Thesis for the degree of Doctor of Philosophy, Östersund 2013

GAMBLING AND GENDER – A PUBLIC HEALTH PERSPECTIVE

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ISSN 1652-893X,
Mid Sweden University Doctoral Thesis 149
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Printed by Kopieringen Mid Sweden University, Sundsvall, Sweden, 2013
To Mia Fällström, my sister and best friend
ABSTRACT


Prevalence studies around the world show that men are the largest group at risk of becoming problem gamblers and that men gamble more than women. However, gambling research has long been gender blind. The gambling market is rapidly changing, with the Internet making gambling more accessible. Further, despite the well-documented presence of health, social and financial problems among the concerned significant others (CSOs) of someone close with gambling problems in clinical and help-seeking samples, there is little research investigating on this population. This thesis aims to examine the relation between gender and problem gambling among regular gamblers and CSOs, and to determine whether there was a convergence of men’s and women’s gambling behavior between 1997/98 and 2009/10 in Sweden. A further aim is to examine health problems associated with Internet gambling and CSOs.

The data collections were taken from three different but linked gambling and health representative national population based studies in Sweden, all using the same methods: telephone interviews supplemented by questionnaires. The studies are as follows: 1) prevalence study 1997/98, age 15-74 years, n = 10,000, response rate 72% (n = 7,139) 2) prevalence study 2008/09, age 16-84 years, n = 15,000, response rate 63% (n = 8,165); and 3) incident study 2009/10, the 8,165 participants from the 2008/09 prevalence study were contacted again, response rate 74% (n = 6,021).

Gambling was generally merged into domains based on the axis chance-strategy and public-domestic. The dichotomy of public and private spheres is relevant in since there is a link between the public sphere and notions of masculinity and a link between the private and femininity. Further, the literature suggests that men are attracted to gambling that involves features of strategy, whereas women generally prefer game of chance. Problem gambling was measured using SOGS-R and PGSI. Health variables included measures such as self-reported health, psychological stress, social support, alcohol consumption, and financial situation as a determinant of health.
There were very few indications of a convergence between men’s and women’s gambling behavior. Men and women generally gambled in different domains. Men gambled more than women and dominated all domains except the domain of chance-domestic, a domain associated with less risk and Internet gambling. However, men and women who gambled regularly were just as likely to be problem gamblers. No gender differences were found in the score from separate PGSI analyses in the chance-public domain (games of chance in public spaces, such as gambling machines and bingo in halls). This domain was also the only domain associated with problem gambling for women who gambled regularly. Men and women were just as likely to report that they were CSOs and they constituted a large proportion of the Swedish population (18%). CSOs experienced a range of social, economic and health related problems including psychological stress, risky alcohol consumption, exposure to violence, and separations. For women who were CSOs, no relation with own problem gambling was found.

This thesis suggests that the presence of gambling machines must be addressed to prevent problem gambling and that separate analyses for men and women are required to identify important differences between genders. The findings indicate that gambling domains produce and reinforce gender. Further, to be able to prevent problem gambling we require further knowledge about these gendered processes. However, it is also important to see the overall similarities between men and women to avoid reinforcing stereotypical images of gender which would have an negative impact on the preventive work. Male and female gamblers are both very heterogeneous categories where the specific gambling site, context and life circumstances must be acknowledged.

Prevention, research and interventions should also target CSOs if a public health approach is applied because they require help and support in their own right. CSOs also play an important to the problem gambler. More qualitative research is required to understand gendered processes in gambling, as well as further research on interventions that go beyond the individual and address gambling and problem gambling at various levels. When addressing the harmful effects of gambling from a public health perspective, it is imperative to recognize the ethical principles of justice, autonomy, doing no harm and beneficence.

Keywords: Gender, problem gambling, concerned significant others, relatives, PGSI, SOGS-R, gambling, Internet, public health, health, social support, incidence
SAMMANFATTNING

Prevalensstudier runt om i världen visar att män är den största riskgruppen för spelproblem och män spelar mer än kvinnor. Trots detta har genus länge varit övertygande i spelforskningen. Spelmarknaden förändras snabbt, bland annat genom Internet som gör spel alltmer tillgängligt. Dessutom, trots att det finns mycket kunskap från kliniska och hjälpsökande populationer om att närbägande till personer som har problem med spel (CSOs) har problem med hälsa, ekonomi och sociala relationer, finns det få befolkningsstudier inom området. Denna avhandling syftar till att undersöka relationen mellan genus och spelproblem bland regelbundna spelare och närbägande samt att undersöka om det har skett en konvergens av män och kvinnors spelbeteende, det vill säga om män och kvinnor spelande blivit mer lika varandra, mellan 1997/98 och 2009/10 i Sverige. Ytterligare ett syfte är att undersöka hälso relaterat till Internetspel och hos CSOs.

Data insamlingen bestod av tre olika men sammankopplade svenska representativa befolkningsstudier som använde samma metod: telefonintervjuer som kompletterades med enkäter: 1) prevalensstudie 1997/98, äldrar 15-74 (n = 10,000), svarsfrekvens 72% (n = 7,139) 2) prevalensstudie 2008/09, äldrar 16-84, (n = 15,000), svarsfrekvens 63% (n = 8,165) och 3) incidensstudie 2009/10 där de 8,165 deltagarna i 2008/09 studien kontaktades igen. Svarsfrekvens 74% (n = 6,021).


Endast mindre indikationer på män och kvinnors spelbeteende skulle bli mer lika identifierade. Generellt spelade män och kvinnor i olika domäner. Män spelade mer än kvinnor och dominerade alla domäner förutom i domänen av slumpspel i hemmiljö, en domän som var mindre förknippad med risk. Män spelade även mer på Internet. Men män och kvinnor som spelade regelbundet hade spelproblem i samma utsträckning och i domänen som innebärl slumpspel som spelas i offentliga platser (som spelmaskiner på pubar och bingospel i hallar) fanns inga skillnader
mellan män och kvinnor i hur olika kännetecken på spelproblem fördelades. Denna domän var den enda som var associerat med spelproblem för kvinnor som spelade regelbundet. Män och kvinnor var lika benägna att upptaga att de var CSOs. Närstående utgjorde en stor del av den befolkningen, 18%. De upplevde en rad sociala, ekonomiska och hälsorelaterade problem såsom psykisk stress, riskabel alkoholkonsumtion, var mer exponerade för våld och separationer. Närstående män var mer benägna än andra män att själva vara problemspelare och de kände mer rådsiga för att förlora sina jobb. För närstående kvinnor fanns inget sådant samband, men de rapporterade sämre hälsa, var mer sjukskrivna och hade mindre socialt stöd än andra kvinnor. De hade även signifikant högre risk för att utsättas för våld än både andra kvinnor och närstående män.


