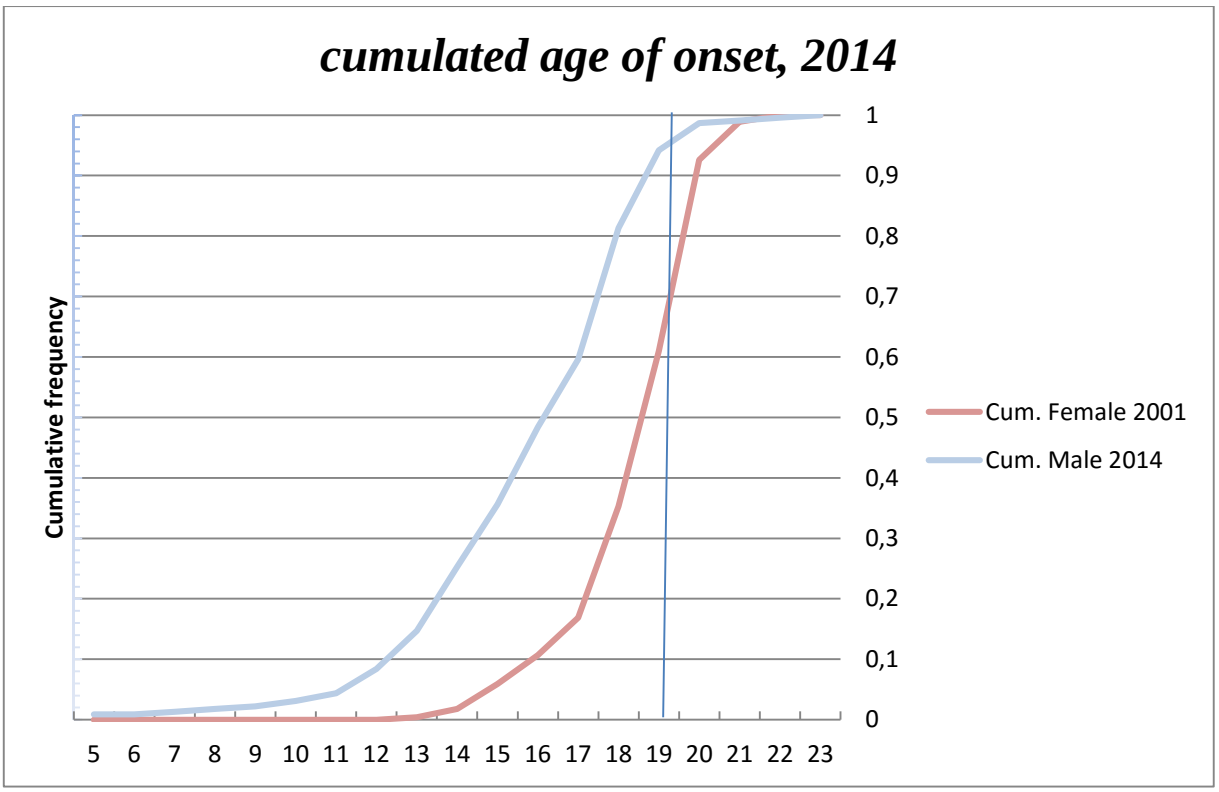
In 2014, 56% of males have experienced it when 57.6% of the girls have. In other words, 13 years later female drinking experience seems to have outpaced than of males.

However, this indicator is directly linked to the age of onset (first glass) of the various respondent and an older sample such as the women's may mechanically show a lower rate of abstinence because as teenagers age they are more likely to have experienced alcohol (peer pressure, more occasions…).

The chart below shows the cumulated percentage of onset age among 2014 respondents who declared they have had experience of alcohol earlier in their life. The curve suggests that, first males tend to drink earlier, but also that by the age of 19 (close to the average age of the sample of 19.19), more than 94% of it had already had his first glass of alcohol. Therefore, we can assume that, over the entire male sample from 2014, if a male was to drink, he would be very likely to have it done by the time he turns 19.19 year old. In addition, past 20 years old, 1.3% of the sample is still to experience his first drink.

See, appendix table 8 for the complete cumulative age of onset repartitions

Therefore is the age difference between the male and female samples in 2014 may explain some of the gap, its weight if hard to precisely estimate remains very moderate.


cumulated age of onset, 2014
Cumulative frequency
1
0,9
0,8
0,7
0,6
0,5
0,4
0,3
0,2
0,1
0
5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23
Cum. Female 2001
Cum. Male 2014

5.2 Age of onset

2001 Female drinkers:

As far as the age of onset is involved interviewees were asked to simply give the age at which they drank their first entire glass of alcohol. Out of the 275 female drinkers, 3 stated they could not remember or did not want to answer the question.

What can be inferred from the statistical analysis is that the age of the first intake ranges from 13 year old to 22, with an average of 18.76, meaning **18 years and 9 months.**

See, appendix table 9 for the complete repartition among the 2001 female drinkers

Male drinkers:

With regards to the male drinkers in 2001, 100% of the respondents gave a relevant answer and computations revealed an onset average age of **18 years and 1 month**. The youngest age for the first drink was 10 whereas the oldest was 22. Standard deviation was of 1.962, which is slightly higher than that of females of 1.622 mostly triggered by a smaller amplitude in the ages of onset.

See, appendix table 10 for the complete repartition among the 2001 male drinkers

Inter 2001 dataset comparison:

Males start drinking earlier in their life than females, both in terms of average and minimum
Drinking experience is much progressive and gradual among males: for example 22.4% of male respondents had had their first drink at 16 or before whereas only 10.7% of females had.
However, by the age of 20 the proportion of drinkers is roughly the same in both populations: 93.4% of males had started drinking when 92.6% of females had: the ages 18-19-20 constitute a huge milestone for girls, much less for males which experience with alcohol is more spread.

2014 female drinkers

The exact same question was asked 13 years later with slightly different answers:

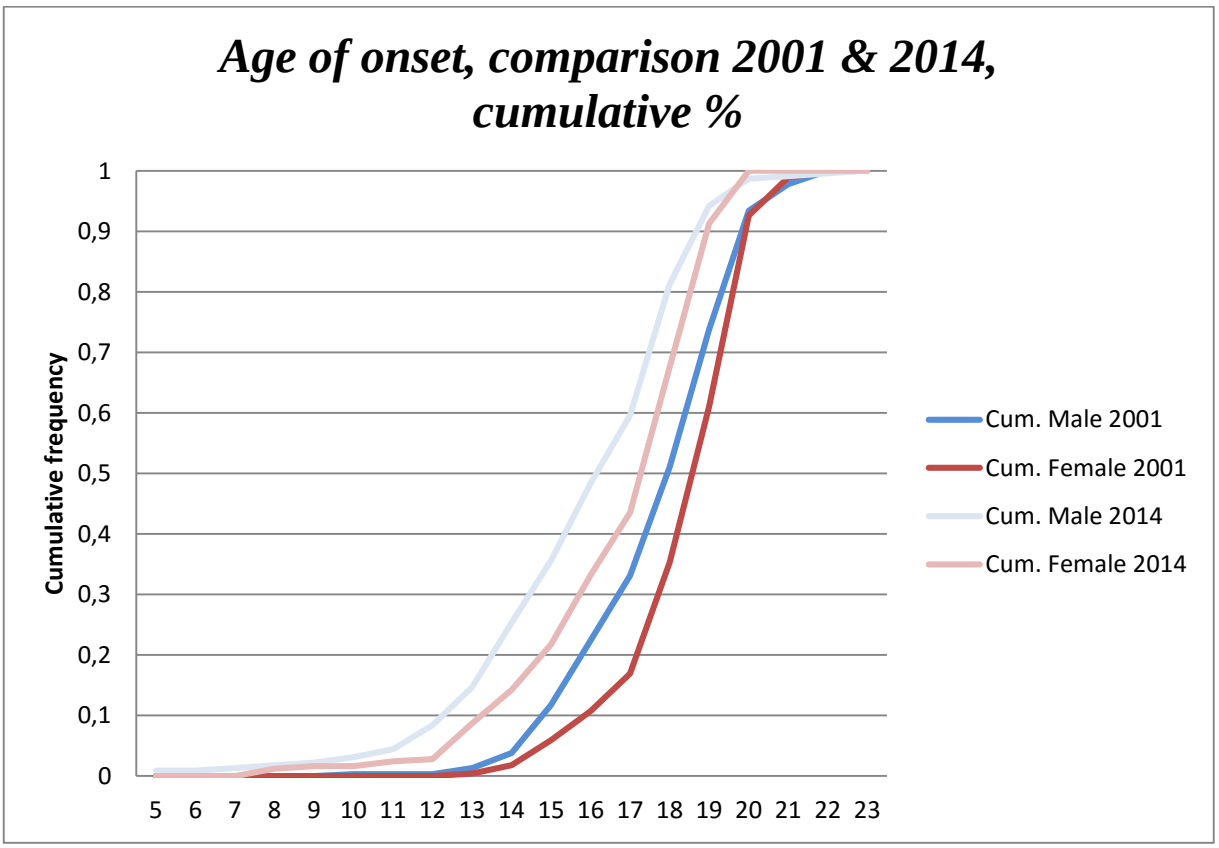
Among the 253 female respondents the average age of onset dropped to **17 years old and 1 month** with the youngest onset age as low as 8 and the highest at 20. Amplitude is much greater reflected by a standard deviation reaching 2.333

See, appendix table 11 for the complete repartition among the 2014 female drinkers

2014 male drinkers

A similar trend can be observed among males as the average age of onset is down to 16 years and 3 months. The earliest in age of drinking experience was 5 years for one of the respondent and the oldest was 23 years.

