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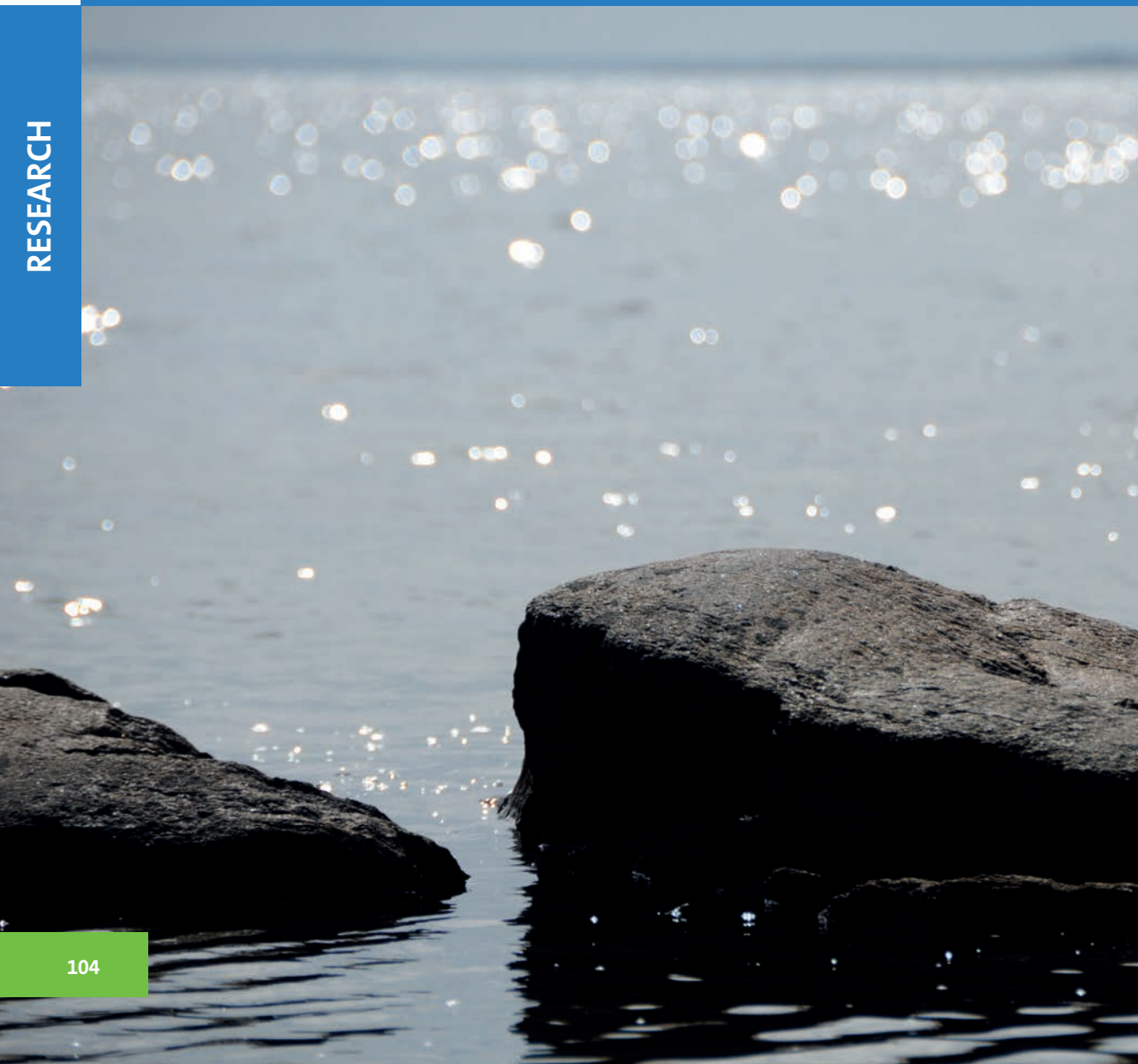
Janne Härkönen

Not a wet generation but a wet nation. The dynamics of change and stasis in Finnish drinking culture from 1968–2008

RESEARCH



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Not a wet generation but a wet nation. The dynamics of change and stasis in Finnish drinking culture from 1968–2008.

ACADEMIC DISSERTATION

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Dedicated to Aava, Eemil and Nina

Abstract

Janne Härkönen, Not a wet generation but a wet nation. The dynamics of change and stasis in Finnish drinking culture from 1968–2008. National Institute for Health and Welfare. Research 104. 66 pages. Helsinki, Finland 2013.
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The drinking culture in Finland has gone through profound changes over the last four decades. One explicit sign of transitions has been a nearly continuous increase in the total consumption of alcohol, which has three-folded since 1968. Traditional male-centered drinking pattern of relatively frequent bouts of heavy episodic drinking has expanded among new population subgroups and drinking is nowadays combined with various leisure activities and other social contexts. Meanwhile, increasing alcohol consumption and more heavy drinking patterns has also meant increase in various alcohol-related harms. Causes of death that are directly attributable to alcohol use are the leading cause of death among working aged men and women in Finland. In addition to harm to the drinker, excessive alcohol use results in various types of harms to others in the society through e.g. drunk driving, family and other violence, child neglect, family financial problems, nuisance to fellow citizens etc. Because the developments in alcohol-related harms depend on changes in both the total consumption level and drinking patterns, a deeper understanding of the dynamics and determinants of these changes would be crucial for efforts to control development of harms from drinking.

The aim of this study was to examine the changes in some central dimensions of the drinking culture in Finland over the past four decades. More specifically, it was studied:

(1) What long-term changes have there been in the norms and attitudes towards drinking?

(2) How have the contexts and characteristics of Finnish drinking occasions changed between 1976 and 2008?

(3) Does light and heavy drinking occasion drinking vary by socioeconomic status and has the relationship changed over time?

(4) What kind of changes in the three temporal factors, age, period and cohort, underlie the temporal trends of drinking over the period 1968–2008?

The study was based on a survey data from six Finnish Drinking Habits Surveys, conducted between 1968 and 2008. They comprised a representative sample of the Finnish population aged 15–69 and the data-set consisted of 16,400 individuals.

On the attitudes towards alcohol it was found that attitudes towards moderate use of alcohol have grown more permissive than ever over the past four decades. The shift towards more liberal views on alcohol use was seen also in other attitude items. Alcohol policy opinions, however, were found to be varying: latest major endorsement for more relaxed alcohol policies was seen at the turn of the 1990s,

while the major liberalizations of the Finnish alcohol policies in 1969, 1995 and 2004 induced great concerns in the public.

Drinking occasions in Finland have gone through two major transformations: in terms of the location, drinking has shifted towards homes, and in terms of the company, most of the drinking occasions are spent with a partner. In addition to these, drinking has concentrated on the weekends even more than before.

The socioeconomic patterning of drinking was found to vary depending on the aspect of drinking studied. For light drinking occasions and wine drinking, the general finding was that higher socioeconomic classes more often drink small amounts of alcohol at a time and wine drinking was substantially more frequent. For heavy episodic drinking and very heavy episodic drinking the direction of difference was found to be the opposite: manual workers more often drank large amounts of alcohol at a time.

The analysis of age, period and cohort effects on drinking showed that the increase in alcohol consumption is affected by both period and cohort effects. Developments in light drinking were found to be quite similar across different cohorts over time, while there were great cohort differences in heavy episodic drinking. Heavy episodic drinking has increased systematically with more recent cohorts so that there has been no one wet generation but several wet generations comprising a wet nation.

Keywords: Drinking culture, alcohol consumption, light drinking, heavy episodic drinking, alcohol attitudes, drinking situations, socioeconomic differences, age-period-cohort analysis.

Tiivistelmä

Janne Härkönen, Not a wet generation but a wet nation. The dynamics of change and stasis in Finnish drinking culture from 1968–2008. [Ei märkä sukupolvi vaan märkä kansakunta. Juomiskulttuurin muutos ja pysyvyys Suomessa vuosina 1968-2008]. Terveyden ja hyvinvoinnin laitos. Tutkimus 104. 66 sivua. Helsinki, Finland 2013.
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Suomalaisessa juomiskulttuurissa on tapahtunut olennaisia muutoksia viimeisten neljän vuosikymmenen aikana. Yksi muutosten selvimmistä merkeistä on ollut lähes yhtäjaksoisesti kasvanut kokonaiskulutus, joka on kolminkertaistunut vuodesta 1968 lähtien. Samalla perinteisesti vain miesten maailmaan kuulunut alkoholin runsas kertakäyttö on levinnyt muihin väestönosiin, ja nykyään juominen on läsnä hyvin monessa vapaa-ajan vietossa ja muissa sosiaalisissa tilanteissa. Kasvanut kokonaiskulutus ja alkoholin liikakäytön yleistyminen ovat johtaneet alkoholihaittojen lisääntymiseen. Alkoholikuolemat ovat työikäisten miesten ja naisten yleisin kuolinsyy Suomessa, mutta alkoholista on haittaa myös muille kuin juojalle itselleen. Muun muassa rattijuopumukset, perhe- ja muu väkivalta, lasten laiminlyönti, perheiden taloudelliset ongelmat ja häiriökäyttäytyminen ovat alkoholin liikakäytöstä johtuvia haittoja toisille ihmisille. Koska alkoholihaittojen kehittyminen väestössä riippuu sekä kokonaiskulutuksen että alkoholin käyttötapojen muutoksista, on tärkeää syventää ymmärrystä näistä ilmiöistä ja niihin vaikuttavista tekijöistä.

Tämän tutkimuksen tarkoituksena oli tarkastella juomiskulttuurin eräiden keskeisimpien piirteiden muuttumista Suomessa viimeisten neljän vuosikymmen aikana. Tutkimuskysymykset olivat:

(1) Mitä pitkän aikavälin muutoksia on tapahtunut juomisen normeissa ja suhtautumisessa alkoholiin?

(2) Miten juomistilanteiden sosiaalinen konteksti ja luonne ovat muuttuneet vuosien 1976 ja 2008 välillä?

(3) Vaihtelevatko alkoholin pien- ja suurkäyttökerrat sosioekonomisen aseman mukaan ja onko tämä yhteys muuttunut ajassa?

(4) Miten ikä-, periodi- ja kohorttitekijät selittävät juomisen ajallisia muutoksia vuosina 1968–2008?

Tutkimus perustui kuuteen Juomatapatutkimukseen, jotka toteutettiin vuosien 1968 ja 2008 välillä. Ne muodostivat edustavan otoksen 15-69-vuotiaista suomalaisista ja koko aineisto käsitti yhteensä 16 400 henkilöä.

Alkoholiasenteiden havaittiin, että suhtautuminen alkoholin kohtuukäyttöön on muuttunut vähitellen sallivammaksi kuin koskaan aiemmin. Väestön alkoholipoliittiset mielipiteet osoittavat kuitenkin, että nykyistä alkoholipolitiikkaa halutaan ylläpitää tai jopa tiukentaa. Alkoholipolitiikan väljentämistä kannatettiin

laajamittaisesti viimeksi 1990-luvun alkupuoliskolla, mutta mielipiteet ovat kiristyneet tasaisesti 1990-luvun lopulta saakka. Erityisesti alkoholipolitiikan suuret liberalisoinnit vuosina 1969, 1995 ja 2004 kiristivät väestön alkoholipoliittisia mielipiteitä.

Juomistilanteet ovat muuttuneet kahdessa keskeisessä suhteessa, eli missä ja kenen seurassa alkoholia juodaan. Alkoholia juodaan yhä useammin kotioloissa ja seurana on yhä useammin oma kumppani. Lisäksi juomistilanteet keskittyvät viikonloppuihin aiempaa yhä enemmän.

Juomisen sosioekonominen vaihtelu riippuu siitä, mitä alkoholikäyttötapoja tarkastellaan. Ylemmät toimihenkilöt joivat muita useammin pieniä määriä kerralla ja viinin kulutus oli hyvin paljon yleisempää. Työntekijöillä oli puolestaan muita useammin alkoholin suurkäyttökertoja.

Juomisen ikä-, periodi- ja kohortti-tekijöiden analyysi osoitti, että kasvaneen alkoholin kulutuksen taustalla on sekä periodi- että kohorttitekijöitä. Eri kohortit eivät eronneet sen suhteen, kuinka usein ne käyttävät alkoholia pieniä määriä kerralla. Kohortit erosivat kuitenkin suuresti sen suhteen, kuinka usein alkoholia juodaan suuria määriä kerralla. Mitä nuoremmasta kohortista on kyse, sitä yleisempää on ollut alkoholin runsas kertakuluts, ja niinpä ei voida puhua vain yhdestä märästä sukupolvesta vaan märästä kansakunnasta.

Asiasanat: juomiskulttuuri, alkoholinkäyttö, juomatavat, juopumus, alkoholiasenteet, juomistilanteet, sosioekonomiset erot, ikä-periodi-kohortti-analyysi.

Sammandrag

Janne Härkönen, Not a wet generation but a wet nation. The dynamics of change and stasis in Finnish drinking culture from 1968–2008. [Inte en våt generation utan en våt nation. Kontinuitet och förändring i den finska dryckeskulturen 1968–2008]. Institutet för hälsa och välfärd. Forskning 104. 66 sidor. Helsingfors, Finland 2013.
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Den finska dryckeskulturen har genomgått grundläggande förändringar under de fyra senaste decennierna. Ett tydligt tecken på detta är att totalkonsumtionen av alkohol ökat nästan oavbrutet och tredubblats sedan 1968. Det traditionella mansdominerade dryckesmönstret med relativt ofta återkommande perioder av storkonsumtion har spridit sig till nya befolkningsgrupper och drickandet har integrerats i en mängd fritids- och andra sociala aktiviteter. Samtidigt har den ökande alkoholkonsumtionen och den tilltagande storkonsumtionen inneburit att olika slag av alkoholrelaterade skador ökat. Dödlighet, som direkt kan tillskrivas alkoholbruk, är den vanligaste dödsorsaken bland finska män och kvinnor i arbetsför ålder. Storkonsumtion skadar inte bara den som dricker utan också andra människor, t.ex. som en följd av rattfylleri, familje- och annat våld, misskötsel av barn, familjeekonomiska problem och störande beteende. Eftersom de alkoholrelaterade problemen hänger samman med både totalkonsumtionsnivån och dryckesmönstren, är det viktigt att fördjupa förståelsen för dessa fenomen då man försöker få kontroll över det skadliga drickandet.