Förebyggande åtgärder, forskning och insatser bör också rikta sig till närstående. Både på grund av att de själva behöver hjälp och stöd, men också på grund av deras betydelse för problemspelare. Mer kvalitativ forskning behövs för att förstå de genusprocesserna i spel och det behövs mer forskning och insatser som går bortom individen och adresserar spel och spelproblem på olika nivåer. Till sist, i det förebyggande arbetet kring spelande och spelproblem ur ett folkhälsoperspektiv är det viktigt att erkänna etiska principer om rättvisa, autonomi, inte göra skada och omsorg.

Nyckelord: Genus, spelproblem, närstående, anhöriga, PGSI, SOGS-R, spel, Internet, folkhälsa, hälsa, socialt stöd, incidens
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LIST OF PAPERS

This thesis is based on the following four papers, herein referred to by their Roman numerals:


PREFACE

Before reading this thesis, I ask you to listen to, and consider the cultural images of gambling and gender in the following songs: “The Gambler” by Kenny Rogers or Jonny Cash, “Gambling Man” by David “Honeyboy” Edwards, or Dylan’s “Ramblin Gambling Willie”.

I have always had a strong belief in equality. In addition to leading me into the political and social arenas, such beliefs contributed to my decision to become a public health worker. Before I started to work on gambling issues at the Swedish National Institute of Public Health, my interest in public health was mainly focused on gender, the structural determinants of health and violence as a public health issue. I grew up with gambling as a leisure activity - every Saturday my father would watch the football game on TV and nothing was allowed to disturb him. My sister and I joined in his rituals of preparing the bets. My mother’s played weekly on Lotto (a number game), but it was not considered to be a big deal. She would check the results when she had time. When I became older, I bet small amounts of money every week with some girlfriends. We met in the pub on Saturdays and watched the game. We were all feminists. We had fun. We were loud and draw attention.

Occasionally, I play poker. During my first visit to the poker room in Casino Cosmopol I was shocked by the gendered environment. Besides a couple of women, all of the 80 players were men. I am used to masculine environments, for instance worked as a train driver for six years. However, in this environment I felt that everything I did in the poker room would be interpreted by my gender: being a woman would overshadow all my actions. But I also felt that my gambling could act as a border crossing experience with regard to the female gender role. I have also noticed some of the gendered processes within poker at the casinos: the proportion of women in the poker room depends on the kind of tournament; the lower the entrance fees the more women there are. The last time I played it was at a very “cheap” tournament, 300 SEK (€34) and almost one third of the players were women. The presence of women actually annoyed one man at my table. When the casino arranged a “Pride-Poker” tournament during the Pride event in 2010 (a festival for homosexual, bisexual and transsexuals persons) almost half of the players were women. Later in the evenings, when only cash games with no limits are played; few women linger.

On the cover of this thesis there is a photo of my sister playing poker. I doubt I would have included a picture of her there if she was a frequent bingo player or gambled on Vegas machines. Gambling forms associated with women are given
low status, and women are invisible in the gambling field and problem gambling fields. Our valorizations are deeply embedded in a gendered understanding.

When I started to work with problem gambling, I saw the misery gambling could cause. I also realized its political dimensions were of great economic significance to both industry and governments, and that there was no clear demarcation between problem gambling and gambling. Further, problem gambling widens the gap between social groups; it is a monetary transaction from poorer groups to the state and for-profits companies, a regressive form of taxation. For me, this situation triggers a feeling of injustice and inequality, and strengthens my motivations to work on the issue from a public health perspective. Society leans towards individual responsibility for people’s problems, and we hear calls for people to learn to gamble responsible and that “most gamblers do not have problems”. However these comments may only act to stigmatize those of us who lose control. Meanwhile certain people are making a lot of money from those who put their lives at stake.

If you have now finished listening to Kenny Rogers and co, I ask that you listen to “Blow up the Pokies” by the Australian band The Whitlams which is a tribute to Andy Lewis, a former band member who committed suicide due to his problems with gambling machines (pokies). This song captures the loss of a loved one to gambling. Stories such as this one are happening too often and too seldom told.

INTRODUCTION
In Sweden, excessive gambling has been one of the eleven public health domains together with alcohol, narcotics and drugs, since 2002, meaning that public authorities at all levels should work toward by addressing problem gambling. The target of societal efforts against problem gambling is to reduce the harm from excessive gambling. This dissertation stems from a broader longitudinal research project on gambling, Swedish longitudinal gambling study (Swelogs), which is funded and run by the Swedish National Institute of Public Health (SNIPH). The aim of Swelogs is to develop knowledge relevant for the prevention of problem gambling.

Gambling studies is an international and multidisciplinary field. However, it involves mainly epidemiologists and psychologists from Western countries and is relatively undeveloped compared with research on alcohol (Binde et al. 2013; FAS 2012). Gambling research has long been gender blind (Holdsworth et al. 2012; Volberg 2003) thus, research is conducted without accounting for women, men or
gender, and thereby reinforces the dominant norms and understanding of gender (Hammarström 2007). This situation continues despite the fact that prevalence studies around the world unequivocally point to men as the largest group at risk of becoming problem gamblers (Department of Justice 2009, Williams et al. 2012).

**DISPOSITION**

The first section of the background will introduce several central concepts gender, gambling, problem gambling in Sweden, concerned significant others to a close one who has gambling problems (CSOs) and the section headed theoretical framework presents the main perspectives in the thesis. The background section aims to contextualize the study. My empirical data is sourced from qualitative interview studies, where gender is reduced to an analytic category, and thus the background aims to frame the gendered context. The rationale and aims of the thesis are also discussed. The methods section presents the different data sources, the participants and measurements. The results are described in the findings and examined in the discussion which also includes a discussion on methods. Finally, the implications of the thesis are discussed, and some overall conclusions are made and areas for future research are proposed.

**BACKGROUND**

**Gender**

The term sex is used in reference to biological sex, while gender describes the social, cultural and historical constructions of sex; dynamic identities shaped by social interaction (Wamala and Lynch 2002). Gender is not a property of individuals, but an emergent feature of social situations; both as an outcome of and a rationale for various social arrangements (West and Zimmerman 2002). These constructions permeate institutional, social and cultural patterns as well as personal relationships and together they form a gender order. The gender order is hierarchic in character, a key form of a stratification system for the distribution of resources there men as a group having more power and resources than women as a group (Harding 1986; Connell 2009; Holdsworth et al. 2012; Östlin 2002). Gender, however, is not a homogenous category rather, it differentiates itself from socio-economic backgrounds, ethnicity and sexuality, while also interacting with them (Hammarström 2007; Östlin 2002).