See, appendix table 12 for the complete repartition among the 2014 male drinkers



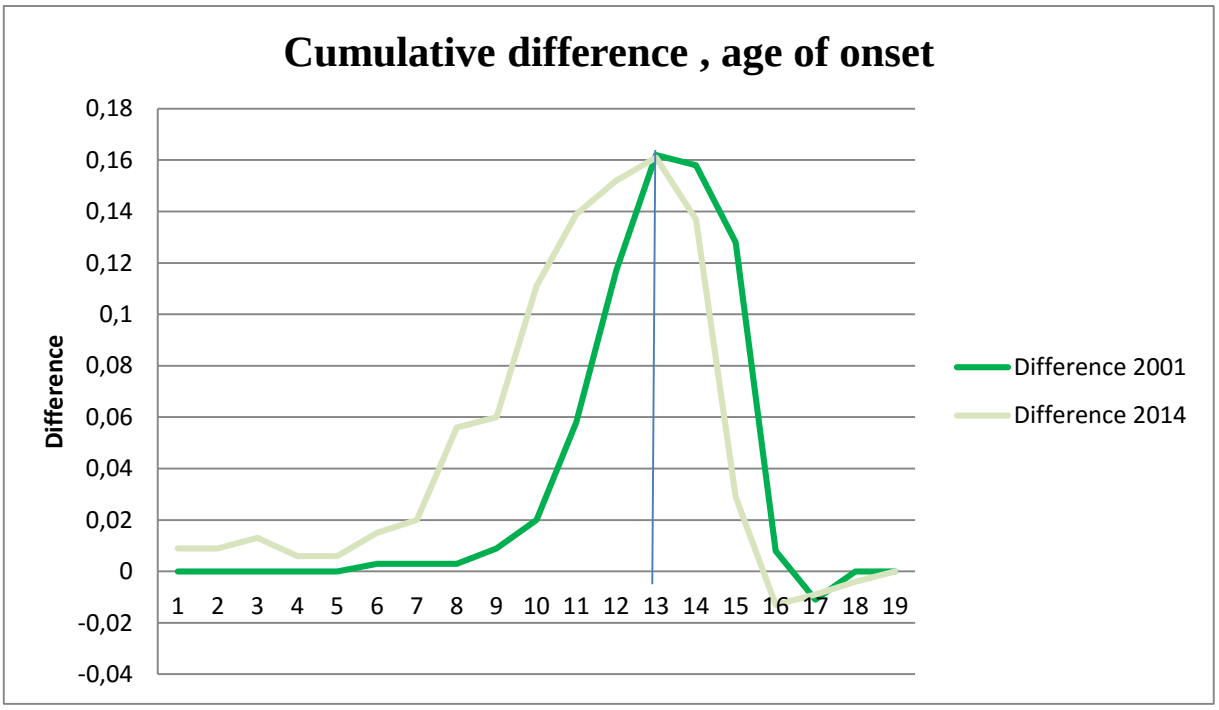
Comparison:

Male drinkers continue to start drinking earlier than female drinkers, and the time gap has even increased: from 8 months to 10 months of difference.

However, both ages of onset have sharply dropped, from almost 2 years among the new generation drinkers. 2014 female drinkers have –on average- had their first glass earlier in their life than 2001 male drinkers.

The minimum age of onset has dropped for both male and females: in 2001, 1.8% of the female sample had had their first experience of alcohol when they were 14 or younger. In 2014, this population of drinkers constituted 14.2% of the sample which would be much higher than the 2001 male proportion (3.8%)

Drawing an unquestionable assessment over the convergence or divergence of the age of onset over time is intricate: if general indicators suggest a widening of the differences such as the comparison in cumulative age of onset, represented by the hereunder charts showing greater differences which can be computed via:



However, compared to 2001, the proportion of male drinkers who drank their first glass aged of 16 or earlier has more than doubled, from 22.4% to 48.4%. As for the females, the increase is even sharper as the proportion has jumped from 10.7% to 33.2%

In other words, more than a similar (and strong) evolution in their age of onset towards a younger first experience and the last figure suggests, looking at certain age thresholds suggests a narrowing down in the difference as the female proportion increases at a higher pace than male's.

Indeed, the overall widening is actually mostly triggered by males being much more than female (relatively speaking) to drink before 13 year old than in the previous studies, and past the age of 13, if boys still are more to start drinking than females, the difference is much smaller than in 2001.

5.3 Frequency

In terms of frequency in their alcohol consumption, in 2001 when the question was raised, respondents had several options:

1- Once a month or less
2- 2/3 times a month
3- 1 or 2 times a week
4- 3 to 4 times a week
5- Almost every day
6- Other
9- Does not know

2001 male drinkers

Out of 317 interviews, 19.2% declared drinking once or less a month (1), 40.1% answered 2 to 3 times a week (2), 29% declared drinking once or twice a week, 8.5% and 2.8% respectively answered 3 to 4 times a week and almost every day.

2001 female drinkers

As far as female drinkers were involved, the following patterns could be inferred: 24% declared once or less per month (1), 45.8% answered 2 to 3 times a week (2), 22.5% answered once or twice a week (3), 5.1% answered 3 to 4 times a day and 2.2% answered drinking almost every day.

Comparison 2001:

1- In 2001, female drinkers were more represented than males in the lowest frequencies "Once or less per month" and "2 to 3 times a week" and outnumbered males by 25% and 14.2% respectively.
2- However, as soon as drinking occurs once or more per week, males are proportionally more (from 21% to 40%) represented than females.

In 2014, the same question was asked, yet the possible answers had been slightly modified:

1- Didn't drink at all in the last 1 year
2- Once or less a month
3- Around once a month
4- 2 to 4 times a month

5- 2 to 3 times a week
6- 4 times or more a week

In order to gain consistency with the 2001 survey:

1- The answers (2) and (3) are aggregated into a broader one, similar to "once or less per month"
2- The people who answered (1), "did not drink at all in the last year" are a source of inaccuracy, from the 2001 dataset people who answered "to almost never drink" were not considered in the analysis. It is yet not irrelevant to assume that this category and the category "did not drink at all in the last year" may overlap, but it is impossible to figure this out precisely as no timeframe is provided in first survey:

Therefore, these respondents will be removed from the sample for this question as well as the following as they do not provide insights for these questions. An alternative option would have been too include them in the "once or less per month" category in the 2014 survey with the consequences of blurring and overestimating this category, as well are reducing the comparison accuracy by adding another way of sorting than in 2001.

A second option would have been to leave this category untouched with a resulting underestimation of the population in relative terms to the other categories (which would not have had dramatic consequences as this paper focuses mostly on analysing the evolution of the differences between 2 samples from the same year), but for comparability and consistency sake this option has not been chosen.

2014 male drinkers:

13.3% of male respondents declared they have not drunk alcohol over the last year (1), whereas 24.4% said they drink once a month (2) or less and 15% drink once a month (3) 33.8% declared to drink 2 to 4 times a month (4) and 12.8% 2 to 3 times a week (5) but only 0.4% drink 4 times or more a week (6).

Hence, while removing the respondents who haven't been drinking over the last year, 45.6% of the sample drinks once a month or less, 39% 2 to 4 times, 14.9% 2 to 3 times a week and 0.5% drinks 4 days or more per week.

2014 female drinkers

Similarly, 32.4% of the 2014 female sample answered (2) and another 17.4% answered (3), which, On top of this figure, 11.9% said they haven't drunk during the last year. 25.7% of respondents said they drink 2 to 4 times a month (4) and 10.3% drink 2 to 3 times a week (5). 2.4% drink 4 times or more every week.

Therefore, after aggregating and correcting the data, 56.5% drinks once a month or less, 29.1% drinks 2 to 4 times a month, 11.7% 2 to 3 times a week while 2.7% drinks 4 times a week.

1- Similarly to the previous survey, females outnumber males when drinking happens once a month or less often, by roughly 24% and 25% in 2001. However, the proportion of males and females in this category has sharply increased as males jumped from 19.2% to 45.6% while females' representation rose from 24% to 56.5% of the total female sample.

2- In the case of drinking occurring 2 to 4 times a month, males are much more represented than females (by 25%), the same trend can be observed for the "2 to 3 times a week" frequency, where males are 21.5% more than females.

3- As for the people drinking 4 times a week or more, close to "almost every day" females are much more represented than males, which is a major change compared to 2001.

Trend over the surveys:

Overall, in both generations, at the exception of the highest frequency where females now outnumbers males, female drinking is more prevalent at the lowest frequencies. Because of the lack of consistency in the questions asked, it is impossible to compare with accuracy an evolution in the threshold where the ratio becomes positive in favour of males. However, what can be observed is a major increase in the proportion of respondents declaring to drink once a month or less, both for males and females: proportions are more than twice as what they were. The ratio male/female among those drinkers has remained steady at 0.80 in 2014 and 2001.