Denna studie undersöker förändringar, som gäller några viktiga aspekter i den finska dryckeskulturen under de 40 senaste åren:

(1) Vilka förändringar har skett i dryckesnormer och -attityder?

(2) Hur har dryckestillfällena ändrats från 1976 till 2008?

(3) Varierar dryckestillfällena då det konsumeras små respektive stora mängder alkohol enligt konsumentens socioekonomiska status och har det härvidlag skett förändringar över tid?

(4) Vad slags förändringar i de tre temporala faktorerna ålder, period och kohort ligger bakom de dryckestrender som infallit mellan 1968 till 2008?

Studien bygger på data från en serie på sex dryckesvaneundersökningar utförda mellan 1968 och 2008. Undersökningarna bestod av ett representativt urval av den finska befolkningen i åldern 15-69 år och materialet omfattande sammanlagt 16 400 individer.

Attityderna gentemot måttligt alkoholbruk har gradvis blivit mera tillåtande än någonsin under de fyra senaste årtiondena. Den allmänna opinionen har emellertid också gett sitt stöd åt den rådande alkoholpolitiken eller rentav krävt att den skärps. Senast folkopinionen yrkade på en liberalare alkoholpolitik var under den första hälften av 1990-talet, medan de stora liberaliseringarna av

alkoholpolitiken 1969, 1995 och 2004 ledde till att attityderna bland allmänheten blev strängare.

Dryckestillfällena har förändrats i två viktiga avseenden, dvs. var och med vem man dricker. Alkoholkonsumtionen försiggår allt mer i hemmiljön och sällskapet består allt oftare av ens partner. Dessutom infaller alkoholbruket ännu mer än tidigare på veckoslut.

Dryckesmönstret bland olika socioekonomiska grupper beror på vilka aspekter av drickandet som undersöks. Folk, som tillhör högre socioekonomiska grupper, dricker oftare små mängder alkohol per gång och de dricker mycket oftare vin. Däremot dricker kroppsarbetare oftare stora mängder alkohol per gång.

Analysen av ålders-, period- och kohorteffekter visade att period- och kohorteffekterna är en förklaring till den ökade alkoholkonsumtionen i Finland. Det måttliga drickandet har utvecklats över tid ungefär på samma sätt i de olika kohorterna, medan kohorterna uppvisade stora skillnader då det gällde dryckestillfällen, där det konsumeras stora mängder alkohol per gång. Det är de yngre kohorterna som systematiskt ökat denna typ av storkonsumtion. Därför skall man inte tala om en enstaka våt generation, utan snarare om flera våta generationer, som bildar en våt nation.

Nyckelord: dryckeskultur, alkoholkonsumtion, måttligt drickande, storkonsumtion, alkoholattityder, dryckeskontexter, socioekonomiska skillnader, analys av ålder-period-kohort

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II Härkönen J, Törrönen, J, Mustonen H & Mäkelä P (2012) Changes in Finnish drinking occasions between 1976 and 2008 – The waxing and waning of drinking contexts. Addiction Research & Theory, Early Online: 1–11.

III Härkönen J & Mäkelä P (2012) Trends in the socio-economic patterning of drinking in Finland, 1968–2008. Submitted.

IV Härkönen J & Mäkelä P (2011) Age, period and cohort analysis of light and heavy episodic drinking in Finland, 1968-2008. Alcohol and Alcoholism, 46(3): 349–356.

Abbreviations

APC	Age, period, cohort
BAC	Blood alcohol concentration
SES	Socioeconomic status
EU	European union
OECD	Organisation for Economic Cooperation and Development

1 Introduction

Over the past four decades in Finland, as well as in other European countries, there have been profound changes in drinking cultures. Before the 1960s, the Finnish drinking culture could be described as a typical "dry" drinking culture (Room & Mitchell 1972) with a very low volume of consumption, a high rate of abstainers, and great gender differences in alcohol use (Mäkelä et al. 1981). Over the past decades, however, the traditional male-centered drinking style with relatively frequent bouts of heavy episodic drinking has expanded among women, boys and girls (Lintonen et al. 2000; Mäkelä et al. 2010). Drinking, in general, has shifted from socially encapsulated situations and is nowadays combined with various leisure activities and other social contexts (Tigerstedt & Törrönen 2007b).

One explicit sign of transitions in the drinking culture has been a nearly continuous increase in total consumption. In 2011, Finns consumed three times more alcohol than four decades ago, 10 liters of pure alcohol per capita (Figure 1 – per capita consumption 1960–2011). Comparatively, the change has been substantial, as during the same period of time consumption of alcohol has gradually fallen in many European countries and even halved in some traditionally "wet" drinking cultures such as Italy. Alcohol consumption in Finland overtook Italy in 2001, and reached that of France a few years after that (OECD 2012).

The simultaneous and reverse change in traditionally labeled "dry" and "wet" drinking cultures has sometimes been described as a convergence of drinking habits, where drinking practices (e.g., drinking with meals and frequency of intoxication), beverage preferences and levels of drinking are becoming more alike across drinking cultures. However, it is an unsatisfactory term to fully describe the dynamics of a changing drinking culture, which seldom are simply transformational operations (Tigerstedt & Törrönen 2007a). What happens during the adoption of new drinking practices on a societal level? What are the reactions on an attitudinal level to the changing drinking culture? Do drinking situations remain unaltered or change in the midst of transition? Do different population subgroups change their drinking practices in a similar manner? These are the key themes the present work sets about studying.

At the general population level, the link between per capita consumption and alcohol-related harms is moderated by the cultural context (Norström et al. 2002), while at the individual level, how negative consequences from drinking are experienced may also depend on the culture (Knibbe et al. 2007). For the individual, alcohol may serve many purposes, ranging from a thirst-quencher to purely an intoxicant, to a vehicle for socializing at dinners or for celebrating at other festivities.

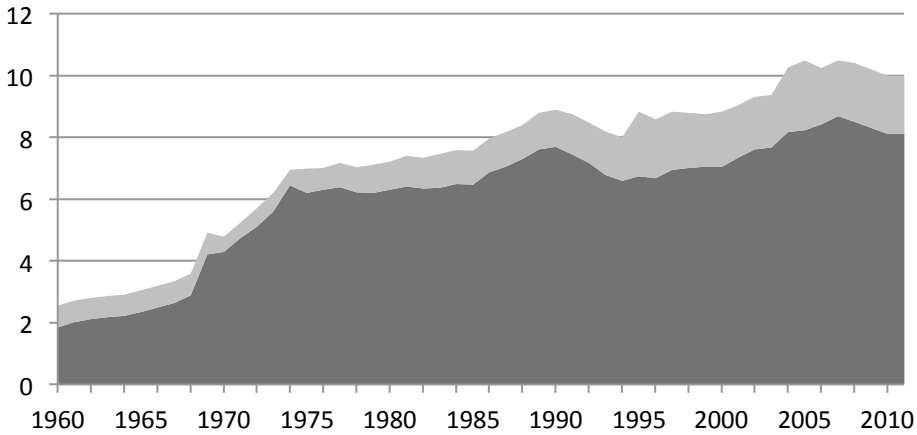


Figure 1. Total consumption in Finland, 1960–2011. Liters of 100% alcohol. Recorded dark gray, unrecorded light gray.

However, there is a body of literature showing a causal link between the level of an individual's alcohol consumption and various detrimental consequences to health and wellbeing (e.g., Gmel et al. 2003; Rehm et al. 2003a; Murray et al. 2004). While in general higher consumption leads to more harms and higher risk of mortality, it is clear that drinking patterns, i.e. the way alcohol is consumed, alter this relationship (Rehm et al. 2003b). Infrequent heavy drinking is associated, e.g., with accidents and acute social hazards such as violence, whereas frequent heavy alcohol intake is associated with diseases such as liver cirrhosis. Because the developments in alcohol-related harms depend on changes in both the per capita level and drinking patterns, a deeper understanding of the dynamics and determinants of these changes would be crucial to efforts to control the development of harms related to drinking.

The present study was part of a larger project "Changes in Drinking Practices and Drinking Culture", led by prof. Jukka Törrönen and supported by the Academy of Finland. The mother project's aim was to study changes in the cultural position of drinking in Finland and other European countries over the past decades by combining quantitative and qualitative research strategies in a comparative study design. The present study comprised a significant body of the quantitative portion and co-work with the qualitative part provided an enriching environment for the study of temporal changes at the population level in the Finnish drinking culture.

2 Background: Finnish society from the 1960s to 2000s

2.1 Societal transitions

The background to changes in the drinking culture in Finland can be traced to more general developments and structural changes in Finnish society. Namely, changes in drinking practices in a given population are connected to changes in living conditions, population structure and the general way of life (Sulkunen 1980).

Living conditions in the general population were transformed during the Great Migration in the 1960s and 1970s with masses of people disengaging from rural communities and moving to cities. The urban way of life and social support systems of the growing welfare state made individuals less dependent on their families, which enhanced the drift away from traditional values (Karisto et al. 2003; Karisto 2005). The growth of the service sector from the 1960s onwards meant major transitions in the labor market and the occupational structure. Between 1970 and 1990 the share of people working in agriculture and forestry was more than halved, from 20 to 8 percent, while at the same time the proportion of nonmanual occupations doubled from 22 to 46 percent (Statistics Finland, 2007). The economic growth and improvements in the standard of living continued through the 1980s, an era that could be called “the onset of the new consumer society" (Sulkunen 2000). Between 1990 and 1993 developments in living conditions were temporarily due to severe recession, after which a new period of economic growth emerged and continued to the latter part of the 2000s.

Transitions in labor market structure towards nonmanual occupations meant that there was a need for more educated labor force. The comprehensive schooling system was transformed in the 1970s giving more equal opportunities for education, and higher education system was expanded along with increasing number of universities and the introduction of polytechnic high schools in the 1980s (Saarivirta 2010).

Alongside the urbanization and developments in living conditions, more general changes in the way of life also took place. In the 1960s and 1970s the post-war generations disputed traditional morals while the moral views on pleasures in general were liberalized: e.g. new attitudes towards sexuality led to new legislation on abortion and marriage (Sulkunen 2000). This led to changes in family life and lifestyles in general, which moved in the direction of more pluralistic forms. A study of Finns' sexuality covering a time period between 1971 and 1992 concluded that earlier differences in men’s and women’s sexual lives had disappeared and there had been developments towards sexual equality (Kontula & Haavio-Mannila 1993).

In addition to changes in living conditions and education, changes in the age structure of Finland in the past few decades have been substantial. In general, the age structure is getting older with the generation of baby boomers born after the Second World War moving towards retirement age. This is also the age when alcohol-related mortality peaks (Poikola 2009).

2.2 Changes in alcohol policy

By and large during the latter part of the 20th century, Finnish alcohol policy has been continuously liberalized, starting from the abolishment of prohibition in 1932. After the abolishment, retail sales of alcoholic beverages were only permitted in state owned stores (Alko) located only in cities, which meant regional inequality in the availability of alcohol. The situation changed in 1969, when the New Alcohol Act came into force and the sales of medium beer was extended to grocery stores and cafeterias (Häikiö 2007).

The next major steps in the liberalization process were taken in 1995, when the monopoly on the production, import, export and wholesale trade was dissolved in order to bring the alcohol policy and legislation in Finland in line with the European Union. The off-premise retail sales of alcoholic beverages exceeding 4.7 percent by volume, however, were maintained in state owned Alko (Alavaikko & Österberg 2000). Secondly, the ban on public drinking was lifted and regulations for alcohol advertisements were liberalized during the same year (Törrönen & Karlsson 2005).

Between 1995 and 2003 there were also two other considerable liberalizations: (1) the number of state monopoly shops grew and the opening hours were extended at the end of the 1990s and at the beginning of 2000 increasing the availability of alcohol, and (2) it became much easier to obtain a license to run a pub or a restaurant. Their opening hours were also extended (Törrönen & Karlsson 2005).

While drinking in public places was partly re-criminalized in 2003 due to increased problems in public places, the year 2004 saw a dramatic drop in alcohol prices due to major tax cuts. The taxes on alcohol were reduced by an average of 33 percent and depending on the beverage type, retail prices decreased by 3–36 percent, with the biggest effect on spirits (Mäkelä & Österberg 2009). The tax cut in 2004 has been considered a true milestone in the liberalization process of Finnish alcohol policy (Herttua 2010). However, after 2004 there have been three minor increases, each of roughly ten per cent, to the alcohol taxes in 2008, 2009 and 2010.

3 Theoretical aspects of the drinking culture – structure and change

Culture as an explanatory factor of drinking behavior and alcohol-related harms has a background in so-called socio-cultural theory. This line of thinking is based on an assumption that the ethnic culture provides a system of norms and values, to which members of a society are exposed and which causes, in turn, the empirical finding that drinking patterns and the rates of alcoholism vary between different countries and among subpopulations within the countries (Harford and Gaines 1981). Bales (1946) presented one of the first classifications in this tradition, distinguishing four types of attitudes towards drinking in cultural groups that affect the rates of alcoholism: abstinent, ritual, convivial and utilitarian. Pittman (1967) presented the well-know classification of four types of cultures: abstinent, permissive, ambivalent and over-permissive. As pointed out by Room and Mäkelä (2000), the influence of the socio-cultural tradition is still visible in the more recent division of cultures in terms of their "wetness" or "dryness". The wet versus dry discussion emphasizes the difference in alcohol-related problems that more frequent use of smaller quantities (the wet culture) and less frequent use of large quantities (the dry culture) produce and focuses mainly on European and Anglophone societies (ibid.).

The socio-cultural tradition has been critiqued, e.g., because the categorization relies on a single aspect of the culture's attitudes to drinking (Mäkelä 1983). In Europe, different drinking cultures have been traditionally divided into "wet" and "dry" cultures depending on the frequency of drinking and norms around drinking. Further categorizations have been based on the most popular alcoholic beverage in the given drinking culture and its implications on norms around drinking, i.e. "spirit", "beer" or "wine" cultures (Room & Mäkelä 2000). Furthermore, during the past decades the usefulness of the traditional labels has weakened as the premises of the typologizations do not largely apply anymore: In Europe, per capita levels of consumption are changing, beverage preferences are becoming more alike across cultures and drinking practices are also partially converging: e.g., similar drinking practices, as the sporadic heavy drinking of the youth in Nordic countries, has been reported in British and Spanish youth (Tigerstedt & Törrönen 2007a).