Individuals are not unconstrained to do gender, their agency is curtailed by social institutions that prescribe situational appropriate accomplishments of gender (Charlebois 2011). Figure 1 is derived from Hensing (2008), and illustrates how
material, social and cultural conditions and images interact with biological sex and
gender identity and affect, and are affected by social practices and life style such as
gambling. Masculinity can be described as several parallel and interacting
masculinities. The term hegemonic masculinity can be used to underline the notion
that certain masculine expressions are predominant and have ascendancy over
others (Connell 1995). Further, hegemonic masculinity is a “phantom” image; an
image of masculinity. Men relate to this phantom picture and “calibrate” their
masculinity against it (Connell 2003). Much like masculinities, there must be more
than one femininity (Charlebois 2011). A gender analysis of gambling sensitizes us
to the specifically gendered representations and how these are valued in
gambling sites and behaviors. For instance, perhaps some sectors of gambling are
masculinized, that is, spaces where “masculine” behavior or men is being promoted,
rewarded and which will consequently attract more men than women.

![Figure 1. Gender interactions. Derived from Hensing (2008).](image)

According to the Swedish Research Council Gender, gender research holds gender
at the center of the analyses and examines power. Sex/gender difference research is
defined as research that includes both men and women and that describes results
for both men and women, either by controlling for sex/gender in the analysis or by
reporting the results separate for men and women. Gender blind research includes
all other research (Hammarström 2007). There does not need to be a clear
boundary between gender research and sex/gender difference research. Even if
sex/gender differences research often reproduces images of men and women as
constant and unchangeable concepts, it also can add knowledge by contributing
new information on men and women if emphasis on gender (Hammarström 2007).
A gender perspective in this thesis means considering the importance of gender in
gambling and problem gambling. It also provides a base to discuss conditions
under which men and women live with regard to power, resources, division of
labor as well as the construction of femininities and masculinities. While using
men and women as quantitative analytic categories (as in this thesis) may limit the
possibilities to really understand gendered processes, it can provide an
understanding of the gendered context of gambling and raise new questions.

Gambling
Definition
Gambling is a broad concept that includes a wide variety of activities undertaken
in diverse settings by people of different categories and motives, and is perceived
in various ways by participants and observers (Abbott 2007; Lander and Westfelt
2004). Gambling includes lotteries, casinos, horse racing, bingo, Internet poker and
other Internet games, betting, fund-raising activities for charity and machine
gambling or casino games in restaurants and bars. The common denominator is
that these activities involve the risk of losing something of value in exchange for
the chance of winning something of greater value (Thompson 1997). In Sweden
gambling is regulated by the Casino Act (SFS 1999:355) and the Lottery Act (SFS
1994:1000). Regulated gambling is authorized, organized public gambling for
commercial purposes. Permits are granted by the government, the Gaming Board,
provincial governments and municipalities depending on the specific gambling
form. Poker and horse games are also included in the Lottery Act. The Lotteries
Act contains a prohibition of promoting participation in lotteries arranged outside
Sweden and illegal lotteries. Examples of illegal lotteries are all other physical
gaming machines than the gambling machine Vegas (since 2002) and some forms
of poker in clubs. People under the age of 18 years are not allowed to gamble on
most forms of gambling. International casinos in Sweden have an age limit of 20
years.

The thesis does not include gaming: computer- and TV-games with no monetary
winnings. Associations between gaming and gambling have been found (Wood et
al. 2004; Statens folkhälsoinstitut 2012a). Some researchers suggest that gaming
actually meets the criteria of addiction (Hellström et al. 2012). Neither does the
thesis include investments in the stock market, even though it can be argued that
there are commonalities between gambling and buying and selling market shares.

History and prevalence in Sweden
Gambling with money exists in most of the countries in the world (Binde 2005).
However, the “universality” of gambling, that is, that gambling “always have
existed and in all communities” (these are statements that commonly used by the
gambling industry), is not quite true. Historically there are many cultures where
gambling never occurred. Cross-cultural gambling studies show, for example, that the presence of commercial money and social inequality promotes gambling (Binde 2005). Gambling in Western societies has moved from an activity of dubious moral value mainstream consumption, encouraged by the rise of consumerism and great economic interests (Young 2010).

A notable commercialization of the Swedish gambling market occurred during the 1980’s with the introduction of a number of new gambling forms and large amounts invested in marketing. Today the Swedish gambling market contains a wide spectrum of monetary games. The gross sale of the regulated gambling market in Sweden in 2011 totalled 42 billion SEK (€ 4.7 billion) with an annual revenue (profit) of 9.6 billion SEK (€1.0 billion) (Figure 2). Swedish adults (aged 18 years and older) annually gamble an average of 5599 SEK (€620) (Lotterinspекtionen 2012). These figures do not take into account the sales and revenues from unregulated companies or illegal gambling.

**Figure 2.** Gross turnover for the regulated gambling market in Sweden 1995-2011

In 1999, casino gambling with international gaming rules became legal and regulated in a special legislation, the Casino Act (SFS 1999:355). The cities of Stockholm, Göteborg, Malmö and Sundsvall each house a casino, the first was opened in 2001 (SOU 2006:64). Overall, the establishment of casinos seemed to have had greater negative effect in Malmö, a city with larger social disparity between groups (Westfelt 2006a). A further change also occurred within the same time period; gambling machines that were forbidden in 1979 were legalized in 1994 and Svenska Spel launched Vegas in 1996 (Lander & Westfelt 2004). After a couple of years Vegas was the gambling form with the highest turnover (the gross sale) in Sweden (Figure 3).
Figure 3. Gross turnover for 1995-2011 for the most profitable games. The figure does not include poker because official statistics only include data for “the rake” (the fee taken by the gambling operator).

Two larger prevalence surveys were conducted in Sweden in 1997/98 and 2008/09 (Rönnberg et al. 2000; Statens folkhälsoinstitut 2010). In 2008/09, 70% of the Swedish population gambled for money at least once during the last 12 months, and 44% gambled at least once a month (Statens folkhälsoinstitut 2010). However, gambling rates for the general population have declined dramatically since 1997/98 when 88% of the population reported they had gambled during the past year. This reduction is consistent with some international findings in replication studies of gambling prevalence (Williams et al. 2012). The decline in gambling in Sweden applies to all age groups and to both men and women. The percentage of people engaging in frequent gambling has also declined: 48% of Swedish men reported that they had gambled during the past week in 1997/98, compared with only 28% in 2008/09. The corresponding figures for women were 36% and 19%, respectively (Statens folkhälsoinstitut 2010). Meanwhile turnover has increased (Figure 1). This indicates that contemporary gamblers are more likely to gamble more money than was the case in 1997/98.