Given the fact that half of the sample is concerned by this evolution, this observation has major implication. If both males and females have undergone a similar trend, it has not led to a convergence.

To further investigate the notion of convergence, it is central to compare common indicators in both the 2001 and 2014 surveys.

The first one to be used is based on the relative differences in the male and female difference relative difference, expressed in % of males for each drinking frequency, which are weighted depending on the proportion of both males and females involved in each frequency and added up. A major advantage of this method is that categories of answers do not need to be the same among the 2 generations of survey to get a relevant outcome. The higher this number, the more differences in terms of sex based repartition among frequencies.

This calculation[1] gives a result of 0.41 for the 2001 survey and 0.61 in 2014, suggesting a closer repartition between males and females in the former. Also, because the data used for the 2001 survey includes one more category than in the 2014 one, the gap might even be a little underestimated. However, given the small proportion of the population involved (2.8% of the males and 2.2% of the females), the actual impact of this category on the final outcome is weak.

A second indicator can be constructed using the ratio male/female (in absolute terms rather than relative) and consists in subtracting the observed ratios to 1 (in absolute value), and to weight them, depending on the proportion of the sample related to each category or frequency, and finally to add them up. Again, the highest this number, the largest the gender based differences. The goal is not to measure an average (hence the absolute value) but to gain a vision of the variations and discrepancies between male and female drinkers repartition in terms of drinking frequencies.

The calculation gave this indicator, which could be called the "weighted ratio spread" (see appendix), a value of 0.44 in 2001 and 0.52 in 2001 suggesting again a greater dispersion in 2014 than in 2001.

Therefore, rather than convergence the findings tend towards a divergence in terms of frequency over the period of time analysed.

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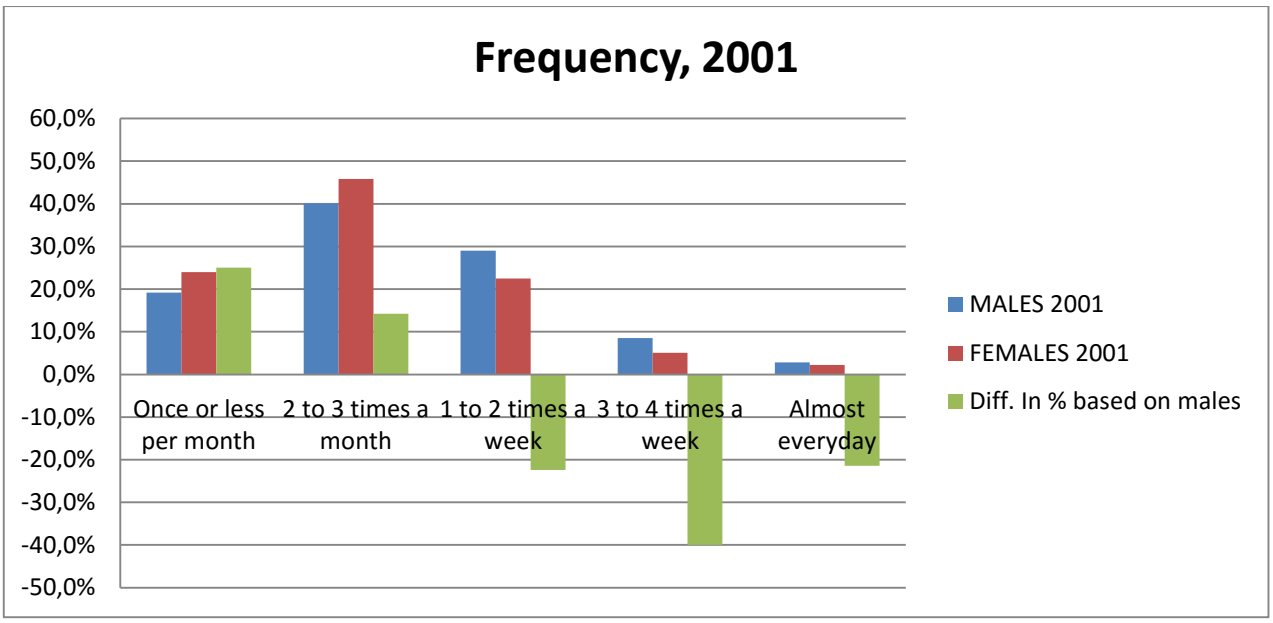
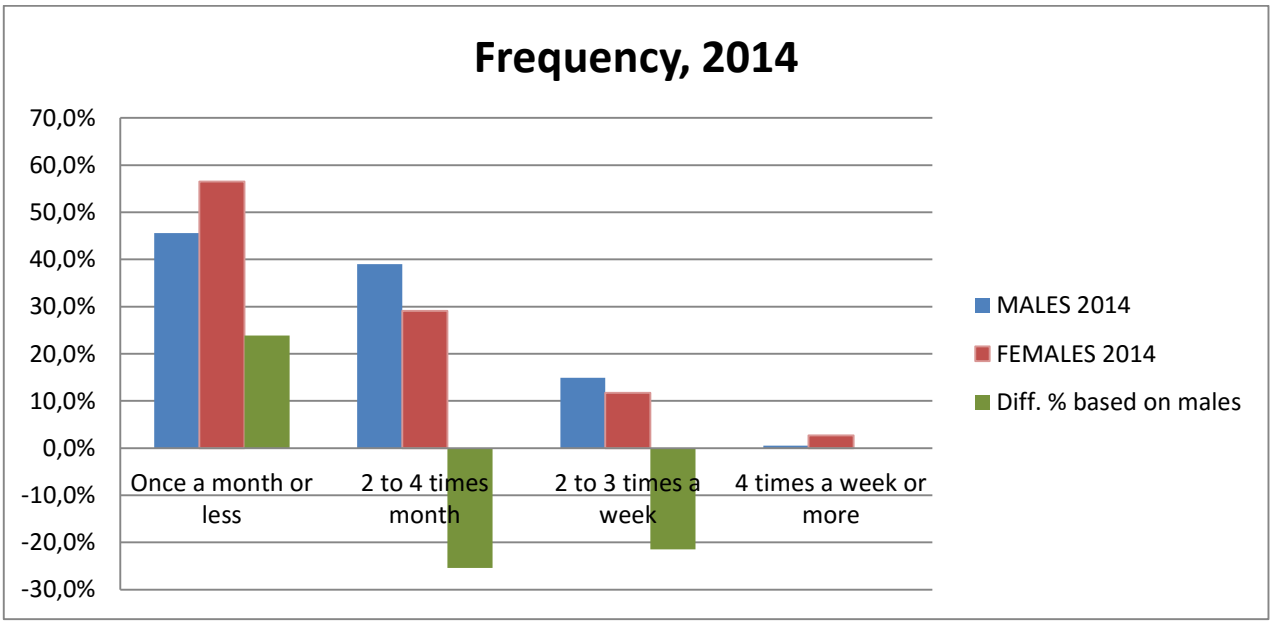
[1]: *See table 13 in appendix*


Frequency, 2001
60,0%
50,0%
40,0%
30,0%
20,0%
10,0%
0,0%
-10,0%
-20,0%
-30,0%
-40,0%
-50,0%
Once or less per month
2 to 3 times a month
1 to 2 times a week
3 to 4 times a week
Almost everyday
MALES 2001
FEMALES 2001
Diff. In % based on males


Frequency, 2014
70,0%
60,0%
50,0%
40,0%
30,0%
20,0%
10,0%
0,0%
-10,0%
-20,0%
-30,0%
Once a month or less
2 to 4 times month
2 to 3 times a week
4 times a week or more
MALES 2014
FEMALES 2014
Diff. % based on males

5.4 Quantity

In 2001, on the question of the quantity drunk at once, respondents were given the choice among the following answer:

1- Around 1 and 2 shots of soju (1 or less bottle of beer)
2- 3 to 4 shots of soju(2 bottles of beer, 3 glasses of liquor)
3- 5 shots of soju (3 bottles of beer, 5 glasses of liquor)
4- 1 bottle of soju (4bottles of beer, 6 glasses of liquor)
5- 2 bottles of soju (8 bottles of beer, 12 glasses of liquor)
6- 3 bottles of soju (12 bottles of beer, 18 glasses of liquor)
7- Does not know

In 2014, respondents were given the following set of answers:

1- 1 to 2 glasses
2- 3 to 4 glasses
3- 5 to 6 glasses
4- 7 to 9 glasses
5- 10 or more
6- Not applicable

In this survey one glass is considered as equivalent to a glass of liquor or a shot of soju, hence the quantity is similar than in the 2001 survey.

Given the light differences in the answer set, in order to get a comparable data, we can aggregate the following variables:

- Questions (3) and (4) from the 2001 survey to get an outcome equivalent to the question (3) in the 2014 survey, namely "5 to 6 shots of soju"
- To the 2001 survey's questions addition of (5) and (6) can be compared to the addition of questions (4) and (5) from the 2014's survey. Namely, we would assimilate 2 bottles of soju or more to people drinking more than 7 glasses. There will be an margin error, but dealing with the upper limit which ,in 2001, only involves a few people of the sample

2001 male sample:

To those questions, 11,7% percent of the male drinkers answered (1), 23.3% answered (2), 16.7% answered (3) while the largest proportion, representing 36% of the sample declared drinking 1 bottle of soju (4), **hence the proportion of male drinkers drinking between 5 and 6 glasses is of 52.7%.** Another 10.4% would drink 2 bottles (5) while 1.9% would drink 3 bottles of soju (6).