As an alternative to mono- or bi-dimensional typologizations, Room and Mäkelä (2000) presented a classification of drinking cultures that relies primary on two dimensions, the regularity of drinking and the extent of intoxication. But depending on study aims, further possible dimensions were suggested: drunken comportment, people's motivation to drink, what kinds of meanings drinking has, what functions it

serves, how its use is formally and informally regulated, and how drinking is affected by gender, region, and socio-economic status.

Mäkelä et al. (2009) also considered the concrete drinking practices, the regularity of drinking and the prevalence of intoxication, as the most important descriptive elements of a drinking culture. Mäkelä and colleague's (ibid) breakdown of a drinking culture included many similar elements to Room and Mäkelä's (2000) typology, with one significant addition: the elements of a drinking culture are strongly dependent on, while not limited to, the situational context.

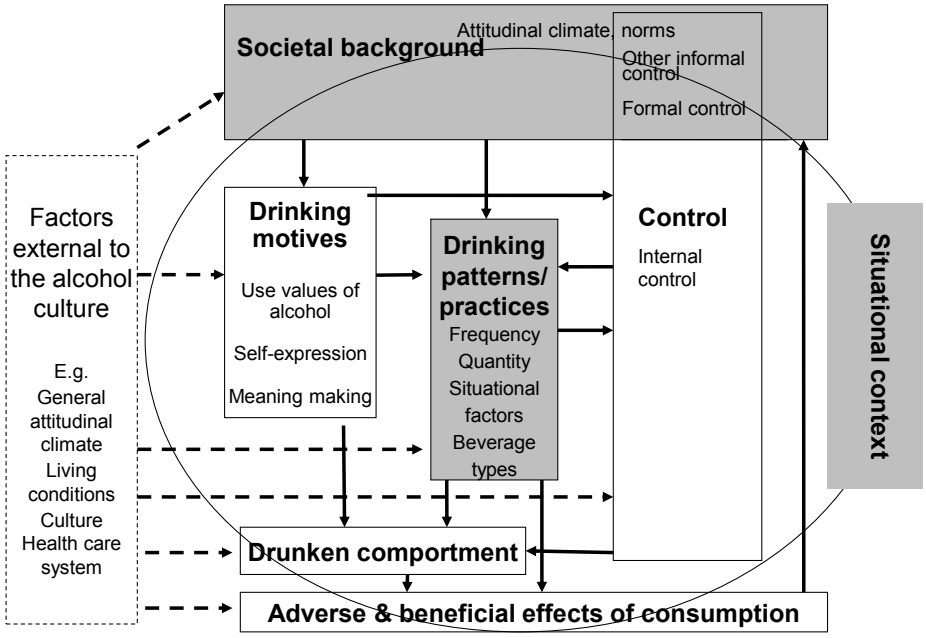


Figure 2. The elements fof a drinking culture (Mäkelä et al. 2009). Gray areas illustrate the key objects of the present study.

3.1 A framework for drinking culture

The present study adopts the definition of drinking culture presented by Mäkelä and colleagues (2009). Pictured in Figure 2 are the elements of a drinking culture and the key dimensions for the current study. The purpose of the given arrows is not to present direct causal relationships, but rather to suggest a structure for the given elements. One way to conceptualize different elements of a drinking culture is to

consider them as interacting subsystems that research has shown to be important in the understanding of alcohol use (Holder 1998). Thus changes in one subsystem might depend on changes in other subsystems. Each key dimension of the present study is described in more detail in the following sections.

3.1.1 Societal background – attitudes and norms

Stemming from the socio-cultural theoretical background, the study of attitudes and norms has been a traditional way of describing drinking cultures. Drinking practices and patterns are formed in a societal context, and the study of attitudes and norms towards drinking is one way to describe that context (Mäkelä 1984). Drinking norms vary depending on which demographic subgroup's drinking is under consideration: women have traditionally been expected to drink less alcohol than men (Wilsnack & Wilsnack 1997), while at least in some contexts the old are expected to drink less heavily than young adults (Clark 1964). Also women's and old people's attitudes have been shown to be more intolerant (e.g., Greenfield & Room 1997). At the same time, the use of alcohol by the young is governed by more formal norms, e.g. through the legal age to buy alcoholic beverages.

Attitudes towards alcohol can be considered as general beliefs towards the matter, whereas situational norms are expectations and prohibitions regarding how to use or not to use in specific social context (Caetano & Clark 1999; Greenfield & Room 1997). Informal drinking norms determine whether to drink or not, how much, when, where and with whom (Allardt 1957). One tradition of combining drinking norms to behavior is to categorize norms as prescriptive, proscriptive and nonscriptive norms, i.e., into norms guiding drinking, norms forbidding drinking or drinking without normative guidelines (Mizruchi & Perrucci 1962; Larsen & Abu-Laban 1968).

Mäkelä (1987) has separated three different aspects in cultural attitudes towards drinking. The first dimension covers attitudes to the societal organization around alcohol issues, including attitudes towards alcohol legislation, which is mainly affected by events such as tax increases and legislative reforms. The second dimension comprises the moral side of drinking, whether drinking as such is considered acceptable or deviant behavior. The third dimension is the normative guidance of drinking: when, where and how people should drink. It is therefore crucial to acknowledge that research into attitudes might concern one or more aspects of attitudes, and certain events, such as liberalizations in alcohol control, are mainly reflected in the first dimension of the culture's attitudes. All three dimensions are needed for the description of a drinking culture and its relevant changes.

Attitudinal views around alcohol depend also on the viewpoint of 'who is drinking', which is fundamental to the meaning given to drinking (Tigerstedt 1990).

It affects how drinking is evaluated, based on whether the alcohol use in question is one's own drinking, i.e., "us", or drinking by people in general, i.e., "them".

3.1.2 Drinking practices – frequency and quantity

As Room & Mäkelä (2000) stated, concrete drinking practices are important descriptors of a drinking culture: This applies particularly to the frequency of drinking and the excessiveness of heavy drinking. Traditionally, drinking to intoxication (i.e. heavy drinking) has been regarded as the core of drinking practices in Finland (Tigerstedt & Törrönen 2007b). In the drinking belonging to this core, the intoxicating effects of alcohol are considered the primary function of drinking. Indeed, a number of studies show that heavy drinking is common and widespread among Finns (Mäkelä et al. 2010), and the theme of intoxication has found to be central in the first drinking experiences of Finns (Tigestedt et al. 2011). However, empirical findings show that also light drinking has increased (Mäkelä et al. 2010) and young adults emphasize the sociability of drinking rather than intoxication (Törrönen & Maunu 2007). Moreover, drinking in general is combined with various leisure activities (Tigerstedt and Törrönen 2007b).

Concrete drinking practices are also important to study because they are connected directly to various harms. A body of literature shows that alcohol use is related to many detrimental effects on health, including morbidity, mortality and disability. Drinking pattern influences the consequences so that heavy episodic drinking is related to acute health problems and accidents, while high volumes lead to chronic health disorders. A drinking pattern of regular light-to-moderate drinking, in turn, may have beneficial effects on coronary heart disease (Rehm et al. 2003a).

3.1.3 Situational context

The situational context of drinking permeates all aspects of the drinking culture. Essentially, the social context and the nature of the drinking situation provide a framework for the appropriateness of drinking and behavior while drinking (Clark 1988; Greenfield & Room 1997). It is connected to the amount of alcohol people drink and to the adverse and beneficial effects of drinking (Mustonen & Mäkelä 1999). On the whole, drinking culture is specifically but not only embedded in situational contexts and thus analyses of drinking contexts may provide us with information on where to target harm-reduction strategies.

Traditionally, the characteristics of the situational context have been described in terms of the location, the type of company and the timing of the drinking occasion (Harford and Gaines 1981, Heath 2000). Especially the division between private and public places has received special interest, as licensed premises have been seen as a target of control and policy measures (Babor et al. 2010). The company and timing of the drinking situation have also been of interest in a number of studies (e.g., Hilton 1987; Room & Gustafsson 2008; Demers et al., 2002). Defining drinking

contexts with these three dimensions has the benefit of having a universally comparable typologization, but for the purposes of the present study, a more culturally specific typologization was also called for.

A typology presenting the cultural idiosyncrasies in drinking contexts in Finland was made in the 1980s by Simpura (1983). The typology was developed on the basis of short descriptions of respondents' recent drinking occasion, and the main idea was to examine the internal structure of Finnish drinking occasions. A central theme of the typologization was to distinguish between routine drinking occasions that are part of everyday life and those that signify a break from it. The typology consists a total of 15 categories, of which the following belong to everyday life situations: meals, evenings at home, going to the sauna, returning from work, outdoor activities, in the course of work, and undefined everyday life context. The following categories were defined as non-everyday situations: paying a visit, family celebrations, public holidays, other festive occasions, official occasions, entertainment contexts, and simply drinking.

One of the main findings of Simpura's (1983) study was that drinking in Finland in the 1970s seemed to be less stereotypical than one might generally think: while intoxication was present in many of the descriptions of drinking occasions, the most typical Finnish drinking context could be described as a bottle of beer after sauna bathing, i.e., a light drinking occasion.

3.1.4 Socioeconomic differences within the drinking culture

In most studies, socioeconomic status has had a strong positive association with drinking status, frequency of drinking and light to moderate drinking, i.e., there have been more drinkers, more drinking occasions and more light to moderate drinking in higher socioeconomic groups (Bloomfield et al, 2006, Mäkelä et al., 2002, Marmot, 1997). Results on the overall volume of drinking, high volume drinking and heavy episodic drinking are more variable, as the results from a study comparing 15 countries from Bloomfield and colleagues (2006) illustrate.

The proportion of drinking occasions that involved heavy episodic drinking is typically larger for low-SES drinkers (Mäkelä et al., 2002, Knupfer, 1989). However, this has not only been due to a higher number of heavy episodic drinking occasions among lower-SES drinkers, but also a higher number of light or moderate drinking occasions among high-SES drinkers who can afford to drink in more varying types of occasions. Overall, income seems to have a special role with respect to alcohol use and heavy drinking, increasing their likelihood when other factors are held constant (McKee et al., 2000).

Another aspect indicating socioeconomic differences within the drinking culture is the well-documented finding that alcohol-related deaths, just like overall mortality and life expectancy, vary greatly by socio-economic group (e.g., Mackenbach et al. 1997, Mäki & Martikainen, 2009, Herttua 2010). An example of the importance of

cultural and economic factors is that alcoholic cirrhosis used to be a rich man's disease in the United Kingdom still in the 1960s, in contrast to the USA at the time (Terris 1967), but after this time there has been a shift in the socioeconomic gradient so that higher rates are observed for lower socioeconomic positions (Marang-van de Mheen et al., 1998).

3.2 The processes of change

3.2.1 Age, period and cohort in relation to changing drinking practices

Using Karl Mannheim's (1952/1928) classical concept of generations as a point of departure, one can presume that drinking practices are formed during the so-called formative years. A generation is formed by a group of people born in a certain period of time and in a certain geographical area who share similar experiences of historical events. The historical events can affect the drinking practices of the whole population, but the notion of formative years argues that it is especially young people who are most affected.

Ryder (1985/1965) expanded the concept of generation by speaking of "demographic metabolism", i.e., a population process in which earlier cohorts are replaced by more recent ones. Successive cohorts are differentiated by changes in the surrounding societal structures, thus creating a potentiality for social change. And if change does happen, the comparison of cohorts' careers becomes a way to study the change. Implications for research on social change are that one should focus on "the context under which each cohort is launched on its own path" (ibid., 17). The cohort serves well as an analytical tool for studies on the population, similarly to, e.g., the concept of social class: It aggregates the common experiences of many individuals within the category, and often can explain variance in empirical findings, but does not imply that the category is an organized group. Cohort is a way to conceptualize social change (ibid., 12).

For many demographical phenomena, it is sufficient to present data in the form of age and period. The fundamental of cohort analysis is to inspect possible cohort-based effects, while age-cohort and period-cohort models may be used for this goal (Fienberg & Mason 1985). For the purposes of the present study, however, the inclusion of all three time-related factors – age, period, and cohort – was warranted, for alcohol consumption is dependent on all these three factors.

Age has an impact on drinking practices through the biological aging process and changes in life-cycle. The body of a young child cannot metabolize alcohol, while it is common that the elderly start to reduce drinking due to illnesses and their body grows more sensitive to the same amounts of alcohol they used to drink during their adulthood. Age determines the legal drinking age in principle, but adolescents, e.g., in Finland, may have access to alcohol before coming of age. The most important changes indicated by age are the transits in life-cycle, e.g. moving from home to

college and having children. Age implicates the changes in the nature of social interactions according to life cycle that affects drinking (Mäkelä & Härkönen 2010).

The effects of *period* refer to the legal, economic and cultural conditions of the studied time periods that may affect drinking. The highpoints of changing alcohol policy in Finland – such as the New Alcohol Act of 1969 and tax cuts in 2004 – are good examples of historical events that increased consumption levels in the general population. Furthermore, long-term trends in living conditions, e.g., increasing spare time, and the peaks and troughs in economic developments, such as the economic boom of the late 1980s or the recession of the early 1990s, affected the total consumption of alcohol. The cultural transitions, such as changes in moral views on pleasure and new attitudes towards sexuality (Sulkunen 2000), have liberated especially attitudes towards women's drinking.

The inclusion of the *cohort* accounts for the fact that the changes in the surrounding society, namely the two previous temporal factors, may differentiate cohorts from each other (Ryder, 1965/1985). However, in order for the cohort analysis to be useful, it is crucial to separate the individual effects of age, period, and cohort, i.e., to disentangle their separate independent effects on each other. It is particularly fruitful for the present study to be able to distinguish between cohort-change and period-change, as based on earlier studies (Sulkunen 1981) it can be expected that cohorts drinking more have replaced cohorts drinking less. However, due to the nature of age-period-cohort data, i.e., its linear correlation, this goal cannot be achieved without any additional technical considerations regarding the data (see analysis section).

3.2.2 The spread of new drinking practices

In addition to the three temporal factors, age, period, and cohort, there are other types of framing and conceptualizing transformations in drinking cultures. First, the process of changing drinking practices can mean either *addition* or *substitution* of new habits: The emergence of the new practice is additive when it does not replace old existing drinking practices. Substitution of drinking practices, in turn, means a process where old existing drinking practices are replaced by new ones (Mäkelä 1975). Especially the process of substitution has received a great deal of interest in the Finnish tradition, as it has been one of the main goals for Finnish alcohol policy in the 1960s and 1970s (Sulkunen 2002).