1 However, an representative postal survey in 1990 with a response rate of around 80% used economic criteria to define problem gamblers (the amount of stakes played) (Kühnert et al. 1995).
Internet gambling

Internet gambling has changed the global gambling scene (Wood and Williams 2009) and is a fast-growing segment of gambling in Europe (European Commission 2011). In 1995, there were only 25 Internet gambling sites. By 2011, this had increased to 2500 (Gainsbury & Wood 2011).

In 2002, the Lottery Act was changed to enable the state owned Svenska Spel and ATG to embrace digital platforms. Sweden became the first country in the world with a state-owned poker site in 2006 when the Swedish government gave a permit to Svenska Spel to launch poker on the Internet in addition to the existing Internet bingo, Internet sports betting, Internet lotteries and other games. In 2008/09, the prevalence of Internet gambling in Sweden during the previous 12 months was approximately 9% for people aged 16–84 years (Statsens folkhälsoinstitut 2010). There is not yet any collective policy in the EU on this area even though the EU wrote a green paper on Internet gambling within the internal market (European Commission 2011). Unregulated sites are easy to access in Sweden and they engage in aggressive marketing (Lotterinspektionen 2010). In 2008/09, 2.7% of the population had regularly (six times or more during the last year) gambled on unregulated sites, whereas the corresponding figure for men aged 18–24 years was 11% (Statsens folkhälsoinstitut 2010).

Motives to gamble

People gamble for various reasons and both gambling behavior and motives change over time. There are several theories on the motives for individual gambling in contemporary Western societies. Binde (2012) suggested a model that comprised five motivational dimensions, four of them optional: the dream of hitting the jackpot and transforming one’s life, social rewards, intellectual challenge and mood change induced by playing. The fifth motive is fundamental for all gambling – the chance of winning (Binde 2012). Motives behind gambling also appear to be gender specific. Men tending to gamble with a view to getting a kick out of the experience or to be intellectually challenged are termed suspense gamblers (Binde 2007). Men also seem to be attracted to gambling that involves competing with and against others, which includes some element of skill, whereas women generally prefer repetitive, monotonous forms of gambling that entail being on their own and where chance plays an important role (Burger et al. 2006). The motives of women are theorized to be closer to the change of mood: women more likely to state that they gamble as an escape from everyday life and for relaxation (Delfabbro 2000; Dow Shull 2002). Existing research has emphasized gambling as an escape (especially gambling machines), as being more pronounced among women than men (Delfabbro 2000; Holdsworth et al. 2012). However, it is
likely that both men and women use gambling as a coping mechanism and to escape life stresses, emotional pain and problems. Qualitative findings suggest that the difference between men and women lies in the kind of stresses, problems and types of responsibilities they experience, because women and men have different gendered experiences (Saugeres et al. 2012). Women described how they used gambling to escape from abusive husbands/partners and difficult relationships. Men talked about escaping work stress and relationship stress as well as general life stresses.

Clarke et al. (2006) found that social, cultural and environmental factors like advertising, access to money, gambling opportunities, alcohol and social inducements were more decisive for understanding why people begin to gamble, and stress and loneliness were important in understanding the continuing problem gambling. They also found that problem gamblers were more likely to have switched from other forms of gambling to gambling machines.

**Problem gambling**

**Definition and prevalence in Sweden**

Problem gambling is regarded as a public health issue (Dickson-Gillespie et al. 2008; Korn 2001; Marshall 2009) and is often defined as “gambling behavior that creates negative consequences for the gambler, for others in his or hers social network, or for the community” (Wynne and Ferris 2001). The term addiction applies when a person meets the criteria for a clinical diagnosis of pathological gambling. Pathological gambling is a diagnosis from the Diagnostic and Statistical Manual of Psychiatric disorders (DSM). It has been defined as an impulse control disorder in the fourth version (DSM IV), but will be included in the group of addictions in DSM-V that will be launched in May 2013 (American Psychiatric Association 2013). Problem gambling has progressed from being perceived as a moral and legal problem to being labelled as pathological, a disease (Suissa, 2007); today it is commonly viewed as a public health issue (Adams 2008; Reith 2007).

From a public health perspective there are reasons to change the focus from the clinical pathological perspective to one where problems connected with gambling are perceived as a continuum without decisive borderlines between being “problem-free” and having a problem with gambling (Castellani 2000; Petry 2003). The public health model is often contrasted with the medical, pathological approach. The latter concentrates on the treatment of problem gamblers (that is, resolving individual dysfunction by dealing with the individual), while the former aims to prevent problems associated with gambling (however they may arise) and to promote overall wellbeing (Productivity Commission 2010). It is also important
to note that by looking at how discourses are constructed; the public health approach may create an exaggerated risk discourse to justify paternalistic actions. Young (2010) and Reith (2007) both describe how discourses regarding risk within the public health perspective contribute to the construction of a “risk subject”, which still remains within the medical, pathological paradigm; epidemiological tools such as surveys and quantitative data are used to produce invisible risk subjects that should learn how to handle the risk of gambling.

Internet gambling has been associated with problem gambling in several studies (Kavli and Torgvik 2008; Wardle et al. 2011a; Tryggvesson 2007; Wood and Williams 2011; Taloustutkimus Oy 2007). Some features of Internet gambling, such as the ease of access and privacy of use, have raised concerns among researchers and policymakers worried that increased problem gambling and health consequences may occur (LaBrie and Shaffer 2010; Gainsbury and Wood 2012). However, there is no conclusive evidence that Internet gambling per se is more likely to cause gambling problem (Griffiths et al. 2010). These findings may be due to the fact that men and problem gamblers may be early adopters, e.g., they start to use new technologies and games before women and non-problem gambler (Corney and Davis 2010). There also tends to be a false dichotomy between Internet gamblers and non-Internet gamblers because most of Internet gamblers also gamble off-line (Wardle et al. 2011b).

According to a recent literature review of 202 population studies in various countries the standardized prevalence rate of problem gambling ranges between 1% and 5% of the population with an average rate across all countries of 2.3% (Williams et al. 2012). The proportion of problem gamblers in Sweden seems to be holding steady at just over 2% of the total adult population (1997/98 compared to 2008/09). The highest proportion of problem gambling is found among men aged 18-24 years old, with close to 10% having a gambling problem. In the oldest age group (65-84 years) the proportion of gambling problems is higher among women than among men (Statens folkhälsoinstitut 2010).

Using factor analysis, Blomqvist (2009) found that the general Swedish population viewed gambling as an addiction or misuse along with alcohol, narcotics, and medical drugs. Gambling ranked higher than alcohol in terms of its effects on society; respondents ranked it below medical drugs, with the same rating of the individual risk of “getting hooked” on alcohol and medical drugs (the highest scores were for cannabis and narcotics). Respondents also regarded gambling as very much a moral problem. The individual was to a high degree the one deemed responsible for causing and solving the problem; this is to a lesser degree than
tobacco use and snuff but to a higher degree than cannabis, alcohol, medical drugs and narcotics (Blomqvist 2009).