The mean of the sample is 3.16, namely 5 shots of soju with a moderate standard deviation of 1.276.

2001 female sample:

As far as females were concerned, 31.3% of the sample answered around 1 or 2 shots of soju (1), 28.7% answered 3 to 4 shots (2), 18.9% 5 shots of soju (3), 16% answered they drink the equivalent of 1 bottle of soju (4), **resulting in 34.9% of the sample drinking between 5 and 6 glasses** of soju when 4.4% declared drinking 2 bottles (5) and 0.7% drink 3 bottles of soju.

The mean of the sample is 2.36 meaning that the average female drinker would drink between 3 to 4 shots of soju, which can be also be considered as the equivalent of 2 bottles of beers.

2014 mal sample:

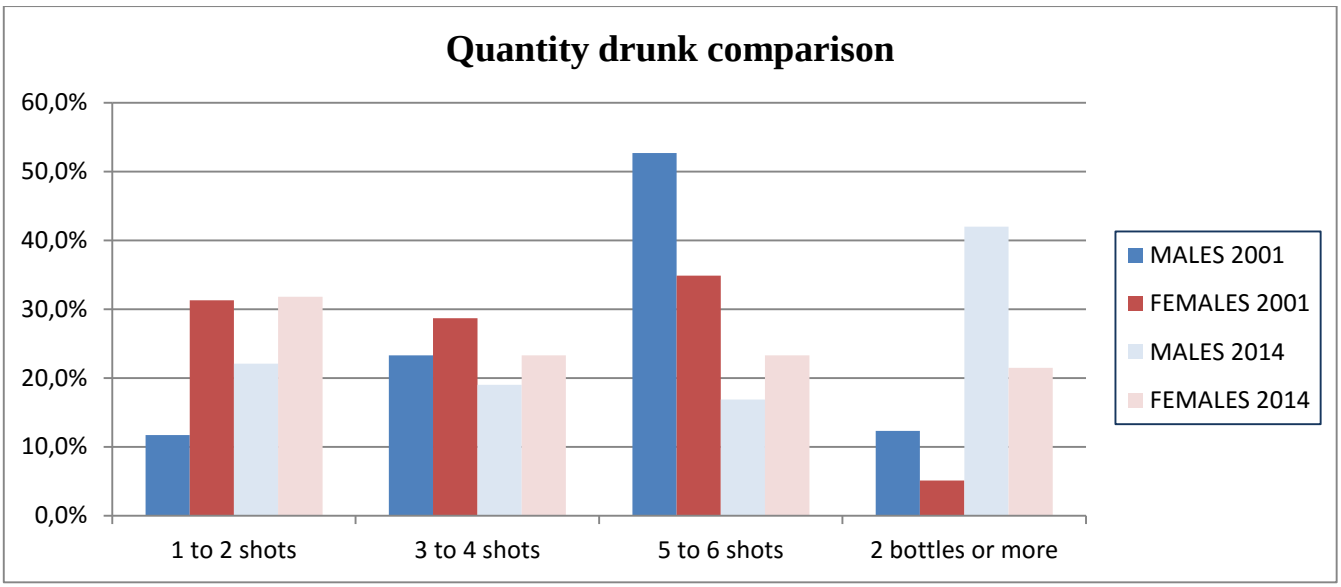
Some of the data from the 2014 male sample were impossible to exploit as they were left blank, therefore for this question, the size of the sample has been reduced to 195 respondents. Out of them, 22.1% answered (1), 19% answered (2), 16.9% answered (3) while 17.9% and 24.1% answered respectively (4) and (5), therefore the proportions of males drinking more than 2 bottles is of 42%.

The mean of the sample is 3.03, namely 5 to 6 glasses and the standard deviation of 1.492

2014 female sample:

As for the female drinkers, out of the 253 respondents, 30 were to be removed from the sample as they did not provide any answer. Among the remaining respondents, 31.8% answered (1), 23.3% answered (2), 23.3% answered (3) while 8.5% percent answered (4) and 13% answered (5), **hence 21.5% of the sample drink 2 bottles or more.**

Comparison:



The presented chart gives a visual approach on the quantities drunk by the various population sampled

"1 to 2 shots"

Over the 2 periods, the female proportion has remained rather stable whereas males' proportion has doubled from 11.7% in 2001 to 22.1% in 2014.
Therefore, the male/female ratio for this quantity has evolved from 0.37 to 0.69 meaning that the gap narrowed. However, this category remains dominated by female drinkers.
Also, rather than an evolution in females drinking patterns, it would be more to accurate to explain this converging pattern through a male drinkers' behaviour change.

"3 to 4 shots"

Unlike the previous category, the male/female ratio has remained steady around 0.81 meaning that as in 2001, a female is more likely to drink 3 to 4 shots when drinking than a male.

A decrease in the proportion of both males and females in this category has been observed. Therefore, if there is no direct convergence in the sense that the gap is not narrowing down, both drinking patterns evolve in the same the direction, at similar pace, as males proportion has decreased by 18.5% when females' has by 18.81%.

Overall, when quantities ranging from 1 shot to 4 shots are involve, the findings suggest closer patterns.

"5 to 6 shots"

In 2001, this category gathered the most respondents, situation which is no longer true in 2014. The nature of the population following this drinking quantity has evolved a lot too.
Whereas in 2001 the male/female ratio was as high as 1.51, it has been divided by more than 2, down to 0.72 in 2014.
This evolution is mostly due to the sharp decline in the male proportion of respondents in this category which has declined from 52% of the male sample to a mere 16.9%, as far as females are concerned, the proportion has decreased from 34.9% to 23.3%.
If this result, namely an inversion of the male/female ratio over 1 generation is significant, it is caused to a larger extent by a change in males drinking patterns rather than women's.

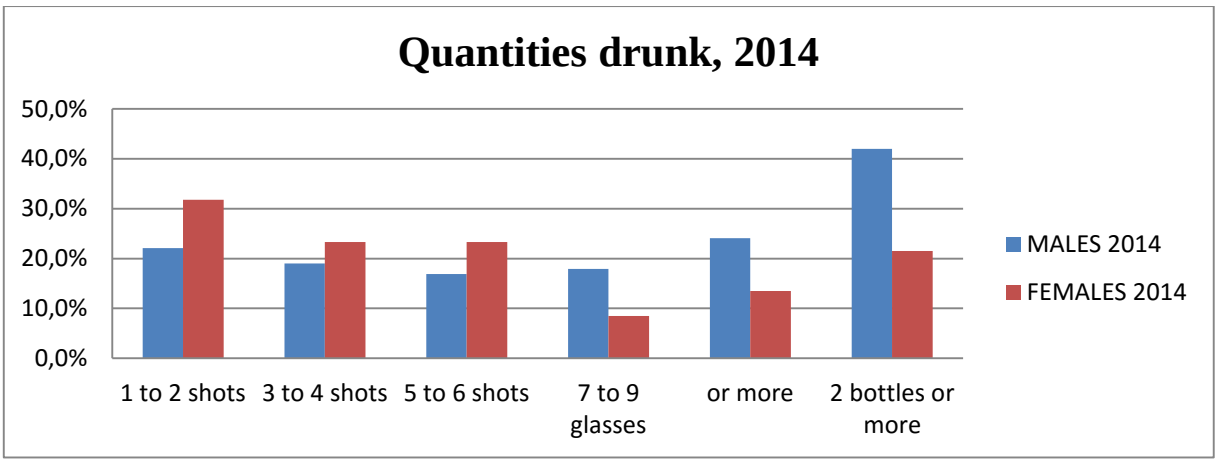
It is non questionable that the ratio is closer to 1 in 2014 than in 2001, suggesting a certain convergence, however the evolution seems rather brutal and triggers drinking behaviour still very different.

"2 bottles or more"

The proportion of males drinking more than 2 bottles of soju has skyrocketed, from 12.3% of the total male sample to 42% which represents an increase of 240% while female's proportion has been multiplied by 4. Therefore, the male/female ratio has decreased and got closer to 1 (from 2.41 to 1.95) but remain largely dominated by males.

In the light of these figures, it seems logical to assume that a "transfer" phenomenon from to previous category (5 to 6 shots) to this one has occurred.

However, because of the aggregate variable which has been used, there is a lack of precision for the last category, in the sense that there is no intermediate measurements between 2 bottles and 3 bottles for the 2001 survey whereas there is one in 2014, in other words after the 6^{th} glasses there is no common measuring unit:
In the case of the first survey, a consumption of 9 glasses can be either considered as 1 bottle or 2 bottles, yet most likely 2.
Therefore by considering people drinking 7 or 9 glasses as 2 bottles drinkers, the figure for the "2 bottles" category in 2014 might be overstated as 17.9% of the male respondent declared drinking 7 to 9 bottles, as shown in the chart below.