Secondly, changes in the external living conditions and structural features of a society contrive towards transformations in the drinking contexts. However, drinking contexts should not be considered only as the mechanical results of changes in the social surroundings. Cultural interpretation of the social reality in terms of "situations" by the actors themselves is central – also with respect to drinking contexts (Simpura 1991).

Thirdly, some changes in the drinking culture might follow the so-called diffusion model, where drinking practices are spread from higher social classes to lower ones and from central areas of the society to the periphery (Rogers 1983). Sulkunen (1989) applied this theory to interpret the drastic drop in wine consumption in France in 1965–1979. This was a period during which the higher social classes and urban areas were the first to reduce wine drinking, followed by lower social classes and rural areas. In addition, the reduction in wine drinking continued in the former groups so that others did not reach them. In contrast to France, wine drinking in Finland has been continuously increasing since the 1950s, reaching the consumption of vodkas and other distilled spirits in 2009 (1.4 liters of 100% alcohol per capita), being the second most popular alcoholic beverage after beer. The reverse case of Finland might follow a similar logic, where the new drinking practice spreads from higher social classes to lower ones as a result of global influences.

4 Study objectives

The overall aim of this study focused on two overarching themes: describing characteristics of the drinking culture in Finland, and analyzing changes in some central dimensions of the drinking culture over the past four decades. The specific research questions for each sub–study were as follows:

(1) What long-term changes have there been in the norms and attitudes towards drinking over the last 40 years? How have situational norms of drinking changed? How have the differences in attitudes changed between men and women, and between different age groups? (Sub-study I)

(2) How have the contexts and characteristics of Finnish drinking occasions changed between 1976 and 2008? Has the prevalence of drinking in different drinking contexts changed, and has the nature of drinking changed in the given contexts in terms of the amounts of alcohol drunk in them? (Sub-study II)

(3) Does the drinking during light and heavy drinking occasions vary by socioeconomic status? Has the relationship between drinking and socioeconomic status changed over time? (Sub-study III)

(4) What kind of changes in the three temporal factors, age, period and cohort, underlie the temporal trends of drinking over the period 1968–2008? In particular, do birth cohorts vary in relation to light and heavy episodic drinking? (Sub-study IV)

5 Data and methods

5.1 Data: Finnish Drinking Habits surveys, 1968–2008

All analyses were based on six Finnish Drinking Habits surveys conducted with an eight-year interval between 1968 and 2008. In each of the six Drinking Habits Surveys, a representative sample of the Finnish population aged 15–69 was used and the study population was born between 1899 and 1993. In the 1968 survey females were undersampled (male–female ratio 3:1). Undersampling was defended by the need to measure total alcohol consumption, which was known to be smaller in the female population (Mustonen et al. 1999, p. 10).

In each year, the study was conducted as a face-to-face interview during the period September to November. The time of year was chosen so that no annual celebrations or holidays would cause peaks in the consumption. In the first four surveys, a similar two-staged, clustered zone sampling design was used (Mustonen et al. 1999). In 2000 and 2008, the sample was taken from population census records using simple random sampling (Metso et al. 2002; Huhtanen et al. 2009).

The survey consists of two parts, the main questionnaire and the drinking occasion charting. The main questionnaire includes questions on, e.g., the frequency of drinking, attitudes towards alcohol and alcohol-related harms.

Data from the Scandinavian drinking survey in 1979 and the Finnish alcohol panel survey in 2003 were also used in sub-study I. The former survey was conducted as a self-report questionnaire, mailed to Finnish, Norwegian, Swedish and Icelandic respondents. From Finland a total of 2137 responses were obtained with a response rate of 71%, which constituted a representative population sample aged 20–69 (Mäkelä 1986). In 2003, the attitude questions of this survey were repeated in a comparable setting in the Finnish Alcohol Panel Study when the population aged 15–69 was surveyed and of which 2219 respondents aged 20–69 were used in the present study. The total sample for the study consisted of 2406 responses, which resulted in a response rate of 60% (Mustonen et al. 2005).

Table 1. Representativeness of the Drinking Habits Survey, 1968–2008.

Year	Response rate (%)	N	Coverage rate (%)[1]
1968	97	1823	56
1976	96	2835	47
1984	94	3624	38
1992	87	3446	56
2000	78	1932	46
2008	74	2725	46

5.2 Measurement

Attitudes and norms around drinking

The measures for attitudes and norms around drinking were derived from two different data sources: attitude items in the Drinking Habits Surveys in 1968–2008 and two sets of attitude questions first given in the Scandinavian Drinking Habits questionnaire in 1979 and both then repeated in the Alcohol panel Survey in 2003.

The former source comprised three attitude items, that were repeated identically in all six Drinking Habits Surveys: (1) Moderate use of alcohol is a part of everyday life, (2) alcohol never brings anyone real happiness, and (3) alcohol is used far too much in Finland.[1] Five response categories were given for each question: strongly agree, partly agree, undecided, partly disagree, and strongly disagree.

The latter data source included two sets of questions that were relevant for the present study. In the first series, respondents were asked to evaluate alcohol and drunkenness with the following semantic scale: [3] "We would like to know what, in general, you think of drinking and drunkenness. There follows below some word-pairs in relation to which we want you to assess drinking and drunkenness. (1) Alcohol is . . . (2) Being drunk is . . . (a) Unpleasant—Pleasant (b) Good—Bad (c) Dull—Exciting." The semantic scales were used to construct two composite

1 Coverage rate was calculated as survey mean consumption as a proportion of registered per capita
2 The questions in Finnish were as follows: (1) kohtuullinen alkoholikäyttö kuuluu tavalliseen elämään, (2) alkoholista ei ole kenellekään mitään iloa, (3) Suomessa käytetään aivan liian paljon alkoholia.
3 The question and answer categories in Finnish were as follows: Seuraavaksi haluaisimme tietää, miten alkoholiin ja humalaan suhtaudutaan. Esitämme joukon sanapareja, joiden avulla Teidän tulisi arvioida alkoholia ja humalaa. (1) Alkoholi on… (2) Humala on… (a) epämiellyttävä—miellyttävä, (b) hyvä—huono, (c) ikävä—hauska.

variables, the first for alcohol and the second for drunkenness (for further details on the semantic scale, see sub-study I and Mäkelä, 1981). The second series included questions on norms guiding drinking in three different situations[1]:

(1)"How appropriate do you think it is for a man in his thirties with no special drinking problem to drink a small bottle of beer or two . . . (see below for responses)

(2) How appropriate do you think it is for a man in his thirties with no special drinking problem to drink enough to become slightly intoxicated . . .

(a) With food at work? (b) With an ordinary weekday dinner at home? (c) Together with friends on a Saturday evening?"

Four answer categories were given: inappropriate, not very appropriate, rather appropriate and appropriate.[3]

Average number of different drinking occasions

The average number of annual drinking occasions, whether it was defined as a light drinking or heavy drinking occasion (see below), was derived from the drinking occasion chart. Firstly, each respondent was asked about his/her typical drinking frequency with 11 answer categories (ranging from 'daily', '4–5 times a week', etc. down to 'never'). Next, a period was determined for which a detailed charting of drinking occasions was done. This so-called survey period varied between 1 week and 12 months, so that, with the reported drinking frequency, the period was expected to cover four drinking occasions. Finally, the number of drinking occasions during the survey period was scaled to 12 months by multiplying using a constant based on the length of the survey period (for example, the survey period of 1 week was multiplied by 52). Light drinking and heavy drinking occasions were defined as below.

Light drinking

The definition used for light drinking in sub-studies III and IV was a drinking occasion with 1-–2 Finnish standard drinks, where one drink consists of 1.5 cl (11.85 g) of pure alcohol.

Heavy episodic drinking and high-BAC occasions

Heavy episodic drinking was defined as a drinking occasion with 4 or more standard drinks in women and 6 or more in men for the purposes of sub-studies III and IV. For sub-study II, blood alcohol concentration (BAC) was estimated on the basis of the intake of alcohol, the start and ending times of drinking, and respondent's body

1 The question and answer categories in Finnish were as follows: Miten hyvin tai huonosti mielestänne 30-vuotiaan miehen, jolla ei ole erityisiä alkoholiongelmia, sopii juoda (1) pullo tai pari olutta... (2) sen verran, että hän päihtyy lievästi… (a) arkiaterialla kotona? (b) ruoan kanssa työaikana? (c) yhdessä ystävien kanssa lauantai-iltana? Sopii huonosti / melko huonosti / melko hyvin / hyvin.

weight by using Widmark's formula. The term high-BAC occasion was then defined as a drinking occasion in which the BAC exceeded 0.1 percent by volume. On average, when the estimated BAC was between 0.95 and 1.05, the respondent had drunk 7.3 standard drinks among men and 6.2 among women. For the purposes of the sub-study III a measure of very heavy episodic drinking was also used: 8 or more standard drinks in women and 12 or more in men.

Drinking occasions and contexts

Three dimensions were used to define the characteristics of the drinking occasion: location, company, and time of the week. Three categories were used for location: home (defined as drinking at one's own or other's home, at the sauna, or at the cottage), licensed premises, or other (e.g., outdoors). Drinking company comprised the following categories: alone, with partner only (children may have been present), single gender company, and mixed gender company (partner may have been present). Two categories were used for the time of the week: the week (Mon–Thu) and the weekend (Fri–Sun).

The nature of drinking within the contexts, in terms of how much alcohol is consumed, was assessed using two measures, both of which were based on estimated blood alcohol concentration (BAC). The first was the proportion of heavy drinking occasions, that is, a high-BAC occasion (see above) with heavier or even extreme drinking. The second was a calculated median BAC value, which represents a typical state of intoxication within the drinking context.

For the classification of the social drinking context, the 15-category typology for drinking contexts by Simpura (1983) was used. Special care was taken to reproduce the categorization from the verbal descriptions, and the steps described in Simpura's (1983) study were followed in detail. After agreeing principles, the coding work was first done independently by Janne Härkönen and Prof. Jukka Törrönen with disagreements discussed and agreed on (see the Appendix of sub-study II for further details on the coding procedure).

Socioeconomic status

Socioeconomic background was measured in terms of the occupational class. Either respondent's reported occupation or that of the respondent's financial supporter was transformed into occupational class using the occupation-based classification schemas of Statistic Finland. The classification from the year 1987 was used for surveys in 1968–1992 and the updated classification from 2001 was used for surveys in 2000 and 2008. Only the three largest occupational classes, (1) upper nonmanual, (2) lower nonmanual, and (3) manual worker were used in the analysis because the number of persons in other classes was too small. The percentages of respondents left out from the analyses from 1968 onwards were 22, 18, 19, 18, 16, and 15 per

cent, who consisted of farmers, entrepreneurs and others without data on the supporter's occupation.

5.3 Analyses

Sub-study I focused on changes in attitudes and norms towards drinking, which were assessed by three different attitude items repeated in Drinking Habits Surveys in the period 1968–2008 and two different question series repeated in the Scandinavian Drinking Habits questionnaire in 1979 and the Finnish Alcohol Panel Study in 2003. Changes over time were assessed using logistic and linear regression.

Sub-study II studied changes in the prevalence of different drinking contexts and in the nature of drinking within the contexts in terms of how much alcohol is consumed on those occasions. Changes were verified using logistic regression and khi-square test.

Sub-study III used sex-stratified models including the main effects of SES, period, and age and the interaction term of period and SES were used to assess the trends over time. Poisson regression was used for the frequency of annual drinking occasions and linear regression for the volume of consumed alcohol. Age was used as a categorized independent variable so as to allow a non-linear effect in the modeling, and was defined in five ten-year groups, starting with a group of 25–34-year-olds and continuing to age 69. Period was used as a continuous independent variable, with a coded number of the survey from 1 to 6.

Sub-study IV investigated the effects of age, period, and cohort (APC) on light and heavy episodic drinking in the general population of Finland. The number of drinking occasions per year involving 1–2 drinks (light) and 4+ or 6+ drinks (heavy episodic) was used as a dependent variable and the APC modeling was stratified for men and women. Descriptive cohort profiles and negative binomial models were used to assess the effects of APC.

To fit an identified APC-model, the placement of an identifying constraint had to be considered (Mason & Smith 1983; Kerr et al. 2004). An equality restriction could be placed on adjacent age, period, and cohort contrasts. A constraint on the cohort contrasts was ruled out on the basis of the study goal, i.e., there was no gain in limiting the cohort variability as the study aimed particularly to distinguish possible cohort effects on drinking. An equality restriction on period contrasts of 1976 and 1984 was tested on the basis that there was no substantial increase in the total consumption between these years, but the results for these restrictions resulted in biased estimates. Many different constraints for the age contrasts were tested and eventually, different restricting assumptions were used for light and heavy episodic drinking. For light drinking, the age group of 30–37 and 38–45 were assumed to be equal. For heavy episodic drinking, the age groups of 46–53 and 54–61 were assumed to be equal. The restrictions were made on the basis that consumption levels by age in Finland follow an inverted U-shape and are somewhat stable at

these ages (Mäkelä and Härkönen, 2010). This was further supported by the finding that the estimated confidence intervals were the most stable when these restrictions were used.

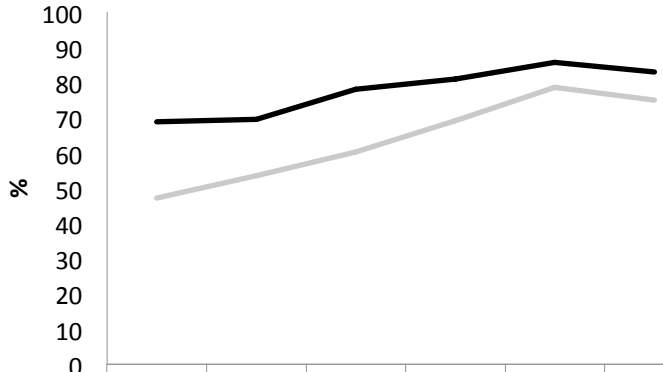
Weights were used in all analyses to restore population representation by age, sex and region. The sampling design was taken into account by using strata and cluster options in SAS (version 9.1.3) and SUDAAN (SAS-callable version 10.0.1).

6 Results

6.1 Norms guiding light and heavy episodic drinking

Changes in the attitudes and norms around drinking in sub-study I were studied using eight different attitude items and here five of the most important results are presented: attitudes towards moderate use of alcohol, opinion on whether alcohol is used too much in Finland and three items concerning situational norms. The first item was interpreted as mainly reflecting views on respondent's own use of alcohol and the alcohol use by "us"; the second item was interpreted as mainly reflecting views on alcohol use by "them", which would be expected to reflect opinions on alcohol policy issues; finally, the three situational items reflected views on personal use of alcohol and alcohol use by peers in the given settings.