**Relation to gambling forms**

Meyer et al (2011) tried to distinguish risk potential characteristics in the gambling design. Ten different features were identified: availability, variable stake size, Jackpot, multiple games/stake opportunity, lights and sounds effects, near miss design, event frequency, cash out intervals, continuity of the game, and prize-back ratio.

In regard to the prevalence rates of problem gambling, the highest rates are found among games where men and masculinity dominate. Some forms including electronic gaming machines (such as Vegas), casino games, poker and Internet gambling have been strongly associated with problem gambling in Sweden (SOU 2008:124; Statens folkhälsoinstitut 2012a). This should not be interpreted as it is the presence of men that contributes to high levels of problem gambling. Holtgraves’ (2009) factor analysis of gambling forms in Canada showed that a clear gendered pattern emerged between men and women, with men associated with games such as sports, Internet poker, bookies, horse racing and women with the factor including lotteries, bingo and raffles. The “male” factor had a greater association with problem gambling. However, and importantly, the difference in problem gambling related to the “male” factor, which occurred both for men and women (the Gender x Factor interaction was not significant), demonstrating that the problem gambling difference between factors was not a function of greater male participation in the factor (Holtgraves 2009).

**Health**

Problem gamblers suffer higher levels of health related problems than the general population (Mason and Arnold 2007; Morasco et al. 2006; Wardle et al. 2011a). Problem gamblers report lower levels of general and mental health than others, and suffer from depression, anxiety and suicide ideation at higher levels than the general population (Carragher and McWilliams 2011; el-Guebaly 2005; Kessler et al. 2008; Park et al. 2010). Internet gambling has been associated with health problems, such as risky alcohol consumption, mental health problems and social problems (Lloyd et al. 2010; Potenza et al. 2011). Findings from the British prevalence survey in 2007 confirmed an association with heavy alcohol consumption and cigarette smoking; however, there was no relationship between self-reported general health status and Internet gambling (Griffiths et al. 2011).
Problem gambling is associated with stigma and shame (The Victorian Gambling Study 2012) which constitute important barriers to seek help (Suurvali et al. 2009). Stigma is not just experienced by the problem gambler but also by his/her family and network (Arbour-Nicitipoulus et al. 2010; Patford 2009).

In Sweden problem gamblers were found to report poorer self-reported health and poorer mental health, as well as riskier alcohol consumption and smoking. Men were also more likely to have been subjected to violence in the past 12 months. (Statens folkhälsoinstitut 2010)

Even if problem gambling seems to be exclusively associated to impaired health, gambling may be connected with a good state of health. There are indications that gambling as a spare time activity for elderly people can be related to improved physically and mentally functioning (Desai et al 2007; Vander-Bilt 2004). McMillen and Donnelly (2008) argued that for Aboriginal people, games such as card games organized by the communities themselves result in positive social interactions, reinforcing cultural and social relationships (McMillen and Donnelly, 2008).

Gender

Men gamble more than women, hence it is scarcely surprising that more men seem to have gambling problems. As no evident biological reasons for this have been identified, the difference should be socially determined (SOU 2006:11). However, there are studies that refer to biological differences. Steiner et al (2010) found that levels of testosterone in men increased while playing in poker competition. The authors did not include women in the sample but did acknowledge that women also have testosterone and refer to studies on typical “male-oriented sports” where women’s levels of testosterone followed the same patterns as men (Steiner et al. 2010). The only identified study on sexual orientation and gambling is a prevalence study showing that homosexual men gambled less than heterosexual men and homosexual women gambled more than heterosexual women (Hensberger and Bogaert 2005). From my point of view, such results should be linked to life conditions and gender constructions but instead the authors draw biological conclusions that male homosexuality arises from prenatal brain feminization and female homosexuality arises from prenatal brain masculinization. I oppose such biological approaches.

Women seem to acquire gambling problems faster and later in life than men (Ladd and Petry 2002; Tavares et al. 2001). This is called telescoping, which is also seen as regards alcohol, where women begin drinking later in life and then develop problems faster than men (Desai et al. 2006). Women with gambling problems are
also more likely to live alone compared with men with gambling problems (Statens folkhälsoinstitut 2010; Tavares et al. 2001). Gender comparisons of problem gamblers tell us that women are more likely to feel that they experienced insecure and socially unstable childhood (Rönnberg et al. 2000) or that they experienced abuse/trauma (Hallebone 1999; Kausch et al. 2006). International literature indicates that men with gambling problems more frequently experience problems at work and financial and legal problems, while female problem gamblers tend to experience problems with relationships and physical and mental difficulties (Crisp et al. 2000).

**Concerned significant others (CSOs)**

Concerned significant others (CSOs) is a term used in earlier research (Hodgins et al. 2007; Wenzel et al. 2008) and will be employed in this thesis to describe people in the surrounding environment of a person who have gambling problems. It could be a parent, spouse, child, relative but also a friend or colleague. Depending on the definitions of a CSO, every problem gambler is estimated to have between 7 and 16 CSOs who could be affected by their gambling (Ingle et al. 2008; Lobsinger and Beckett 1996). Little attention has been directed to the negative consequences of problem gambling on personal and social relationships (Orford et al. 2009; Petry 2005), and empirical research on the consequences for CSOs is surprisingly scarce. Most existing research has used help-seeking populations or convenient samples (Ingle et al. 2008). Findings from such literature suggest that CSOs experience a range from economic problems to social- and health problems (Shaw et al. 2007).

Most of research to date on the impact of problem gambling on CSOs has focused on the female spouses of problem gamblers (Kalischuk et al. 2006; McComb et al. 2009; Wenzel et al. 2008). Spouses have reported harassment and legal threats from the gambler’s creditors, distress of children, additional responsibilities arising from the gambler’s absences and neglect of family and physical manifestations such as headaches, sleeping difficulties, depression and anxiety (Heineman 1987; Lorenz and Shuttleworth 1983; Patford 2009) and suicide attempts (Gaudia 1987; Lorenz and Yaffe 1988). Research on help-seeking populations has found that spouses of problem gamblers are exposed to higher levels of domestic violence than those with a non-gambling partner (Bland et al. 1993; Korman et al., 2008; Muelleman et al. 2002). Children of problem gamblers have been reported to be at risk of experiencing abuse by both the gambler and his or her spouse (Darbyshire et al. 2001; Lesieur and Rothshields 1989).