This being said, the male/female ratios among the last categories in the 2014 survey tend to follow a similar pattern among both the raw measures, a ratio of 2.10 in case of the "7 to 9 shots" and 1.78 for "more than 9 shots" and the aggregate ones which reaches 1.95 for "more than 2 bottles", which is in any case lower than the ratio of 2.14 observed in 2001.

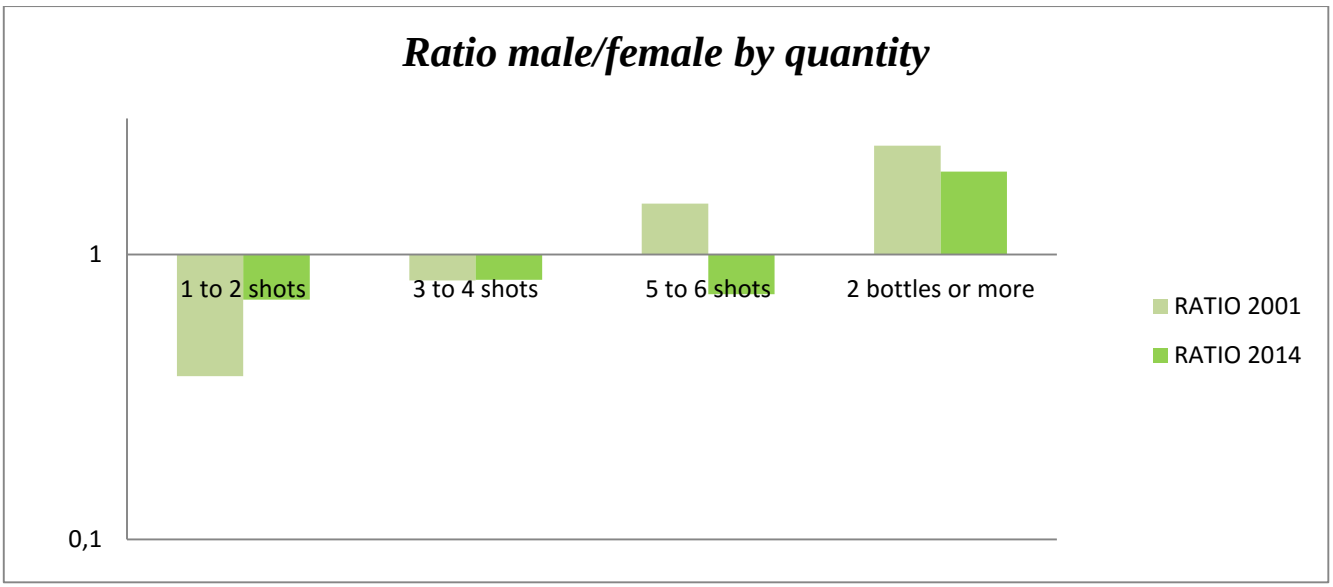
What can be inferred from the data is a sharp increase in quantities drunk by both males and females: in 2001, 87.7% of males and 94.9% of females drank 6 shots or less whereas they were only 58% and 78.4% respectively in 2014.

The "weighted ratio spread" used in the previous chapter can be used again as a syncretic indicator to grasp an idea of the gender ratio evolution over the two surveys. Computations[1] show a score of 0.94 in 2014 taking in consideration all the categories and 0.96 when using the exact same categories as in 2001 through the aggregate variables while the same the indicator reaches 1.06 for the 2001 data.

Therefore, despite the existence of a gap, namely males drinking larger quantities than female, there are strong clues pointing towards convergence. If female drinkers behaviours have evolved and gets closer to those of males for the largest quantities, the observed convergence can also be explained by a change in male drinkers' habits:

Whereas drinkers who used to drink between 5 and 6 shots represented the majority of the sample in 2001, they belong to a minority in 2014. Male drinkers either drink much less: 1 to 2 shots or more to an extent which has nonetheless to be taken with care, given diverging measurement standards which makes it impossible to build on more in-depth analysis.

[1]*: see table 14 in appendix*



**Logarithmic base*

5.5 Perception and criticisms

This question may give a hint on perception of drinking in the Korean society for young drinkers. It may also be explanatory tool in the consumption behaviours: a more lenient society and therefore less critical could foster heavier drinking whereas a society in which drinking is disregarded, based on gender for example, may explain to some extent moderate alcohol consumption.

In 2001, respondents had the choice between 4 answers to the question of them having been criticized for their drinking.

1- Yes
2- No
3- N/A
4- Does not know or no answer

2001 female drinkers

Among the female sample, 6.9% of the respondents declared “yes” while 89.8% answered “no” while the difference corresponds to unusable data.

Among the 6.9% percent who declared having undergone critics for their drinking, 84.3% are 18 or older and 84.2% declared they usually drink 1 bottle of soju or less while 94.7% of them usually drink 3 times a month or less.

2001 male drinkers

As for the males of the sample 12.3% answered “yes” to this question and 2.5% did not answer, as for the rest of the sample, they answered “no”. Among those who received critics, 89.7% of them are 18 or older. I(this however does not reflect the age they got criticized). The exact same proportion declares not to drink more than 3 times a month while 92.3% of male who underwent criticisms do not drink usually more than 1 bottle of soju.

As for the 2014 survey, the closest question asked was whether they got advised to drink less either from their family or doctors. The options were the following:

1- Never
2- I have in the past, but not in the last year
3- I have, in the last year
4- N/A

5- No reply

Despite a greater accuracy for this set of answers, aggregating answers (2) and (3) can give similar variable than the one used in the 2001 survey.

2014 female drinkers:

If 2.8% and 6.3% respectively answered (2) and (3), 24.5% of the sample is not usable as considered as "Not Applicable". By cross tabulating these data, it appears that all respondents under 18 were automatically excluded from the survey.

From the respondents who got criticisms, 43% declared they usually drink 1 bottle or less while 47% declared they drink once a week or less, also meaning that 57% of them drink more 1 bottle while more than half drinks more than once a week.

2014 male drinkers:

As for the 2014 male sample, 50.2% answered "no", 8.6% answered they have already been criticized while 40.9% were excluded from the survey as they were under 18.

Among these the drinkers who got criticized, 30% declared they usually drink 1 bottle or less while 65% drink once a week or less.

Comparison:

As for the 2001 survey, people who received criticisms tend to drink with a very similar pattern and thus, no matter the sex, in terms both of quantity and frequency: less than 3 times a month and no more than 1 bottle of soju. Despite this shared behaviour, male drinkers were twice as more likely to receive critics based upon their drinking.

With the 2014 survey, the question is not exactly similar and some respondents' answer could not be taken into account both among males and females, yet the results differ quite a lot from the previous survey.

First, the proportion of people who got advised to drink less is close: 8.6% among males and 9.1% among females. Second, among those people, the frequency of drinking is much higher than the drinkers asked in 2001 which were less than 10% to drink more than 3 times a month, whereas 35% of males and 53% of female drink more than once a week.

Third, in terms of quantity, only 30% of males who underwent criticisms and 43% of females drink 1 bottle or less whereas they were more than 90% to do so 13 years earlier.

Hence, if the overall difference among sexes in terms of criticisms received has sharply decreased suggesting a convergence, however a deeper look reveals that in 2001 criticized drinkers had similar patterns but undergone different scales of tolerance depending on their gender (more lenient for females). In 2014, the threshold to get criticisms is much higher for both males and females both in terms of frequency and quantity. However, details suggest that males who get criticisms are most likely to drink larger quantities but no necessarily to drink more often than before. Females are more likely to drink more often than males, yet their consumption is likely to be smaller than those of males.

In those conditions, talking of narrowing or widening of the gender gap is complicated. What can be inferred is however that drinking is more accepted and tolerated than before, but that the threshold triggering criticisms follows diverging trends. Yet, overall the proportion of males and females being criticized for their drinking behaviours has decreased and narrowed down.

CONCLUSION

6.1 Summary

The purpose of the research was to determine whether drinking behaviours among young males and females in Korea had converged over a 13 years period of time or not, by comparing data from 2001 and 2014.

Drinking patterns were decomposed in several items such as the age of onset, the abstinence rate, the frequency and quantity of drinking and eventually negative perceptions due to alcohol consumption which were separately analysed for both males and females in both data set.

To investigate the idea of convergence, namely closer drinking behaviours in terms, comparing raw figures if insightful was not enough, it was more significant to analyse the evolution of the differences among males and females for each category mostly in terms of sample distribution and male/female ratio, requiring for some of them to create of additional indicators.

The data used originated from the KHNANES, a Korean run state national survey database, for the years 2001 and 2014. The analysis made for this paper involved respondents aged between 12 and 24 at the time they answered the survey.