As seen in Figure 3, the percentage of respondents agreeing with a statement that moderate alcohol use is part of everyday life has increased since the 1968 survey (p for trend <0.0001). The change in women's responses was steeper and it could be concluded that men's and women's views on this matter had converged (p for interaction between time and sex: <0.01). In 2008, while a majority of the Finns



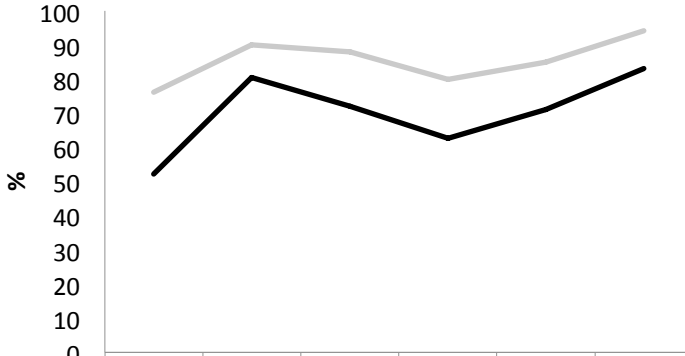
	1968	1976	1984	1992	2000	2008
Men	68,8	69,4	78,1	81,0	85,7	83,0
Women	47,2	53,5	60,1	69,1	78,5	75,0

(p for trend <0.001, p for interaction between time and sex <0.01)

Figure 3. Percentage of respondents agreeing with "moderate use of alcohol is a part of everyday life", 1968–2008.

agreed with the statement (86% of men and 79% of women), the overall liberalization towards the issue had halted, probably reflecting the overall tightening of opinions towards alcohol policy issues, as presented below. The age structure of the results showed that age was strongly correlated with the responses so that older respondents had more intolerant views (p for age <0.001).

Changes between 1968 and 2008 in the percentage of respondents agreeing with the statement that alcohol is used far too much in Finland are presented in Figure 4. The statement was interpreted as opinions on the overall consumption level but also as views about alcohol-related harms, i.e. implying the alcohol use by "them". Views on alcohol related harms were found to have varied between time periods. The 1970s was a period of tightening opinions, reflecting serious concerns about increasing alcohol-related harms due to the initiation of medium beer sales in grocery stores (see Österberg 2005). After the 1970s, there was a trend towards less strict views, which meant an endorsement for the era following the biggest liberalization in Finnish alcohol policy. However, after the 1990s there has been a new increasing trend in stricter attitudes towards alcohol policy issues (further results from sub-study I also support this finding). When exploring the results by age, it was found that older persons had stricter views on the matter in every time period (p for age <0.001).



	1968	1976	1984	1992	2000	2008
Women	76,1	90,1	87,9	79,9	85,0	94,1
Men	52,2	80,4	72,0	62,7	71,1	83,1

Figure 4. Percentage of respondents agreeing with "alcohol is used far too much in Finland", 1968–2008.

Figure 5 shows changes in the situational norms around drinking by age and a change in the age structure between 1979 and 2003. Attitudes towards light drinking and intoxication in three different situations – with food at work, during an ordinary dinner at home, and together with friends at the weekend – were studied with the idea that they commonly present respectively "proscripted", "moderate", and "prescripted" drinking contexts.[2]

Attitudes towards the use of alcohol with food at work were clearly the most intolerant (not shown in the Figure). Intoxication was especially disapproved of: over 90 percent in both time periods and including both men and women considered it inappropriate. Light drinking was slightly more tolerated, as the share of disapproving respondents was 83 percent in 1979 and 78 percent in 2003.

Figure 5 depicts the results for alcohol use during an ordinary dinner at home. Drinking in this context was viewed less strictly than drinking at the workplace and views on both light drinking and intoxication had grown slightly more liberal (p for time <0.001). With respect to age groups, attitudes towards light drinking were tolerant among all ages, while intoxication was disapproved of by young and old.

Views on alcohol use in a situation of being together with friends were clearly the most tolerant of the three situational items (Figure 5). This applied both to attitudes of men and women, though differences between age groups were more visible, with older persons having less tolerant views. The most interesting finding, however, was the substantial change in attitudes: In 2003, intoxication in this context was evaluated equally or even more positively than light drinking in 1979.

1 Proscriptive norms are norms guiding one *not* to drink, prescriptive norms guide one to drink.

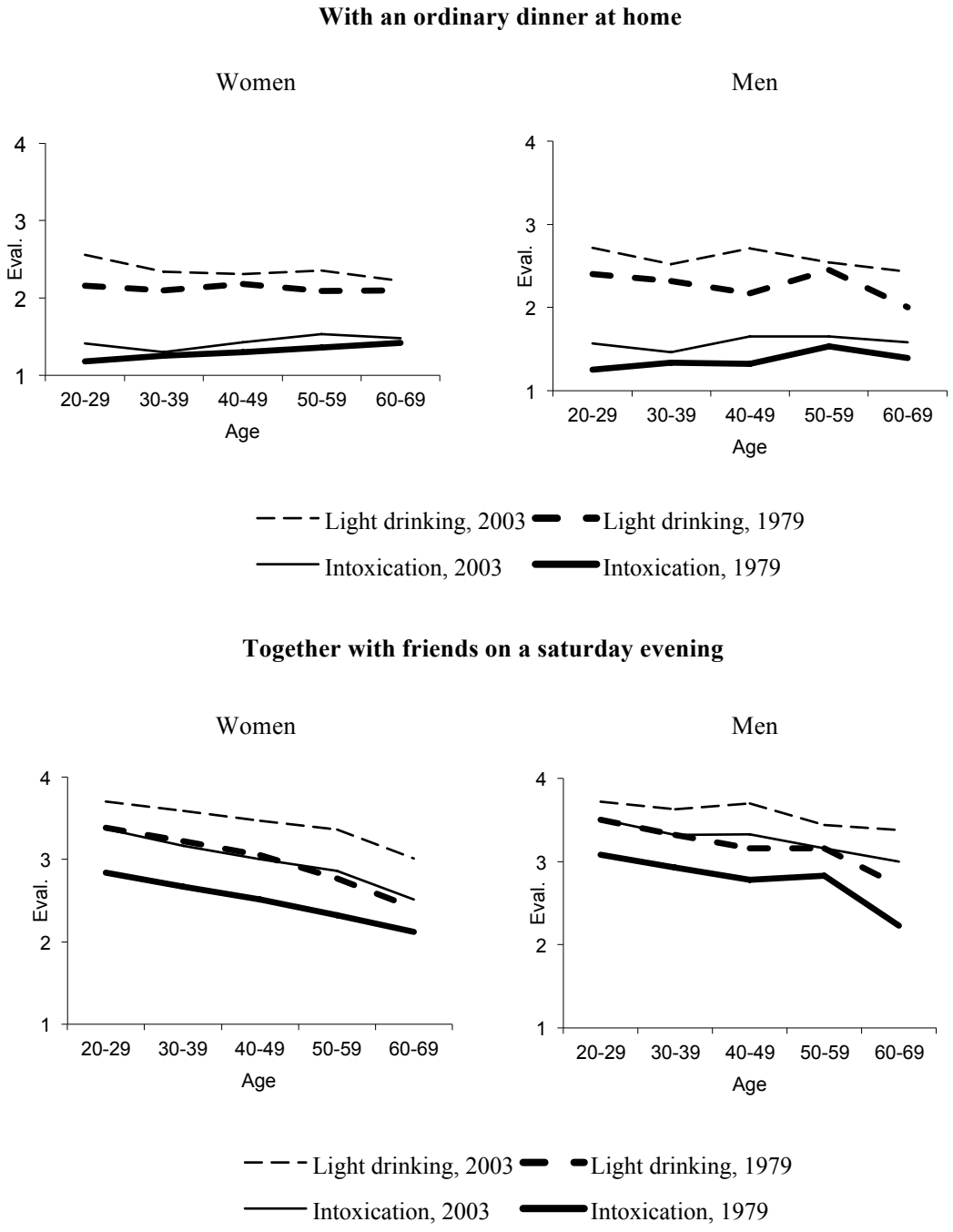


Figure 5. Evaluation of light drinking and intoxication with the given situation by age in 1979 and 2003. Mean score of all respondents, scale from 1 to 4, high score denotes positive evaluation.

6.2 Changes in drinking contexts

Changes in drinking levels seen in different drinking contexts were considered to reflect the interplay between the transformations of drinking contexts and the more general transformation of drinking and the surrounding culture. It was expected that the change appears as an increase or a decrease in drinking: (a) in the prevalence of drinking in different contexts (e.g., drinking at home becomes more common) and/or (b) in the role that drinking plays in a given context (e.g., drinking on licensed premises becomes heavier).

Overall, the number of drinking occasions increased between 1976 and 2008, as seen in Table 2. Both men and women had more drinking occasions, but the increase was greater for women, both in absolute and relative numbers. The majority of the increase was seen in drinking in home settings and with one's partner, while drinking on licensed premises decreased for men. The weekly rhythm of drinking was concentrated more on weekends than previously. When these results were checked in two age categories—those aged under 35 and those aged 35 or over—no substantial differences were found. The shift towards home drinking was somewhat stronger in the under 35 group (from 55 to 68 percent vs. 77 to 80 percent in the older age group), while drinking with a partner was more clearly a phenomenon for middle-aged and older respondents (the share of drinking with partner doubled from one quarter to half of all drinking occasions).

Table 3 shows how the nature of drinking within the drinking occasions has changed in terms of BAC. The overall finding for men was that both the share of high-BAC occasions and median BAC decreased. For women, however, both of these measures increased. This meant that while both men and women had more drinking occasions, the typical drinking occasion for men was lighter and for women, heavier compared to 1976.

Certain contexts stood out as prone to heavy drinking. For men, it was drinking in single gender groups and mixed company, but also drinking on licensed premises. For women, heavier drinking occurred in the same contexts, but the differences between the contexts were not as pronounced as among men.

Table 2. The share of drinking occasions and average number of drinking occasions per year in various drinking contexts in 1976 and 2008

		Times per year		*Change (%)*
		1976	**2008**	
Men	Total	69,2	75,9	9 *
	n	1389	1286	
Women	Total	34,3	43,7	21**
	n	1441	1420	

Drinking company		*Proportion (%)*		*Times per year*		*Change (%)*
		1976	**2008**	**1976**	**2008**	
Men	Alone	21	19	14,0	14,6	4
	With partner	22	40	15,6	30,7	97***
	Same sex	28	15	19,2	10,9	-43***
	Mixed company	29	26	19,8	19,8	0
	Total	100	100			
Women	Alone	9	10	3,1	4,2	32
	With partner	28	43	9,4	18,2	94***
	Same sex	15	10	5,2	4,7	-9
	Mixed company	48	37	16,6	16,6	0
	Total	100	100			
Location						
Men	Home	62	78	43,2	58,8	36***
	Licensed prm.	27	16	18,7	12,0	-36***
	Other	11	6	7,3	4,7	-36*
	Total	100	100			
Women	Home	68	78	23,4	33,8	45***
	Licensed prm.	27	19	9,2	8,3	-10
	Other	5	4	1,6	1,6	0
	Total	100	100			
Drinking time						
Men	Mon-Thu	43	37	29,6	28,6	-4
	Fri-Sun	57	63	39,0	47,3	21***
	Total	100	100			
Women	Mon-Thu	37	28	12,5	12,5	0
	Fri-Sun	63	72	21,8	31,2	43***
	Total	100	100			

*** p<0.001, ** p<0.01, * p<0.05

Table 3. The proportion of high-BAC occasions and the median BAC in various drinking contexts in 1976 and 2008

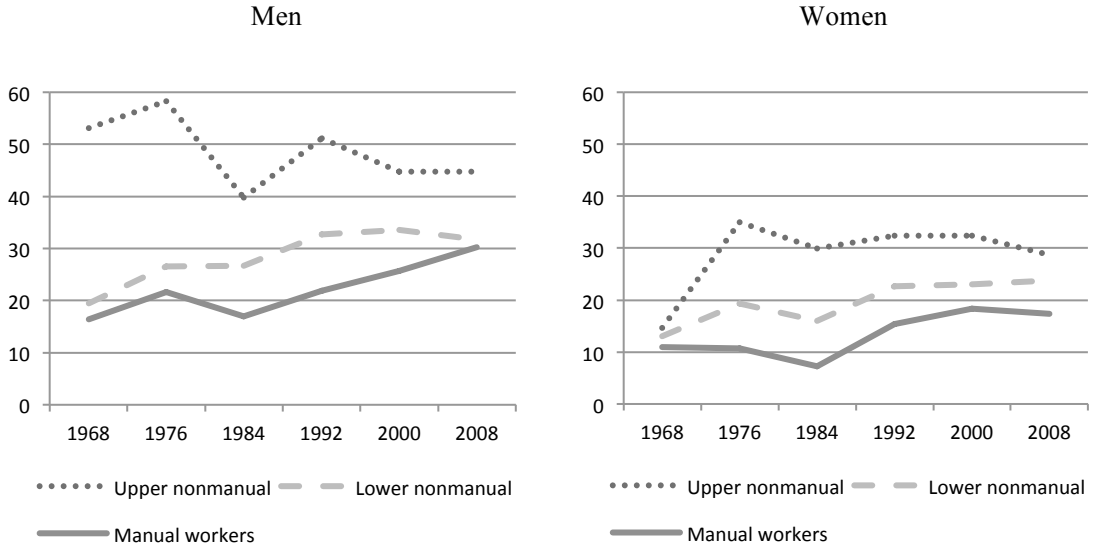
		Proportion of high-BAC occasions(%)			*Median BAC*		*Change in BAC (%)*
		1976	**2008**		**1976**	**2008**	
Men	Total	29	21	**	0,43	0,37	-14
Women	Total	13	14		0,19	0,29	53
Drinking company							
Men	Alone	15	10		0,20	0,30	50
	With partner	16	12		0,27	0,29	7
	Same sex	41	38		0,72	0,68	-6
	Mixed company	37	40		0,69	0,65	-6
Women	Alone	8	9		0,14	0,23	64
	With partner	9	7		0,18	0,28	56
	Same sex	8	16	*	0,22	0,22	0
	Mixed company	17	22		0,23	0,36	57
Location							
Men	Home	25	20	*	0,38	0,35	-8
	Licensed prm.	31	28		0,62	0,58	-7
	Other	39	23	**	0,64	0,41	-36
Women	Home	10	12		0,16	0,28	75
	Licensed prm.	20	20		0,38	0,36	-5
	Other	15	17		0,13	0,24	85
Drinking time							
Men	Mon-Thu	21	13	**	0,33	0,28	-15
	Fri-Sun	34	27	**	0,59	0,45	-24
Women	Mon-Thu	12	9		0,17	0,24	41
	Fri-Sun	14	16		0,20	0,32	60

** $p<0.01$, * $p<0.05$

6.3 Socioeconomic differences in drinking

Changes in the socioeconomic patterning of drinking in Finland were studied using several indicators, with the results for light drinking, heavy drinking, very heavy drinking and wine drinking presented here.