A Norwegian study has explored the epidemiology of problem gambling in the family using a national representative sample (Wenzel et al. 2008). The results
showed that problem gambling has a strong impact on the quality of life of CSOs. Most of them were women, urban dwellers, divorced, and were in unsatisfactory financial situations and unsatisfactory subjective health. The effects of gambling on CSOs were a worsening family financial situation, decreased social relationships, and increased conflicts levels in the family. They also reported greater mental health problems than the general population, including sleep disorders, depression symptoms, obsessive-compulsive symptoms, alcohol problems, substance abuse and their own problem gambling (Wenzel et al. 2008). However, the study had a low response rate (36%). In addition, the study did not include any separate analyses for men and women.

In Swedish, close to 4% of the population (n = 262,500) lived in the same household as a problem gambler and close to one third of problem gamblers lived in a household with children (Statens folkhälsoinstitut 2010).

THEORETICAL FRAMEWORK

Public health perspective

There are different health theories. In this thesis health is understood from a sociological and ecological approach, where health and illness have social, political, economic and structural dimensions and determinants. Health is about the multifaceted relationships of determinants with an emphasis on health equity. The World Health Organisation (WHO) views health less as the absence of diseases and more as a resource or capacity (Naidoo and Wills 2000). Individuals have their own understanding of their health and their health status while population health or public health is concerned with improving the health of whole populations and groups, particularly to reduce inequalities in health through programs, policies, research and interventions (Keleher and Murphy 2004). In this thesis both economic factors and social support are regarded as determinants of health.

Reducing inequalities in health in the population is one of the central aims of public health approaches (Keleher and Murphy 2004) and is an important part of the Swedish public health policy (SOU 2000:91). Public health is largely determined by the circumstances in which people live. Most decisive processes and factors in people's health are not easily identified or isolated from each other. A socio-ecological perspective, including a gender perspective, has the potential to provide explanations of significance for preventive work (Landsänt 2010). Health related behavior, such as smoking, alcohol consumption and gambling, are important proximal, direct, determinants of socio-economic inequalities in health (Mackenbach and Bakker 2002). Research confirms that people with lower income
consistently contribute proportionally more of their income to gambling than middle and high income groups (Williams et al. 2011). People with low incomes, lower levels of education, immigrants, young persons, and single parents have higher rates of problem gambling than other groups in the population even though they gamble to a lesser degree (Statens folkhälsoinstitut 2010).

The understanding and treatment of clinical problem gambling is crucial for the concerned individual and this/her family. However, a public health perspective addresses not only the risk of problems for the gambler but also the quality of life of the families and communities affected by gambling (Korn 2001). From a public health perspective, efforts targeted at an individual level are often of limited value for society as a whole (Hansen 2012). A public health perspective on gambling aims to move beyond gambling as an individual behavior (Korn et al. 2003). When considering gambling problems it becomes clear that most studies are either concerned with prevalence or constitute clinical studies, especially those that examine gender differences and health (Shaffer and Kidman 2004).

Within the public health framework and in the understanding of health in this thesis, public health is closely related to ethical principles, and includes the principles of respect for autonomy, beneficence, nonmaleficence and justice (Naidoo and Wills 2000). Some accounts of ethics in public health have pointed to additional principles related to social and environmental concerns, such as the precautionary principle and principles of solidarity or social cohesion (Coughlin 2008). These principles are not always compatible, but must be discussed and balanced. How they are balanced is often an ideological or political question. Public health science is a normative science with an underpinned mission to act to improve public health.

**Gendered spaces**
The terms "space" and "sites" are important within the field of social geography. Spaces can be perceived and used as more abstract concepts, including mental, cultural and social space (Harvey 1989; Bauman 1995). Site is slightly more concrete; more geographically rooted but still structured in relation to the space and obtains its meaning through relationships. A space is built and defined by surrounding spaces and sites and has different implications for different groups of people. We have different opportunities to access the space and place depending on who we are. Our lives are always "spatial" as life takes place somewhere. New technology has to some extent broadened our ability to stay in different rooms, not physically with our bodies, but through our senses and intellect. Interactions in a specific site depend on political, economic and cultural characteristics, as well as
on the individuals and society that govern the site. Marchand and Runyan (2011) suggested that gender operates ideologically, especially in terms of gendered representations and valorizations of social processes and practices, at the level of social relations and physically through social construction of, and constraints, in relation to spaces.

Leisure constraints are defined as anything that inhibit people’s access to or ability to participate in leisure activities (Jackson 1988). Some claim that women of all ages are disadvantaged in their ability to determine their leisure choices and activities as a result of constraints as time, income, class, and marital and parental status (Dilley and Scraton 2010). Gambling is historically a masculine domain, and not all types of gambling have been equally accessible or culturally acceptable for women (Casey 2006; Hing and Breen 2001). This is partly because women have had the main responsibility for the care of children, and have had fewer opportunities to have jobs that require travels. Such mobility implies freedom, and brings with it more opportunities to be exposed to gambling among men. Further, women have not had the same economic freedom as men. Women have lower incomes and their finances have often been controlled by men (Hensing 2008). Female gamers, women who play computer games, reported that they felt that their male partners had more time available for game play, as male partners did not feel as obligated to engage in housework – tasks which women felt took precedence over leisure activities (Scott and Horrell 2000). The free time of women is further available in smaller chunks (Winn and Heeter 2009). Swedish women stated that 60% of their time was spent on housework in 2011 and have less leisure time than men (SCB 2012).

However, women still negotiate and claim time for leisure activities, including serious leisure (Dilley and Scraton 2010). Serious leisure is the systematic pursuit of amateur, hobbyist, or volunteer activities that are sufficiently substantial and interesting for the participants to find a career through gaining special skills, knowledge, and experience (Stebbins 2007; Raisborough 2006). In contrast, casual leisure is by contrast a relatively short-lived pleasurable activity, requiring little or no special training to enjoy it. Serious leisure requires commitment and women engaged in serious leisure often come into conflict with their families over the amount of time they spend on their leisure activities (Dilley and Scraton 2010). High-risk drinking is considered to be a serious leisure hobby (Maloney 2011). For some gamblers engaging in certain types of gambling, e.g., sports betting, horse racing and poker, participation could be viewed as serious leisure, both for men and women. Gambling forms such as lotteries and gambling machine could function more as casual leisure activities. Women who gamble in masculine
domains may find that they create spaces that potentially challenge existing restrictive gendered identities and that they create newer, more subversive femininities. An Australian qualitative study found that some women gambled to be seen as standing outside gendered expectations and norms, however, these were not their primary motivations (Saugen et al. 2012). Eaves (2009) argued that female poker players like Annie Duke are “third wave feminists”. Other researchers have claimed that when women play poker they are not explicitly oppressed with lower pay or lack of promotion - the game does not discriminate them (Abarbanel and Bernhard 2012). Given that luck is even across opponents, certain games can be perceived as a meritocracy without glass ceilings. Casey described how working class women in the UK relate their gambling (e.g., buying lottery tickets) as “everyday” and “ordinary” in an attempt to present their gambling as a “leisure” activity and not as a deviant or rebellious pastime (Casey 2008). Therefore, women who gamble, as well as men, are a very heterogeneous category.