In terms of abstinence rate, in this paper the proportion of the initial sample to have already experienced alcohol at the time of the survey, both in 2001 and 2014 males and females behaviours were close and followed a similar trend towards greater proportions, which can mostly be linked to an earlier age of onset. In 2014, data suggests females to have a slightly greater likelihood to have experienced alcohol than males. However this outcome has to be taken with care as, first the gap is small and second, the female sample is a bit older than the male one. Yet, a deeper analysis has proven that the age criteria in this particular research has only little impact for males as the age of onset is far younger than the average age of the sample. **Overall, a narrowing down of the gap has occurred.**

In regards to the age of onset, very interesting patterns emerge. Both males and females start drinking much earlier than before, and overall if the average gap has increased in favour of males, it is mostly triggered by them being more numerous to drink at (very) early ages as the differences in cumulative age of onset undergoes a faster decrease in 2014 than in 2001 for respondents who started drinking after 13 and who represent more than 80% of the 2014 sample therefore, if an

unquestionable trend can't be drawn and if any interpretation can be challenged, **the report suggest overall converging patterns too.**

As far as frequencies are concerned, the general picture has remained unchanged: female drinkers are more represented in the lowest frequencies whereas male drinkers are more likely to engage in more frequent drinking, at the exception of the highest frequency where females outnumbers males in 2014 which was not the case in 2001. Another significant outcome is the sharp and equal increase in the proportion of respondents claiming to drink once a month or less. A possible explanation may be the younger age of the 2014 samples, in the sense that younger drinkers may have fewer opportunities to drink alcohol than older drinkers (legal drinking age barrier, presence of parents…). Overall, the research has shown the distribution to be wider spread and less homogeneous among the 2 sexes in 2014 **suggesting a divergence rather than a convergence in frequencies of drinking.**

Data dealing with quantities drunk at once offer an **unquestionable trend towards closer drinking patterns,** the ratio male over female either remains steady or gets closer to 1 for each set of variables. Yet, explanations can be found in news behaviours among both females and males. It is very clear that 2014 young males and young females drink much more than in 2001.

Lastly, in terms of perceptions and criticisms, the outcome is contrasted: the overall proportions of interviewees being advised to drink less has become similar among females and males, yet the drinking patterns leading to it are wider than before suggesting social tolerance thresholds increasingly different.

Given the various analyses made in this paper it appears impossible to provide a simple and unquestionable answer to the question of converging drinking patterns. First, if similar trends were observed in most categories, they do not lead necessarily to converging behaviours, namely because of sometimes very different paces in their evolution. Second, if most indicators suggest converging drinking patterns between males and females, not all of them do so and when zooming in different sub-categories for each indicators, some (a minority though) point towards different directions. Yet, from a general perspective, it can be said that drinking behaviours tend to converge over the 2 periods observed in the paper.

6.2 Implications

One of the main ideas justifying this paper lied in evidences collected over various studies that drinking behaviours engines and explanations were much more likely to be found among sociological causes than biological ones, namely embodied by gender roles and related social behaviours. Values, expectations and norms based upon gender would in the end determine to a large extent drinking behaviours differences.

However, social norms and values are socially constructed and are therefore subject to changes and evolutions over time. The hypothesis is that, with females gaining greater access to education, to working positions and more generally to a social status closer to those of males, gender expectations and differences would get closer reducing the traditional barriers among female and male status and social positions as well as the gap in their drinking behaviours.

The paper here showed overall evolutions pointing towards converging drinking behaviours among young males and females, and so have research in the United States or some Western European countries.

In other words, the outcome of the research may suggest at narrowing down in gender roles and traditional gender values in Korean society, embodied by its new generation. Alcohol consumption is often a matter of large differences between males and females and reflects how traditional or at least distinct the barrier with regards gender expectations is. Hence, one could argue the narrowing down of drinking behaviours among females and males to be a symptom of an increasingly liberal and modern society, where females and males roles and expectations in the society are if not merging getting closer, symbolizing a society in with fewer predetermination and social constraint merely due to one’s gender.

6.3 Limitations

The biggest limitation encountered when writing the paper was the lack of consistency among the answer set for some variables. In some cases aggregate variables were able to make up for the differences with accuracy, for others a lack of precision was inevitable and in some case complicate to assess.

Another limitation may have been the sample constitutions as some of their characteristics were slightly different from the first survey to the second 13 years later such as the average age of the respondents. Even though cross-tabulating variables have shown the consequences to be of little impact, those discrepancies may have had some consequences on the final outcome. Therefore, statistical significance computations may have added up to the accuracy or impact of some results.

Lastly, due to language constraints my access to Korean papers was limited to those which have been translated into English.

6.4 Further research

The present study opens the door to several interpretations and research, it would very interesting to explore the females' drinking patterns and the influence of feminism thoughts in Korea. Given the importance of the gender role in drinking behaviours and their predictability, linking these two parameters may lead to interesting results, in particular in a society where social norms and gender expectations are changing at a high pace.

Second, exploring similar indicators and comparisons for an equivalent sample in a couple of years when most of the sample will have gained access to the job markets and potential active positions in the Korean society may be of high interest to understand the extent to which social and economic status can influence drinking behaviours and their evolutions among females and males.

Lastly, if this paper provides some insights and suggestions, carrying out similar research with larger samples on a regular basis so as to have reliable and comparable data set over time may be of a great interest to gain a greater understanding of the trends and drinking behaviours among Korean youths.

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APPENDIX

<Table 1> KNHANES Studies

Source: https://knhanes.cdc.go.kr/knhanes/eng/index.do

	KNHANES I (1998)	KNHANES II (2001)	KNHANES III (2005)	KNHANES IV (2007–2009)	KNHANES V (2010–2012)	KNHANES VI (2013–2015)
Survey period	Nov–Dec 1998	Nov–Dec 2001	Apr–Jun 2005	Jun–Dec 2007, Jan–Dec (2008–2009)	Jan–Dec (2010–2012)	Jan–Dec (2013–2015)
Sample sizes						
Number of target regions	200	200	200	500	576	576
Number of target housholds per region	22~24	22~24	22~26	23	20	20

<Table 2> 2014 sample, age and experience of alcohol crosstabulation

			9	10	11	12	13	14	15	16
(만12세이상) 평생음주경험/Experience of drinking	HAS NEVER HAD ALCOHOL	Count	0	0	0	60	73	64	60	45
		% within 만나이/age	0,0%	0,0%	0,0%	90,9%	90,1%	83,1%	80,0%	60,8%
		% within (만12세이상) 평생음주경험/Experience of drinking	0,0%	0,0%	0,0%	5,9%	7,2%	6,3%	5,9%	4,5%
	HAS HAD SOME	Count	0	0	0	6	8	13	15	29
		% within 만나이/age	0,0%	0,0%	0,0%	9,1%	9,9%	16,9%	20,0%	39,2%
		% within (만12세이상) 평생음주경험/Experience of drinking	0,0%	0,0%	0,0%	0,1%	0,2%	0,3%	0,3%	0,6%
	NOT APPLICABLE	Count	93	82	75	0	0	0	0	0
		% within 만나이/age	100,0%	100,0%	100,0%	0,0%	0,0%	0,0%	0,0%	0,0%
		% within (만12세이상) 평생음주경험/Experience of drinking	9,6%	8,5%	7,7%	0,0%	0,0%	0,0%	0,0%	0,0%
	NO ANSWER	Count	0	0	0	0	0	0	0	0
		% within 만나이/age	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
		% within (만12세이상) 평생음주경험/Experience of drinking	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Total		Count	93	82	75	66	81	77	75	74
		% within 만나이/age	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%
		% within (만12세이상) 평생음주경험/Experience of drinking	1,3%	1,2%	1,1%	1,0%	1,2%	1,1%	1,1%	1,1%

<Table 3> KOSTAT, employment ratio

(Employment-population ratio)
In 2014, the employment-population ratio for the youth aged 15 to 29 was 40.7 percent, up 1.0%p from 2013.

【 Employment-population ratio for the youth aged 15 to 29 】

(Unit: thousand persons, %, %p)

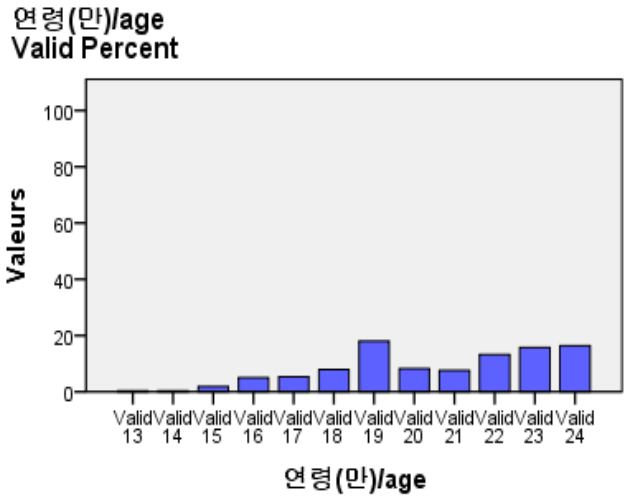
	Population aged 15 to 29	Employed persons	Employment-population ratio[1)]	Change from the previous year
2000	11,243	4,879	43.4	-
2005	9,920	4,450	44.9	-0.2
2010	9,705	3,914	40.3	-0.2
2011	9,589	3,879	40.5	0.2
2012	9,517	3,843	40.4	-0.1
2013	9,548	3,793	39.7	-0.7
2014	9,503	3,870	40.7	1.0
15 to 24	6,223	1,604	25.8	1.6
25 to 29	3,280	2,266	69.1	0.3

Source: Statistics Korea, 「Annual Report on the Economically Active Population Survey」