Figure 6 shows changes in the annual number of light drinking occasions. Overall, light drinking has been increasing for both men and women, but the separation into SES groups shows that the level and the development vary depending on the group. Upper nonmanual workers have had light drinking occasions roughly twice as often as manual workers, and 1.5 times more compared to lower nonmanual workers (p for SES <0.0001). The number of light drinking occasions for upper nonmanual workers, however, has been steady while it has been increasing among lower SES groups (p for interaction between SES and period for men <0.05, for women <0.01). It is noteworthy that female upper nonmanual workers have had similar numbers of light drinking occasions than male lower nonmanual and manual workers.

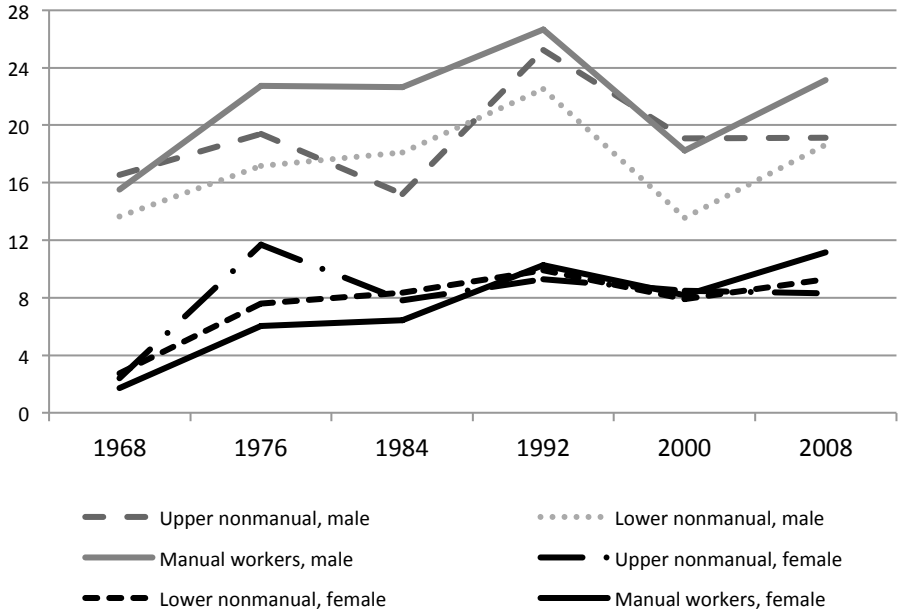


[1]p(ses)<0.0001, p(ses*period)=0.002

[2]p(ses)<0.0001, p(ses*period)=0.011

Figure 6. The mean annual number of light drinking occasions for men[1] and women[2] in different occupational classes, 1968–2008

Compared to light drinking, differences between occupational classes in heavy episodic drinking are much smaller, as seen in Figure 7. The gap between men and women, however, is more substantial, with men having twice the number of annual heavy drinking occasions in general. For men, manual and upper nonmanual workers have had the highest number of annual occasions (p for SES < 0.05), while there have been no differences between SES groups in the development of heavy drinking. For women, the opposite is true, with no differences in the level between SES groups and statistically significant differences in the development of heavy drinking (p for interaction <0.05), which is mainly due to increasing heavy drinking among manual workers.

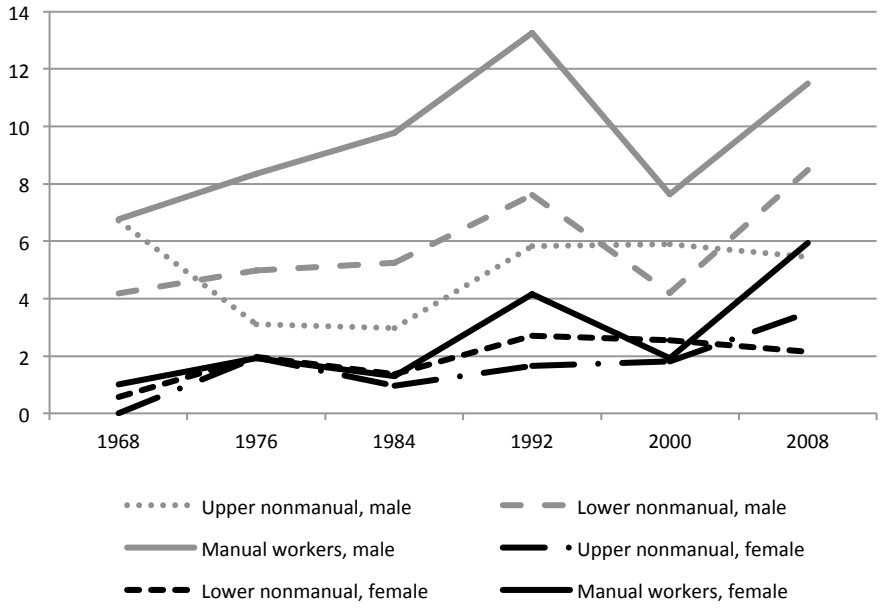


[1] 0.010; p(ses*period)=0.850 [2] p(ses)=0.689; p(ses*period)=0.014

Figure 7. The mean annual number of heavy episodic drinking occasions (6+/4+ drinks) for men[1] and women[2] in different occupational classes, 1968–2008

Trends in very heavy episodic drinking, depicted in Figure 8, show that differences between SES groups are much more pronounced for men. While the development between SES groups does not differ, manual workers have had the highest frequency with 1.5 times more annual occasions on average over the past

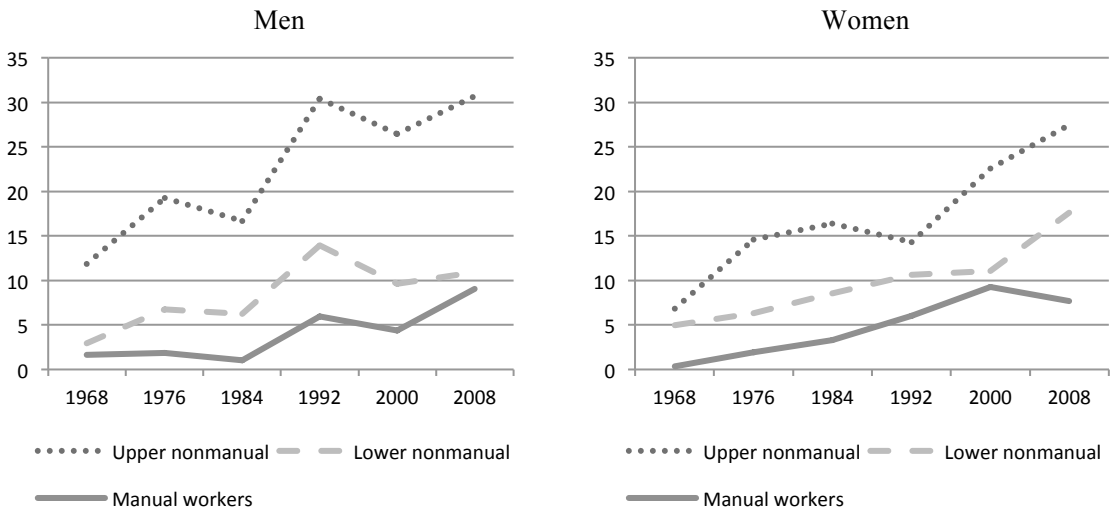
four decades (p for SES <0.001). Similar results are seen for women, with manual workers having the highest frequencies (p for SES = 0.01) and no differences in the development between SES groups. However, female manual workers have reached a historical high in 2008, with a significant difference compared to higher classes (p for SES in 2008 <0.01).



[1] p(ses)<0.0001; p(ses*period)=0.890 [2] p(ses)=0.010; p(ses*period)=0.153

Figure 8. The mean annual number of very heavy episodic drinking occasions (12+/8+) for men[1] and women[2] in different occupational classes, 1968–2008

Figure 9 shows developments in wine drinking separated into SES groups. Wine drinking among upper nonmanual workers has been significantly more frequent compared to other occupational classes, for both men and women (p for SES, both sexes <0.001). While wine drinking has increased in every SES group, the gap has remained or even grown, as the increase has been quicker for upper nonmanual workers (p for interaction, men, <0.001; women, p <0.01).



[1] p(ses)<0.0001; p(ses*period)<0.001 [2] p(ses)<0.0001; p(ses*period)=0.007

Figure 9. The mean annual number of wine drinking occasions for men[1] and women[2] in different occupational classes, 1968–2008.

6.4 Age, period, and cohort analysis for light and heavy episodic drinking

An APC-analysis was conducted both by investigating descriptive age profiles for cohorts and by conducting full APC-modeling using the technique described in the Methods section.

In general, the descriptive results showed that there were no substantial differences between cohorts for light drinking (see Figure 10). Cohorts born prior to the 1940s had lower light drinking frequencies, but more recent cohorts shared similar age profiles for light drinking. Between men and women, however, it could be seen that age had a different relationship with respect to light drinking: for male cohorts, light drinking increased with age, whereas for women, light drinking decreased between the ages of 22 and 50, depending on the cohort.

Heavy episodic drinking increased systematically with more recent cohorts (Figure 11). The male cohort born in 1938–1945 and the more recent cohorts had systematically higher heavy drinking levels compared to older cohorts. However, the age profiles converged for male cohorts born between 1946 and 1977, meaning that they had drunk similarly at the same ages. For women, differences were found between every cohort, so that as each cohort has more heavy drinking occasions than earlier cohorts until the two youngest cohorts born after 1970. Their age profiles might have systematic differences compared to older ones, but more measurement points are needed to fully confirm the difference.

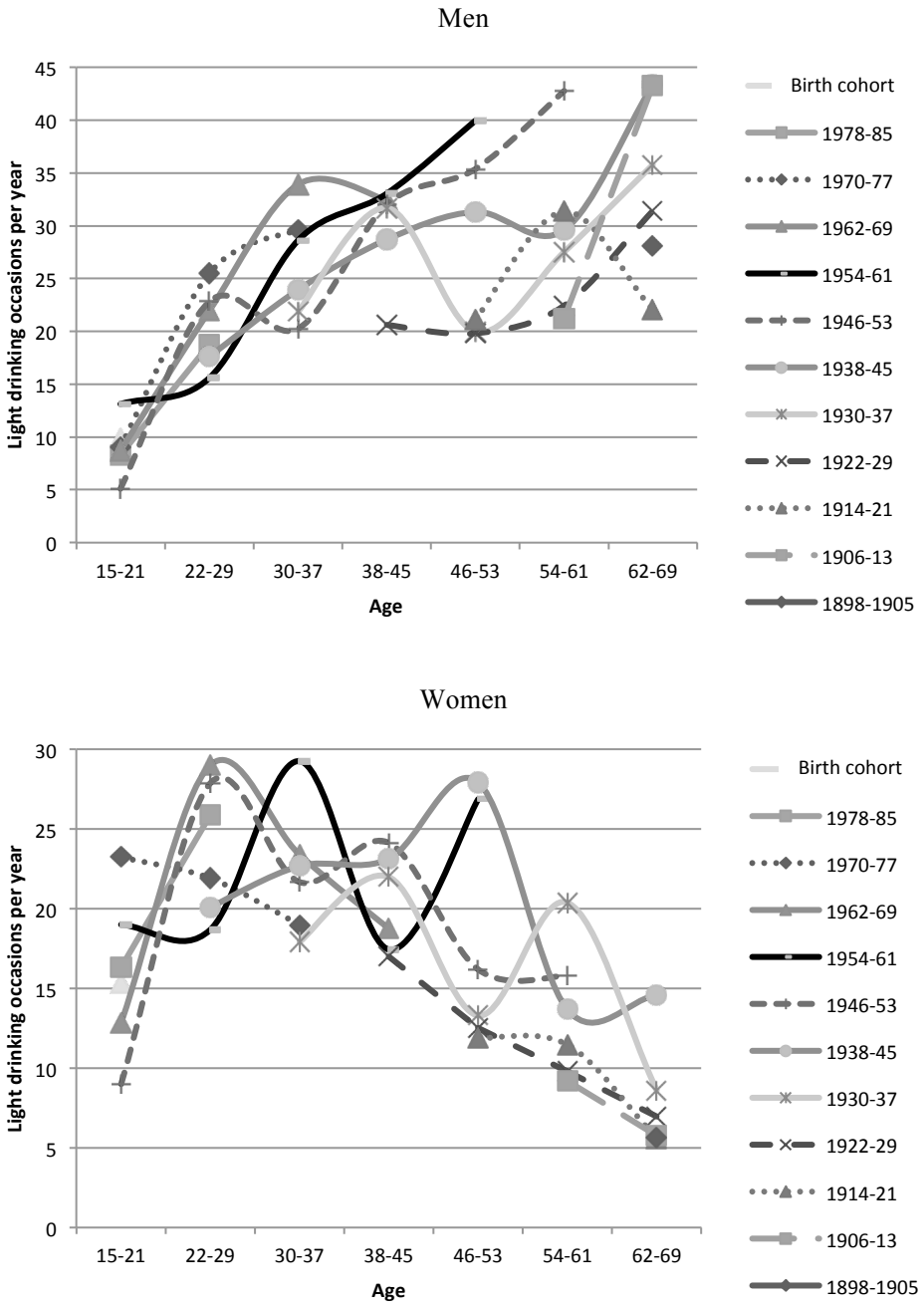
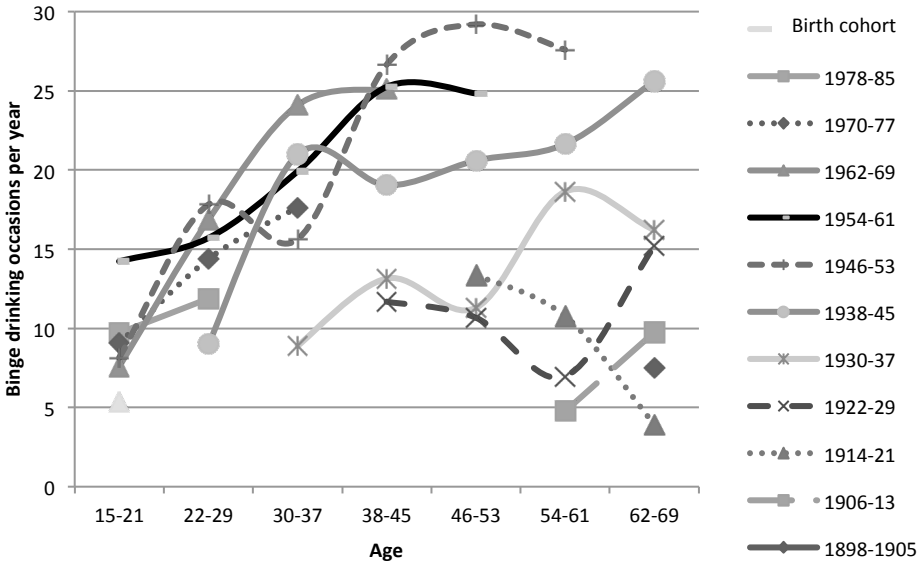