The gender role theory (that men and women were viewed as having been trained in stereotypical role behavior as a result of their upbringing and other social influence) has been criticized as being outdated by some gambling researchers, suggesting that women and men today are relatively equal and share work tasks (Delfabbro 2009). The criticism differs from that of gender researchers who argue that the role theory is too simplistic in describing women and men as homogenous groups and lacks a power perspective (Hammarström 2007). However, even if there are small changes in the gender structure of the labor market and family, women are still associated with, and directed to, the private sphere and excluded from the public sphere (Campell 2000). Men are still associated with, and directed to, public sphere (Gislason and Eydal 2011). Violence against women remains to be a constant constraint on opportunities and on the lives of women and girls, both in private and public spheres of life (WHO 2012).

In Sweden, the difference between men’s and women’s salaries only decreased with 3% between 2000 and 2010. But maybe more important is the incomes there a report from the Institute for evaluation of Labour Market and Education Policy found that the gender gap in income has not decreased in 30 years. According to the authors, the most important reason is women’s responsibilities for childcare and domestic tasks (Angelov et al. 2013). To have a family is a negative factor for the economy of women: 15 years after the first child the gap in income between a woman and her male partner increase with 35% (Angelov et al. 2013). Regardless of class or positions in the workplace, women in Sweden, as in most countries, are
in general still primarily responsible for the private sphere of caring for the family and the home (SCB 2011).

**Gendered gambling domains**

In Sweden, women prefer quick lotteries, Bingo-Lotto and bingo, whereas men devote themselves to betting on sports, cards and horse racing (Rönnberg et al. 2000; Westfelt 2006b). Figure 4 shows the past years gambling of men and women in Sweden for 2008/09. This thesis has constructed gambling domains that could be perceived as gendered sites for people engaged in gambling. The term domain is here synonymous with space. Additionally, the domains are always connected to sites and the relations within those sites.

![Graph showing past year gambling of men and women in Sweden for 2008/09](image)

**Figure 4.** Gambling past year of men and women in Sweden for 2008/09

Several researchers have distinguished between games of “pure chance” (chance) and games of “skill and chance (strategy) (Bjerg 2010; McDowall 2009, Reith 1999; Stevens and Young 2010). A gender aspect exists in gambling preference; men seem to be attracted to gambling that involves competing with and against others, whereas women generally prefer monotonous forms of gambling that entail playing against a house instead of other players (Burger et al. 2006; Nower and Blaszczynski 2006). However, as hypothesized before, even if fewer women do play games of strategy or at masculine coded sites, women who actually break norms and engage in masculine coded spaces may experience that gambling in those domains contributes to feelings of empowerment and, satisfaction in changing the perceptions about women’s abilities (Abarbanel and Bernhard 2012; Eaves 2009).
Figure 5. Images of male and female gamblers often reproduce gender stereotypes where women are directed towards games of chance as bingo and men towards games of strategy/skill. Men are portrayed as competitive, aggressive and focused individuals while women as friendly, harmless and focused on their appearance and looks. With the courtesy of Svenska Spel.

Further, the dichotomy of public and private spheres is relevant when discussing gendered constraints with a link between the public sphere and notions of manhood and masculinity and the link between the private and womanhood and femininity (Pilgeram 2007). In relation to alcohol consumption, public spaces, such as pubs, are sites of male power and legitimacy. Through this public performance, dominant views of legitimate masculine behavior are reinforced and defended (Campell 2000). Parallels can be drawn to gambling. Women who gamble in typically masculine domains, such as poker in public place, face barriers to enter and stay in the environment by way a variegated reception from men, and from sexual approaches or harassment (Abarbanel and Bernhard 2012). Public gambling is a masculine coded space, whereas femininity is associated with what Casey (2008) describes as domestic gambling; that is, gambling at home or in a home environment and often through games of chance that are easy to learn and incorporate into everyday life, which reminds of causal leisure. In this thesis, gambling domains are categorized on the axes strategy-chance and domestic-public.

The convergence of the gambling of men and women
In looking at changes within the gambling scene, two areas require examination: whether or not men’s and women’s gambling behavior is converging, and the issue
of Internet gambling. Volberg (2003) launched the term “feminization” to refer to the idea that more women than before are gambling, developing problems and seeking help for problem gambling (Volberg 2003). This convergence in consumption and related problems has been evident in the field of alcohol for several decades in many countries (Kubicka and Csemy 2008).

The different roles and social positions of men and women provide different incentives for health-enhancing and health-damaging behaviors. Gendered power asymmetry is a rationale for men’s harmful health attitudes and behaviors and is used as a way of constructing masculinity (Courtenay 2000; Lohan 2007). In an equal society, men’s and women’s health behavior may come to resemble each other (Backhans et al. 2007). This is confirmed by comparative multilevel analyses between countries that found that family policy institutions affect the possible ways in which individuals can pursue their private lives and how they perceive gender roles (Nordenmark 2004; Sjöberg 2004).

Some researchers have suggested that men and women in many parts of the world have reached gender equality (Delfabbro 2009). If so, these movements towards equality should have a converging impact on gendered gambling patterns. However, as noted, gender equality does not follow a modernistic idea of deterministic progress (Holdsworth et al. 2012). In addition, women in gainful employment and who generally strive to live gender-equal lives tend to be subject to greater stress than women whose gender roles are more traditional which may cause the former health problems (Nordenmark 2008).

Internet and information technology are generally viewed as masculine coded domains. Digital games may operate as “technology of gender” (Balsamo 1996; Haraway 1991). Even if new technology can promise greater choice for women (or the poor or other marginalized groups), the technology often ends up reifying privileges and gendered norms. Computer technology is bound up in discourses concerning the gendered identities of users as well as producers and inventors (Royse et al. 2007). Men use the Internet more than women, in particular in regard to having personal web page, using game sites and in regard to downloading material (Joiner et al. 2005). This could be linked to the fact that, in 2010, less than 20% of the newly qualified IT technicians in Sweden were women (SCB 2010).

Concerning Internet gambling, men still predominate even if there are indications from UK that the proportion of women is increasing (Wardle et al. 2011a; Wood and Williams 2009). Internet gambling is a heterogeneous phenomenon, containing various gambling forms. Some gambling forms seem highly gendered, for example
Internet poker. One investigation that included a cohort of 4,459 subscribers who elected to play Internet poker found that 95% of their sample consisted of men. The women who gambled were generally older and gambled for a shorter duration of time than men (LaPlante et al. 2009). In contrast, one Canadian study found that women were as likely as men to gamble on the Internet (Ialomiteanu and Adlaf, 2001).