<Table 4> 2001 male sample, age repartition

연령(만)/age

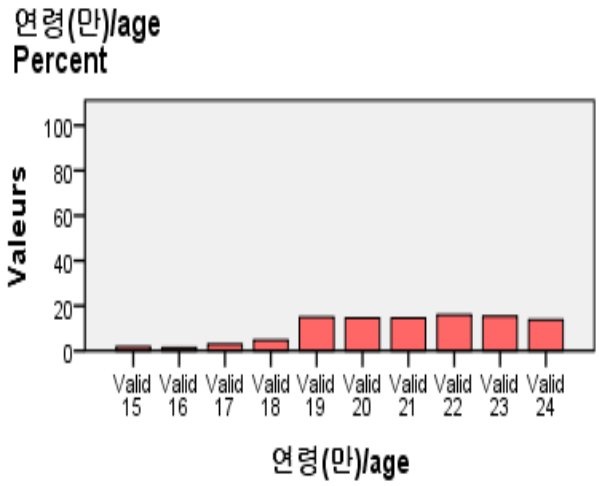
		Frequency	Percent	Cumulative Percent
Valid	13	1	,3	,3
	14	1	,3	,6
	15	6	1,9	2,5
	16	16	5,0	7,6
	17	17	5,4	12,9
	18	25	7,9	20,8
	19	57	18,0	38,8
	20	26	8,2	47,0
	21	24	7,6	54,6
	22	42	13,2	67,8
	23	50	15,8	83,6
	24	52	16,4	100,0
	Total	317	100,0	



<Table 4> 2001 female sample, age repartition

연령(만)/age

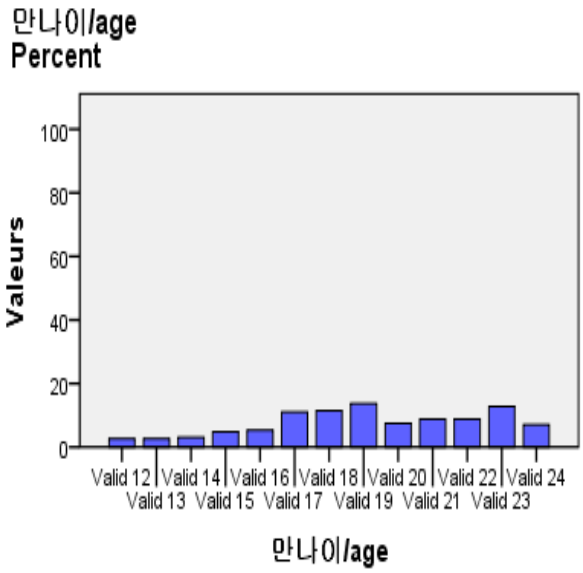
		Frequency	Percent	Cumulative Percent
Valid	15	5	1,8	1,8
	16	4	1,5	3,3
	17	8	2,9	6,2
	18	13	4,7	10,9
	19	41	14,9	25,8
	20	40	14,5	40,4
	21	40	14,5	54,9
	22	44	16,0	70,9
	23	42	15,3	86,2
	24	38	13,8	100,0
	Total	275	100,0	



<Table 6> 2014 male sample, age repartition

만나이/age

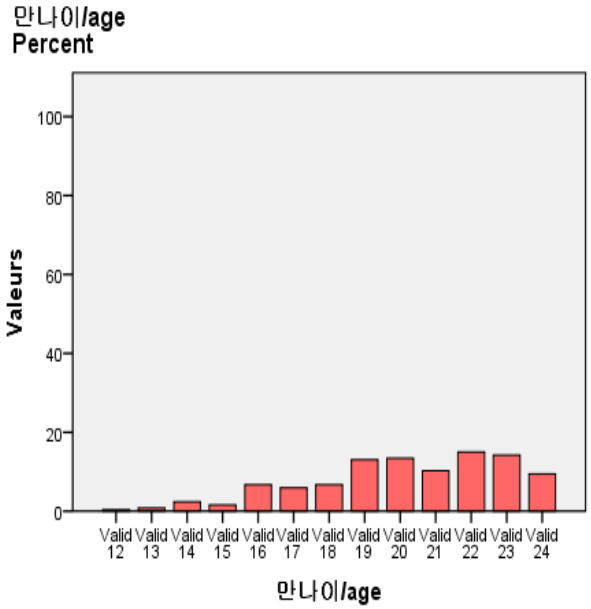
		Frequency	Percent	Cumulative Percent
Valid	12	6	2,7	2,7
	13	6	2,7	5,3
	14	7	3,1	8,4
	15	11	4,9	13,3
	16	12	5,3	18,6
	17	25	11,1	29,6
	18	26	11,5	41,2
	19	31	13,7	54,9
	20	17	7,5	62,4
	21	20	8,8	71,2
	22	20	8,8	80,1
	23	29	12,8	92,9
	24	16	7,1	100,0
	Total	226	100,0	



<Table 7> 2014 female sample, age repartition

만나이/age

		Frequency	Percent	Cumulative Percent
Valid	12	1	,4	,4
	13	2	,8	1,2
	14	6	2,4	3,6
	15	4	1,6	5,1
	16	17	6,7	11,9
	17	15	5,9	17,8
	18	17	6,7	24,5
	19	33	13,0	37,5
	20	34	13,4	51,0
	21	26	10,3	61,3
	22	38	15,0	76,3
	23	36	14,2	90,5
	24	24	9,5	100,0
	Total	253	100,0	



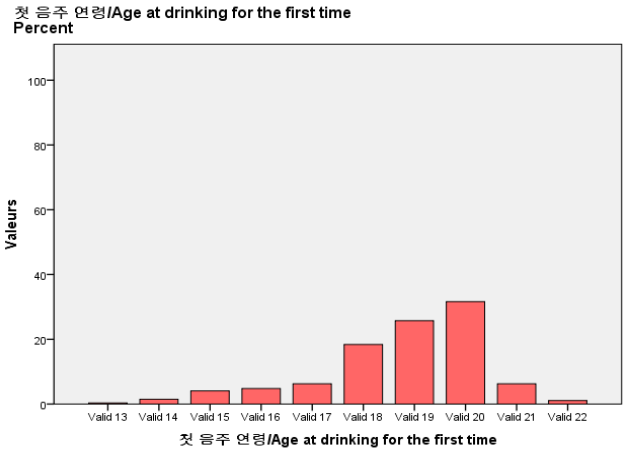
<Table 8> cumulative age of onset reparitions

	A	B	C	D	E
1	AGE OF ONSET				
2					
3					
4	AGE	Cum. Male 2	Cum. Female 2001	Cum. Male 2014	Cum. Female 2014
5	5	0	0	0,009	0
6	6	0	0	0,009	0
7	7	0	0	0,013	0
8	8	0	0	0,018	0,012
9	9	0	0	0,022	0,016
10	10	0,003	0	0,031	0,016
11	11	0,003	0	0,044	0,024
12	12	0,003	0	0,084	0,028
13	13	0,013	0,004	0,147	0,087
14	14	0,038	0,018	0,253	0,142
15	15	0,117	0,059	0,356	0,217
16	16	0,224	0,107	0,484	0,332
17	17	0,331	0,169	0,596	0,435
18	18	0,511	0,353	0,813	0,676
19	19	0,738	0,61	0,942	0,913
20	20	0,934	0,926	0,987	1
21	21	0,978	0,989	0,991	1
22	22	1	1	0,996	1
23	23	1	1	1	1

<Table 9> 2001 female drinkers age of onset

첫 음주 연령/Age at drinking for the first time

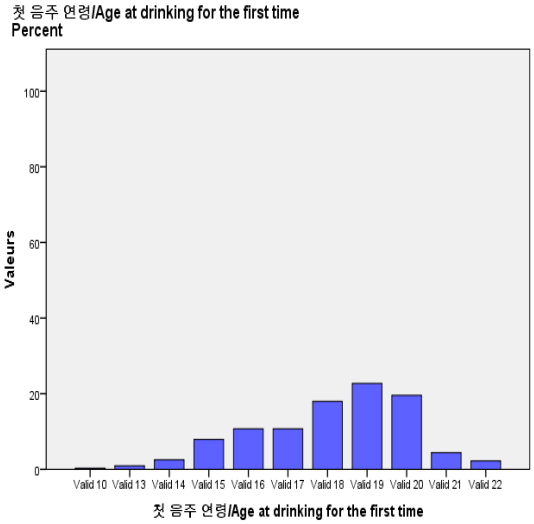
		Frequency	Percent	Cumulative Percent
Valid	13	1	,4	,4
	14	4	1,5	1,8
	15	11	4,0	5,9
	16	13	4,8	10,7
	17	17	6,3	16,9
	18	50	18,4	35,3
	19	70	25,7	61,0
	20	86	31,6	92,6
	21	17	6,3	98,9
	22	3	1,1	100,0
	Total	272	100,0	