Figure 10. Average number of light drinking occasions by age for each birth cohort

Men



Women

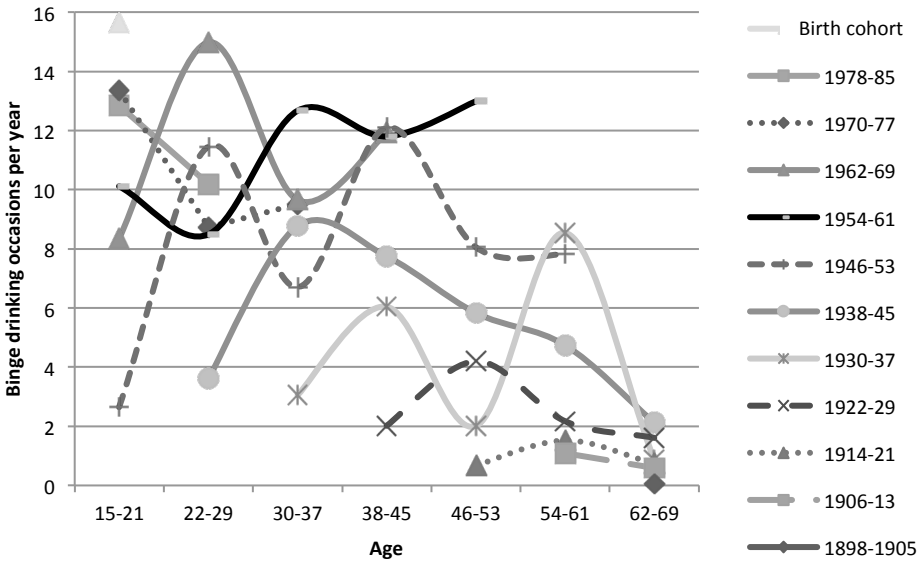


Figure 11. Average number of heavy episodic drinking occasions by age for each birth cohort

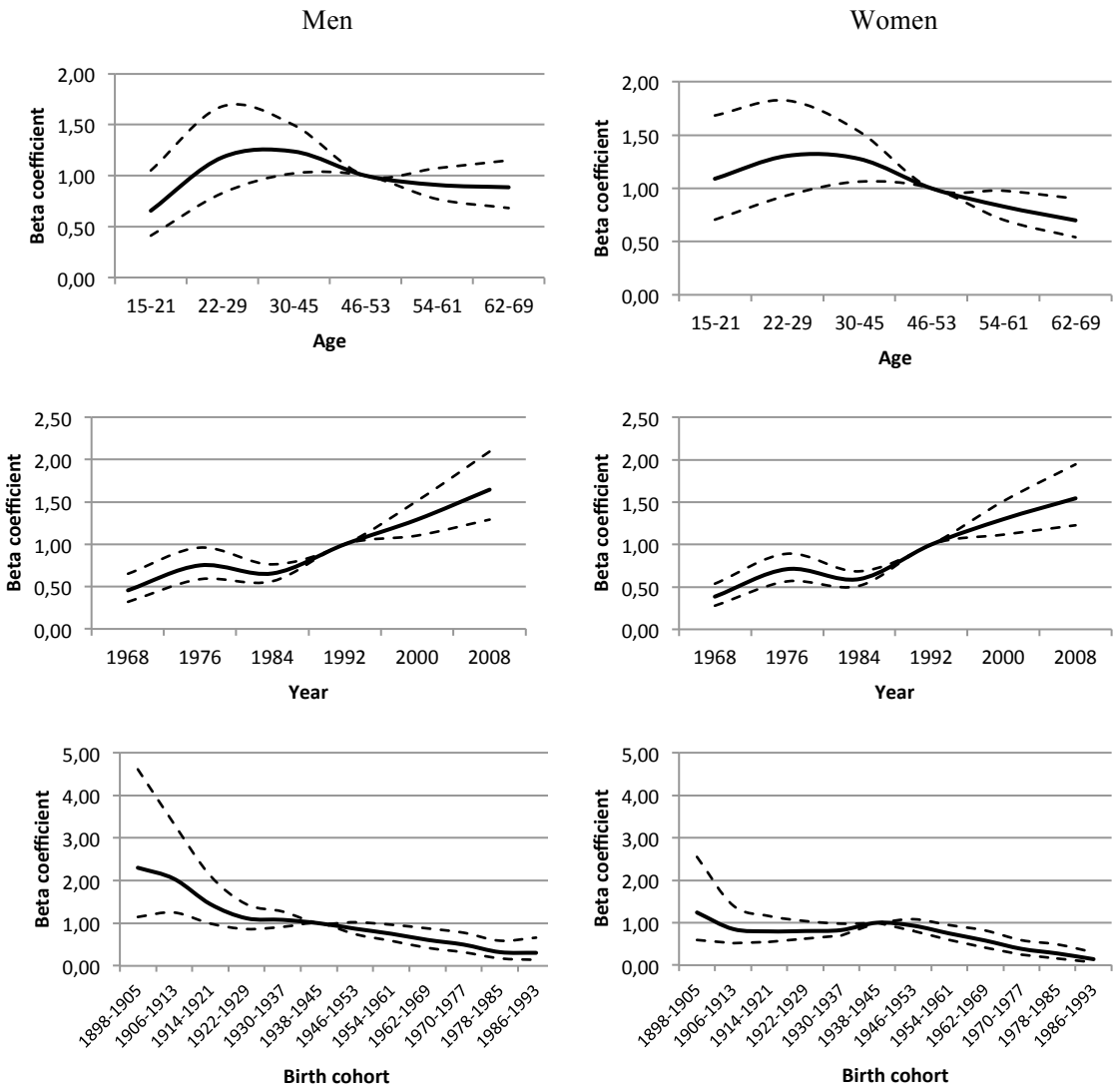


Figure 12. APC estimates of light drinking occasions for men and women. Reference groups are aged 46–53, from the period of 1992, and from the 1938–1945 birth cohort. 95% confidence interval: dotted lines.

Figure 12 presents the results for the negative binomial model estimating the APC-effects on light drinking. For age effects, the estimated beta coefficients were found to roughly follow an inverted U- or J-shape for both men and women. The age effects for 54 year olds and over were quite stable for men, while for women, there was a steeper decline. This result corresponded with the descriptive results, where men had a stable or rising age profile, and women had a decreasing profile.

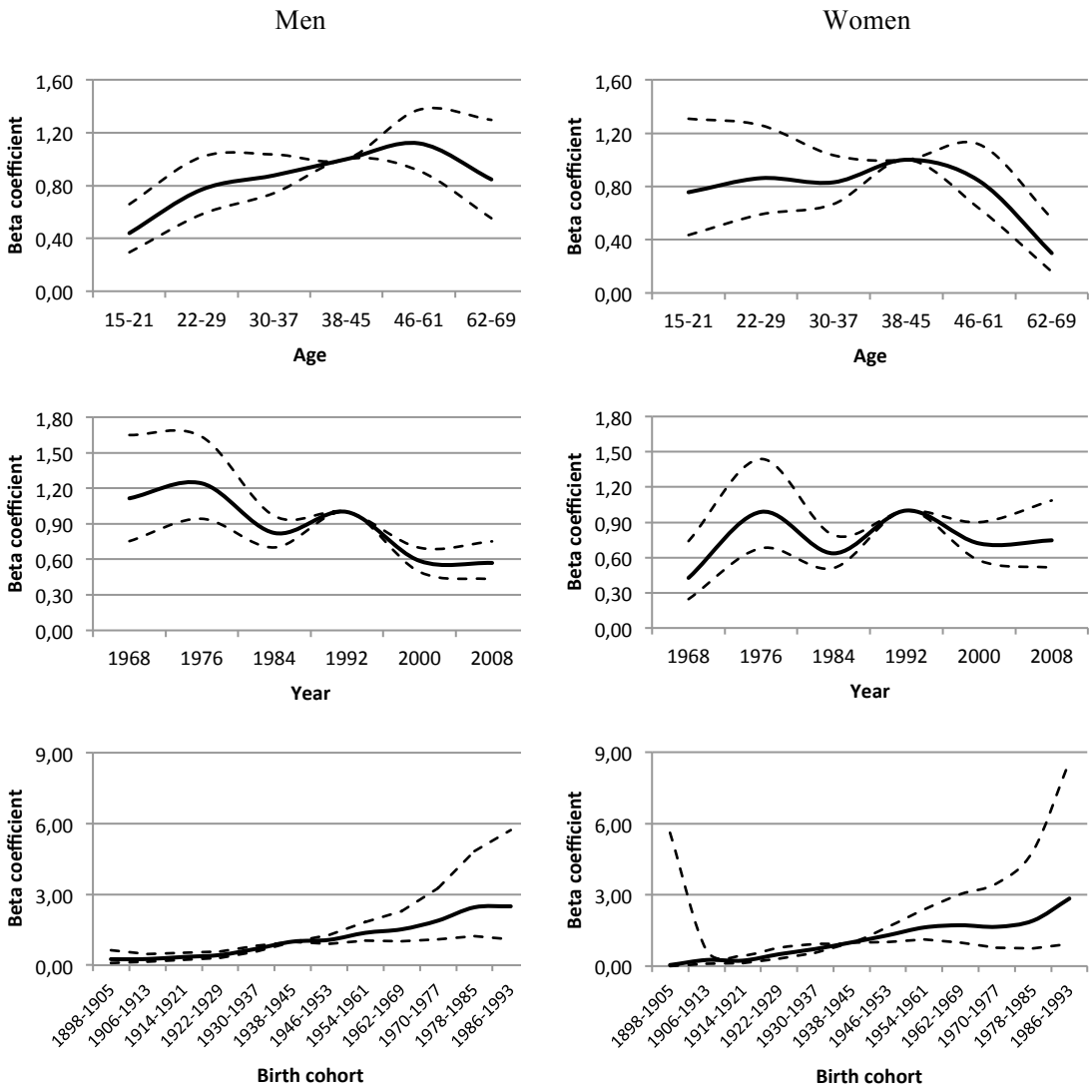


Figure 13. APC estimates of heavy episodic drinking occasions for men and women. Reference groups are aged 38-45, from the period of 1992, and from the 1938–1945 birth cohort. 95% confidence interval: dotted lines.

Period effects on light drinking (Figure 12) were similar between men and women, increasing with every survey year, with the exception of 1984. Possible inconsistencies with the descriptive results are due to the fact that the differences between cohorts are masked by a period effect, which is not depicted in Figure 10.

Cohort effects (Figure 12) declined for younger cohorts for both men and women. For men, the decline was systematic for every birth cohort and the effects

dropped from a 130 percent higher to a 70 percent lower effect in relation to the 1938–1945 cohort. The decline was not as linear for women; the cohort effects were stable for cohorts born between 1906 and 1937, increased temporarily for the 1938 to 1945 cohort and then declined.

Turning to heavy episodic drinking, Figure 13 presents estimates for the effects of age, period, and cohort. Similar to light drinking, age effects on heavy episodic drinking were found to drop more substantially for women after the reference age of 38–45.

Period effects on heavy episodic drinking showed a slightly increasing trend for women, although there was variation between certain survey years. For men, the period effects declined throughout the studied time frame.

Cohort effects on heavy episodic drinking were found to increase with more recent cohorts, with the effects peaking for the youngest male and female cohorts. For male cohorts, the increase was found to accelerate with cohorts born after the 1920s. For female cohorts, the relative cohort effects increased continuously for cohorts born between 1914 and 1961. The cohort effects for the 1954–1961 cohort were 250 percent higher than for the 1914–1921 cohort. The increase stabilized for cohorts born between 1962 and 1985 but peaked for the most recent 1986–1993 cohort.

7 Discussion

The main goal for the present study was to analyze the dynamics of some of the central dimensions of drinking culture in Finland over the past four decades. More precisely, the topics of study were changes in the norms around drinking, cohort-wise changes in light and heavy episodic drinking, changes in drinking contexts and changes in the relationship between drinking and socioeconomic status.

7.1 Attitudes and norms around drinking

Overall, it was found that attitudes towards moderate use of alcohol have grown more permissive than ever. Opinions on the excessiveness of alcohol use in Finland—which could also be interpreted as being connected to alcohol policy issues—have varied over the past four decades, with the latest trend for stricter opinions appearing since the latter part of the 1990s. Situational norms for light drinking and intoxication in regard to work situations showed no changes, with alcohol use still viewed almost as prohibited. In every day meal situations, the evaluation of light drinking has been neutral, and while intoxication has been viewed negatively, there has been a slight liberalization in both norms. Weekend situations, on the other hand, have seen a substantial liberalization compared to the late 1970s, with both light drinking and intoxication evaluated more positively than ever. Situational norms have been found to guide drinking in non-everyday situations in other studies too (e.g., Greenfield & Room 1997), and the development in Finland shows that this normative guidance has intensified.

Taking the conceptual background from Mäkelä's framework on alcohol attitudes (Mäkelä 1987) together with the notion of the drinker being connected to the evaluation of drinking (Tigerstedt 1990), it could be concluded that interpreting developments in the attitudes and norms around the use of alcohol depends on whether it is the 'us' or 'them' viewpoints on drinking that are under consideration. To begin with, views on alcohol as a part of everyday life, which can be interpreted as views on how alcohol should be used by 'us', have only grown more permissive since the 1960s, regardless of attitudes towards alcohol policy, which have varied in both directions during the studied time period. Additionally, the substantial changes towards a more positive evaluation of drinking—seen both in the leisure context of the situational norm items and the evaluation of alcohol as such presented in sub-study I—have underlined a trend towards liberal views in regard to one's own drinking. However, despite this liberalization trend, attitudes towards alcohol policy issues, interpreted as alcohol use by 'them', have become stricter since the 1990s, calling for new tightenings in alcohol control.

Mäkelä's (1987) framework can be utilized to conceptualize the opposite trends in alcohol attitudes: beginning in the 1960s, the cultural position of alcohol has moved further away from socially encapsulated occasions, and values towards drinking have become more liberal. During these developments the liberalization of alcohol policies has received both criticism and endorsement. The successor to the Prohibition Law, the state alcohol monopoly, did not start to liberalize until the 1950s and, in a radical sense, only in the 1960s (Häikiö 2007). This history may lie behind the finding that liberalizing alcohol control policies received endorsement, especially during times of stable consumption. However, the major liberalizations in 1969, 1995, and 2004 have induced serious concerns in the public about the detrimental effects of increasing consumption.

7.2 Changes in drinking contexts

In general it was found that drinking occasions in Finland have gone through two major transformations: in terms of the location, drinking has shifted towards homes, and in terms of the drinking company, most of the drinking occasions are spent with a partner. In addition to these, drinking has concentrated on the weekends even more than before.

The simultaneous increase of drinking at home and decrease on licensed premises is not merely a Finnish phenomenon, as a similar kind of shift towards drinking at private places has been reported in the UK, too (Foster et al., 2010). The same study showed that the costs of drinking, the safety of the home, social occasions, child-care and fear of under-age drinkers were motivating factors for drinking at home. The same motivations could be behind the majority of Finns choosing to drink at home instead of in public venues, like pubs, night clubs and restaurants. Public places have been increasingly occupied by young adults (Holmila 1997), which might induce a stigma of an unsafe and risky drinking venue, for which older people are more susceptible.

Age of the drinker was particularly relevant to the results on the drinking company. It was clearly respondents aged 35 and over who had increased the share of drinking with a partner. Drinking location or time of the week did not reveal major differences between younger and older drinkers, only the drinking company. For people who live with partners and especially with young children, drinking at home with one's partner may appear as a natural choice. In addition, these transformations in drinking contexts play a role in the overall convergence of men's and women's drinking (see Holmila & Raitasalo 2005). They challenge the simplified unidirectional causality that women are drinking more like men, for in drinking situations with a partner and mixed gender groups, men have also started to develop more moderate drinking practices in addition to the traditional heavy drinking.

In addition to specific changes in the drinking culture, there have also been more general changes in the use of leisure time related to the shift of drinking occasions into the private sphere. Total leisure time has not changed during recent decades in Finland, while the overall time spent outside the home has decreased strongly and, in turn, there has been a major increase in the time used for watching TV (Toivonen 2006).

7.3 Changes in the relationship between drinking and socioeconomic status

Socioeconomic patterning was found in all aspects of drinking that were studied, but the direction of the difference was not always the same. For light drinking occasions, the general finding was that higher classes more often drink small amounts of alcohol at a time. While light drinking has become more and more common in every SES-group, differences persist. One explanation for this would be the increase in the affordability of alcohol (Karlsson & Österberg 2009): Those who have always been able to afford to buy alcohol have not increased their light drinking frequency while the potential to buy alcohol for the less well-off has increased. This has meant that those who previously wanted to save money in reserve for alcoholic beverages for the weekend binge could afford to drink additional small amounts through the whole week. Affordability, however, does not adequately explain the interesting finding that female upper nonmanual workers have had as many light drinking occasions as male lower nonmanual or manual workers. This finding might be explained by a previously presented argument that women in higher job positions more often behave similarly to men in the working world, or simply have more opportunities to drink (Hammer and Vaglum 1989).

A distinct SES gradient was found in wine drinking, with the higher occupational groups drinking significantly more often than the lower ones, over twice as often among men and half as often among women. Other studies have also reported an SES-gradient in wine drinking (Barefoot et al. 2002), but socioeconomic background might also play a role in respect to wine drinking trends. The drastic drop in wine drinking in France in the period 1965–1979 was interpreted as a result of a culturally spread phenomenon that followed the dynamics of hierarchical diffusion (Rogers 1983). In France the transition was described as a process, where "the drinking patterns of the higher SES groups are gradually adopted by the whole population, but the former groups go on changing their consumption style so that they will not be reached by others" (Sulkunen 1989). In Finland, results on wine drinking trends showed that there has been a continuous increase in wine drinking frequency for all SES groups, but that the gap between upper nonmanual classes and lower classes is widening. What we are witnessing might be a result of a similar logic as in France – a spread of new practices from higher social classes to lower ones. However in Finland, the adopted new drinking practice is imported from a

foreign drinking culture in contrast to France in the 1970s, where the new practice was to abandon traditional ways of using alcohol.

Those with high social status and with more "cosmopolite" characteristics were found to be the early adopters of wine drinking in a Norwegian study (Rossow 2005), which further implies that trends in wine drinking might follow the diffusion theory in drinking cultures, where wine drinking is being imported to.

Wine drinking is not the only transformation seen in drinking practices that may be driven by hierarchical diffusion. What was found in the converging trends in women's heavy episodic drinking could also be partly due to such dynamics: Women with higher socioeconomic background have served as a vanguard, i.e. the early adopters, for heavier and more frequent drinking practices and for the overall liberalization of drinking culture for women.

For the frequency of heavy episodic drinking (6+ drinks per occasion for men, 4+ for women), differences between SES groups were found for men, but not for women. Among men, manual workers had the highest levels, but the difference compared to other SES groups was relatively small. Using this criterion for heavy drinking, Finnish men have been surprisingly uniform over the past four decades. For women, while the level of heavy drinking did not differ across SES groups, there were significant differences in the trends: the frequency of heavy episodic drinking among female manual workers has increased continuously and reached a historical high in 2008.

The trends in very heavy episodic drinking (12+ for men, 8+ for women) reveal that an extreme-drinking criterion reveals wider differences between SES groups. For both men and women, manual workers had the highest levels in very heavy drinking and relatively larger differences compared to other SES groups than in heavy drinking. It was noteworthy that the frequency of very heavy episodic drinking hit a historical high for female manual workers in 2008.

Results on the increase of harmful drinking among manual workers in the 2000s is in line with previously reported effects of the tax cuts in Finland in 2004: alcohol-related mortality increased particularly for the less well-off (Herttua et al. 2008). It is alarming that extreme drinking continues to burden the less well-off, for both men and women, with no signs of a downward shift.

7.4 Cohort-wise change in light and heavy episodic drinking

The analysis of age, period, and cohort effects of light and heavy episodic drinking produced results that challenge the traditional finding from cross-sectional analyses for drinking and age. It has previously been shown that drinking declines with age, especially for women in Finland (Mäkelä & Härkönen 2010), but when the age profiles for cohorts were investigated, only the oldest cohorts had a similar relationship with respect to age. This suggests that what seems to be an aging effect in a cross-sectional study might actually be a cohort effect. Particularly for women,

the increase in heavy drinking between cohorts has been so great that the picture from cross-sectional data actually suggests that older cohorts have lower levels of drinking and more recent cohorts higher levels of drinking. Moreover, for female cohorts born between 1946 and 1969, heavy drinking is not declining between the ages of 22 and 61, as with older cohorts. For male cohorts, it is noteworthy that cohorts born between 1946 and 1977 were very similar in their light and heavy episodic drinking profiles.

In earlier APC-analyses, cohort and period effects have been shown to be important for various indicators of alcohol consumption (e.g., Kerr et al., 2009, 2004). In the present study cohort effects were found to decrease for more recent cohorts, while period effects were increasing with study year. Considering that light drinking has increased in the population over the past decades, this result suggests that period effects on light drinking—that is, the cultural, economic and legal conditions during the survey years—have surpassed cohort effects. The age profiles for cohorts showed that each cohort has had a similar extent of light drinking occasions in different historical times. Against this finding it can be argued that historical events have affected each cohort's light drinking to a greater degree than the specific background of the cohort, per se.

When the age, period, and cohort effects were modeled for heavy episodic drinking, it was found that cohort effects increased with more recent cohorts, while period effects decreased slightly for men and increased for women over the survey years. This would suggest that in contrast to light drinking, differences between cohorts have been the main contributor for the increase in heavy drinking in the general population. This was seen especially for female cohorts, with great differences in their age profiles. The increasing cohort effects on heavy episodic drinking may also imply that if no major period-related events occur in the near future and the aging effects remain constant, the prevalence of problematic alcohol use in the older age groups is likely to increase. Such an increase would be most visible in older female age groups because of the extensive changes between female cohorts.

In Finland, there have also been other studies reporting cohort changes in drinking, with one of the earliest from the 1970s (Sulkunen 1979). The study argued that the cohort born between 1946 and 1955 drank significantly more than the previous or succeeding cohorts. The result was based on an analysis of decreasing abstinence for that particular cohort and thus it was given the well-known label of the "wet generation". In 2003, a study of time trends in abstinence reported that a decline in abstinence has been systematic between cohorts in 1968–2000 and no particular cohort differs from the time trend (Herttua 2003). In 2005, a study on cohort differences in alcohol-related mortality hypothesized that if the wet generation existed, it should possess higher alcohol-related mortality than other cohorts, given its "wet" background (Valkonen & Kauppinen 2005). However, the alcohol-related mortality was found to increase steadily, with no differences

between the wet generation and other cohorts, and the hypothesis of the wet generation received no support.

In the present study, when cohort profiles were investigated for heavy episodic drinking, the increase was systematic for more recent cohorts. For men, the increase halted for cohorts born after 1938, while for women, each cohort was succeeded by a heavier drinking cohort, up to the three most recent cohorts. Moreover, when age, period, and cohort were controlled for, the 1946–1953 cohort, which was closest to "wet generation", was followed by more recent cohorts with greater cohort effects. Again, in terms of light drinking, the cohort profiles showed no particular characteristics for the 1946–1953 cohort and the APC modelling predicted declining cohort effects for the following younger cohorts. In other words, the cohort effects on light and heavy episodic drinking for the 'wet generation' followed an existing trend rather than creating a completely new one, providing yet more evidence that there has been no one wet generation, but several wet generations comprising a wet nation.

7.5 Strengths and limitations

This study was able to make use of exceptionally good quality survey data. The Finnish Drinking Habits survey has been repeated as a face-to-face interview with an 8-year interval, providing ideal data for time comparisons. The data-set consists of rich measurements of the context of drinking. Moreover, the response rate has remained high in spite of the falling trend: between 1968 and 2008 the rate has decreased from 96 to 74 percent. The non-response rate is higher particularly among young adult males than other groups, which should be acknowledged when interpreting results for these age groups (Huhtanen et al. 2009). Moreover, survey data is not likely to include the heaviest drinkers (Lahaut et al. 2002). Surveys also suffer inherently from intentional or unintentional underreporting, which affects coverage rates. The coverage rates in Finland have varied from survey to survey, which might affect some of the drinking measures particularly in 1984, but the variation has not been systematic and the analysis of trends has provided statistical strength over individual years. In addition, the coverage rates have remained at a decent level and it has been estimated that the underestimation is comparable to surveys in other countries (Mäkelä & Huhtanen 2010).

8 Conclusions

This study has conceptualized some of the key aspects of the Finnish drinking culture and as such provides a tool for a better understanding of the societal factors influencing alcohol consumption levels and alcohol-related harms. There are aspects in a drinking culture, such as attitudes and norms, which are not very susceptible to state control. In spite of the long tradition of alcohol control policies and attempts to modify drinking culture into a more moderate one (Mäkelä 2011), Finnish drinking culture has become tolerant towards drinking and drunkenness. Attitudes towards one's own alcohol use and intoxication have grown more liberal than ever before, which runs concurrent with increasing consumption. Some aspects of the attitudinal climate, however, show that intolerance towards the adverse consequences for society of drinking is growing again: results on opinions about alcohol policy show that there is a rising call for stricter control measures.

It is important for a policymaker to be aware of aging cohorts increasing drinking compared to earlier cohorts and which are likely to continue drinking at the higher levels also into later life. Changes especially in older women's harmful drinking are likely to occur given that the changes in female cohorts have been more substantial. At the moment, measured in absolute numbers, men drink three times more than women, but the gap will narrow. More emphasis on the prevention of harmful drinking among elderly people is needed in the near future.

In its history, the Finnish State Alcohol Monopoly has promoted the substitution of drinking practices with less harmful ones through its pricing policy (Mäkelä 1975); by introducing new beverages it has tried to encourage a preference for more frequent drinking of small doses rather than less frequent drinking of large doses (Sulkunen 2000; 2002; Mäkelä 2011). Despite the efforts, the transitions in Finnish drinking culture over the past decades have been principally the addition of new drinking practices – an increase in both light and heavy drinking. The typical adverse consequences of a dry drinking culture are the acute social harms related to sporadic heavy episodic drinking, which have remained at a stable level over the past decades in Finland; the harms of a typical wet drinking culture, however, such as cirrhosis mortality and alcohol dependency related to prolonged heavy use of alcohol, have increased alarmingly (Tigerstedt & Österberg 2007; Mäkelä 2011). In the 2000s, Finns are suffering from the worst of both worlds from the traditional Nordic and Mediterranean drinking cultures.

Room and colleagues (2009) argue that formal institutional and legal controls on alcohol often lag behind possible downturns in consumption, but become a factor in pushing down consumption once the trend towards reduction begins to emerge. In light of this study's results on cohorts, no such shift in consumption can be expected to occur at the population level in the near future in Finland. However, drinking

among the under-aged has been reducing during the 2000s (Raitasalo et al. 2012; Raisamo et al. 2011), giving a weak signal of a possible downward shift in consumption, provided that the cohorts will continue to drink at the decreased level. Considering that later onset of drinking is related with lower levels of consumption and harm (Pitkänen et al. 2005; Kuntsche et al. 2009), this possibility should be supported with alcohol control policies, for which there already seems to be an endorsement from the public. Drinking among these young cohorts should be followed in future studies.

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