<Table 10> 2001 male drinkers age of onset

첫 음주 연령/Age at drinking for the first time

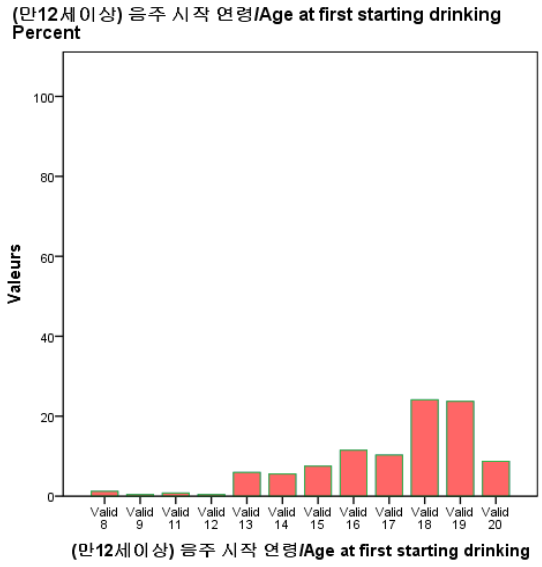
		Frequency	Percent	Cumulative Percent
Valid	10	1	,3	,3
	13	3	,9	1,3
	14	8	2,5	3,8
	15	25	7,9	11,7
	16	34	10,7	22,4
	17	34	10,7	33,1
	18	57	18,0	51,1
	19	72	22,7	73,8
	20	62	19,6	93,4
	21	14	4,4	97,8
	22	7	2,2	100,0
	Total	317	100,0	



<Table 11> 2014 female drinkers age of onset

(만12세이상) 음주 시작 연령/Age at first starting drinking

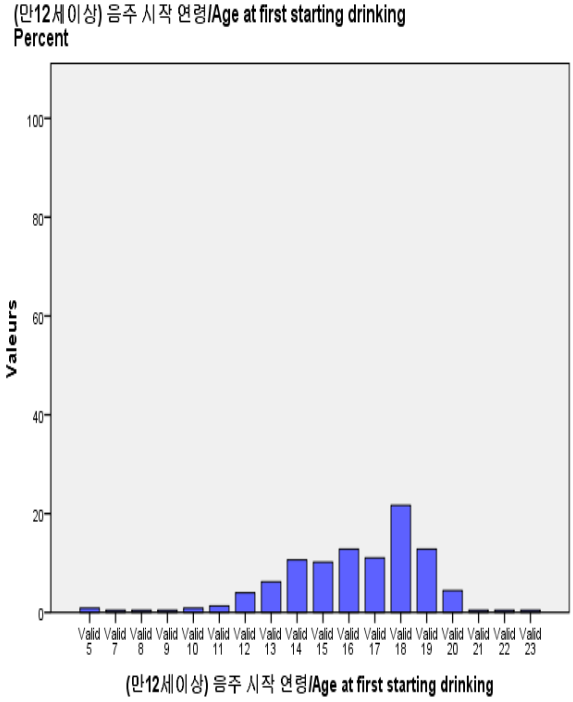
		Frequency	Percent	Cumulative Percent
Valid	8	3	1,2	1,2
	9	1	,4	1,6
	11	2	,8	2,4
	12	1	,4	2,8
	13	15	5,9	8,7
	14	14	5,5	14,2
	15	19	7,5	21,7
	16	29	11,5	33,2
	17	26	10,3	43,5
	18	61	24,1	67,6
	19	60	23,7	91,3
	20	22	8,7	100,0
	Total	253	100,0	



<Table 12> 2014 male drinkers age of onset

(만12세이상) 음주 시작 연령/Age at first starting drinking

		Frequency	Percent	Cumulative Percent
Valid	5	2	,9	,9
	7	1	,4	1,3
	8	1	,4	1,8
	9	1	,4	2,2
	10	2	,9	3,1
	11	3	1,3	4,4
	12	9	4,0	8,4
	13	14	6,2	14,7
	14	24	10,6	25,3
	15	23	10,2	35,6
	16	29	12,8	48,4
	17	25	11,1	59,6
	18	49	21,7	81,3
	19	29	12,8	94,2
	20	10	4,4	98,7
	21	1	,4	99,1
	22	1	,4	99,6
	23	1	,4	100,0
	Total	225	99,6	
Missing	System	1	,4	
Total		226	100,0	



<Table 13> Drinking frequencies and indicators

D8 =(ABS(E2)*(C2+B2)+ABS(E3)*(C3+B3)+ABS(E4)*(C4+B4)+ABS(E5)*(C5+B5)+ABS(E6)*(C6+B6))

	A	B	C	D	E	F	G
1	FREQUENCY	MALES 2001	FEMALES 2001	Difference 2001 (ab	Diff.in % of male	ratio 2001 (m/f)	weighted spread ratio
2	Once or less per month	19,2%	24,0%	0,048	25,0%	0,8	0,0864
3	2 to 3 times a month	40,1%	45,8%	0,057	14,2%	0,875545852	0,106906114
4	1 to 2 times a week	29,0%	22,5%	0,065	-22,4%	1,288888889	0,148777778
5	3 to 4 times a week	8,5%	5,1%	0,034	-40,0%	1,666666667	0,090666667
6	Almost everyday	2,8%	2,2%	0,006	-21,4%	1,272727273	0,013636364
7							
8			Indicator 1	0,410647565		Summ:	0,446386922
9							
10	Frequency	MALES 2014	FEMALES 2014	Difference 2014 (ab	Diff. In % of male	ratio 2014 (m/f)	weighted Spread ratio
11	Once a month or less	45,6%	56,5%	0,109	23,9%	0,807079646	0,196971681
12	2 to 4 times month	39,0%	29,1%	0,099	-25,4%	1,340206186	0,231680412
13	2 to 3 times a week	14,9%	11,7%	0,032	-21,5%	1,273504274	0,072752137
14	4 times a week or more	0,5%	2,7%	0,022	440,0%	0,185185185	0,026074074
15							
16			Indicator 1	0,614851572		Summ;	0,527478305

<Table 14> Drinking quantities and indicators

B22 =ABS(1-D5)*(C5+B5)+ABS(1-D6)*(C6+B6)+ABS(1-D7)*(C7+B7)+ABS(1-D8)*(C8+B8)

Quantity	MALES 2001	FEMALES 200	RATIO 2001	MALES 201	FEMALES 2014	RATIO 2014	GAP 2001	GAP 2014
1 to 2 shots	11,7%	31,3%	0,373801917	22,1%	31,8%	0,694968553	19,6%	9,7%
3 to 4 shots	23,3%	28,7%	0,81184669	19,0%	23,3%	0,815450644	5,4%	4,3%
5 to 6 shots	52,7%	34,9%	1,510028653	16,9%	23,3%	0,725321888	17,8%	6,4%
2 bottles or more	12,3%	5,1%	2,411764706	42,0%	21,5%	1,953488372	7,2%	20,5%

Quantity	MALES 2014	FEMALES 201	RATIO
1 to 2 shots	22,1%	31,8%	0,694968553
3 to 4 shots	19,0%	23,3%	0,815450644
5 to 6 shots	16,9%	23,3%	0,725321888
7 to 9 glasses	17,9%	8,5%	2,105882353
or more	24,1%	13,5%	1,785185185
2 bottles or more	42,0%	21,5%	1,953488372

Weighted spread ratio 2014 (all categories)	0,940079499
Weighted spread ratio 2014	0,958362045
weighted spread ratio 2001	1,059537056
Cumulated <6 shots males 2001	87,7%
Cumulated <6 shots females 2001	94,9%
Cumulated <6 shots males 2014	58,0%
Cumulated <6 shots females 2014	78,4%

국문초록

성별에 따른 음주 행위의 차이에 대한 연구는 활발히 이루어져왔으나 대다수가 서구 국가들에 초점을 맞추고 있다. 본 연구는 12 세에서 24 세 사이의 한국인을 대상으로 하여 음주 실태의 성별 격차를 파악하고, 지난 13 년 간의 발전을 분석하는 것을 목표로 한다. 이를 위해 연간 국내 설문 조사인 KNHANES 의 데이터를 사용하였으며, 2001 년과 2014 년의 설문 조사 응답이 분석되었다. 연구의 최종 목표는 음주 행태가 수렴하는 방향으로 진행되었는지를 살피는 데에 있으며, 또한 그 성격을 규명하는 데에 있다. 금주 비율, 음주 시작 연령, 평균 음주량, 음주 발생 빈도, 그리고 음주 행위로 비판에 직면할 가능성을 주요 변수로 하였으며, 시간 변화에 따른 표본분포와 성비 분석이 주요 지표로 사용되었다.

연구의 유의미한 결과는 다음과 같다. 대다수의 변수가 남성과 여성 모두에서 비슷한 성향을 나타내는 경우에도, 다시 말해 금주 비율이 낮고, 음주 시작 연령이 낮으며, 평균 음주량이 많은 경우에도, 음주 행태의 수렴으로 이어지지는 않았다. 2014 년의 알코올 섭취 지표는 남성과 여성 음주자 간에 유사한 패턴을 보여주었는데, 이 때 음주 시작 연령 혹은 음주 비판 가능성과 같은 요소는 성별 간에 크게 다르게 나타나지 않은 것에 반해 음주 빈도는 성별에 따라 다르게 나타났다. 마지막으로, 남성 음주자가 여성에 비하여 여전히 평균 음주량이 많으며, 음주 시작 연령이 어리게 나타나는 것을 통해, 13 년의 격차에도 불구하고 음주 행태의 성별 격차가 크게 존재함이 도출되었다.

주요어: 음주, 한국 청년, 성별격차, 수렴, 알코올

학번: 2015-25073