Internet gambling may be perceived as safer, less intimidating, anonymous and more accessible because it enables gambling from a home environment. Corney and Davies (2010) found that some women who gambled on the Internet viewed it as less of a masculine domain. Further, 20% of young Canadian women who played poker online reported gender swapping at gambling sites compared with 12% of the men (not significant) (Wood et al. 2007). However, there are other studies that challenge the notion that the Internet is a safe haven for women. People interact online and actions have very real implications for human beings, harassment and misogyny frequently occur when users identify themselves as women (Bemiller and Schneider 2010; Flanagan 2000). Both men and women who swapped gender recognized that women on Internet poker site were not taken seriously and were intimidated by male players (Wood et al. 2007). Masculine Internet environments do not generally include images of women on their sites, but if they do, they are often sexualized (McMullan and Kervin 2011). Sexualized images of women in games negatively affect women’s self-efficacy and influence people’s beliefs about women in the real world (Behm-Morawitz and Mastro 2009). Of the 71 international poker websites, 11% promoted overtly sexualized imagery to highlight the seductive nature of the poker environment and to appeal to male consumers (McMullan and Kervin 2011). In ads for casinos in newspaper men were not portrayed in a sexualized manner, but women were (McMullan and Miller 2009). Many Internet gambling sites providing casino games, bingo or such games try to create a feminine coded environment while poker and sport betting sites reinforce masculine images. Although some claim that men’s and women’s gambling behavior is converging, there are contradictory empirical findings and theories.

**WHY THIS THESIS?**

The premise for gambling and its contexts change rapidly. In a similar way the character of traditional gender roles is changing, and with them the significance of gender. How these changes interact is important in prevention research.

Gender is decisive in determining the scope of gambling and its consequences. This thesis is of significance because a) there is a lack of Swedish studies on
gambling and problem gambling from a gender perspective b) there is a need for greater knowledge regarding how gender influences different health scenarios, particularly in the field of gambling and problem gambling among the total population, the gambling population and among the CSOs c) to be able to work effectively with risk and protective factors we must understand their context and associations with different segments of the population; and d) there is a need for a follow-up to the national population survey on gambling in 1997/98, focusing on how these changes affect different groups.

AIMS AND QUESTIONS

The overarching aim of this thesis is to examine how gender interacts with gambling habits, gambling problems and being a CSO in the Swedish context. The specific aims are as follows:

Paper I: To investigate whether or not a convergence of men’s and women’s gambling behavior occurred between 1997/98 and 2008/09, and how eventual changes were associated with background variables such as education, age, family situation and immigration. This involves the examination of gender gambling domains to describe the distribution of men and women in the domains and whether or not the population’s engagement and preference for domains has changed between the two time points.

Paper II: To understand how Internet gambling contributes to gendered changes and the causal relations between Internet gambling and health variables such as mental health, social support and problem gambling. Of special interest are the incident (new cases within a year) Internet gamblers; who are they?

Paper III: Investigating the different features of problem gambling according to the separate Problem Gambling Severity Index items (PGSI-items) of men and women who gamble regularly in the gendered domains.

Paper IV: To redress the paucity of evidence regarding health, social support and economic hardship among CSOs by investigating self-reported CSOs in a Swedish national representative sample. This included analyses of changes in the above mentioned areas one year on for all participants who were defined as CSOs at baseline. What are the associations between being a CSO and life events as separations, changes in financial situation and legal or work-related problems from a 1-year perspective?
A further underpinning purpose of this thesis was to question the stereotyped images of men and women who gamble. The specific research questions can be summed as follows:

1. How does gambling interact with socio-demographic factors? (Paper I, II, III)
2. Is there a convergence of men’s and women’s gambling behavior in Sweden? (Paper I, II)
3. What is the relation between problem gambling and gender among gamblers and CSOs? (Paper II, III, IV)
4. What is the health situation of CSOs and Internet gamblers? (Paper II, IV)

**Table 1.** Important concepts in the thesis and their coverage by papers. The column of changes indicates that the paper contains data on time related changes.

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**METHODS**

**Study design (Paper I, II, III, IV)**

This thesis is built upon four papers based on three sets of quantitative data: data from a national population survey on gambling and problem gambling, the Swedish Gambling Study (SWECS) from 1997/98, data from the first and second waves of the research project Swedish longitudinal gambling study (Swelogs) in 2008/09 and 2009/10, respectively (EP I and EPII). Data were mainly collected via telephone interviews in all data collections. Those who could not be reached by phone were sent a postal questionnaire and two reminders. All data collection was carried out by Statistics Sweden (SCB) and commissioned by the SNIPH. Sweden has unique register databases that contain individual information about the population and are available to researchers. The data from the interviews were supplemented by registry data from the Longitudinal Integration Database for Health Insurance and Labour Market Studies. In all studies, the samples were balanced in relation to the population and attrition by constructing weights. Not all papers or analyses included in the thesis use the weights (Paper III used an
unWeighted sample). The study design (for the questionnaires for EPI and II) was constructed and agreed on by SNPPI with support of Swelogs Advisory Board consisting of gambling and epidemiological experts from Sweden, New Zealand and USA. The questionnaires for SWEGS and EP I were tested for performance by the Measurement and Evaluation Laboratory of SCB before they were finalized.

Table 2. The different data collections and the relation to included papers

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<td>II. Incidence of Internet gambling in Sweden: results from the Swedish longitudinal gambling study. International Gambling Studies 11:3, 357-375</td>
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<td>III. Regular male and female gamblers in a population based study: analyzing PGSI-items in gendered gambling domains. Submitted</td>
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<td>IV. Concerned significant others of people with gambling problems in a national representative sample in Sweden. A follow-up study. Resubmitted</td>
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Data sources

Swedish Gambling Study, SWEGS (Paper I)

The original sample for SWEGS included 9,917 individuals aged 15-74 years drawn from national registers. The sampling frame was designed to achieve a nationally representative sample. Youth (aged 15-17 years) and people not born in Sweden (immigrants) were oversampled because of the importance of separate analyses for groups expected to have high rates of problem gambling. The final sample included 7,139 respondents with an overall response rate 72%. If participants who used the postal questionnaire were excluded, the response rate was 67.5% (n = 6,754). Once data collection was completed, the variables from the register were matched to the respondents in the original sample and included in the final
dataset. The questionnaire used in SWEGS was composed of four major sections, including detailed questions on involvement in 17 different gambling forms. The primary gambling screen used was SOGS-R. In addition to the test of performance at Statistics Sweden, a pilot study was conducted in spring 1997 with 2,998 participants; people who gambled for more than 50 SEK (EUR 6) the last week got all questions (n = 432).

**Swedish longitudinal gambling study, Swelogs (Paper I, II, III, IV)**
The epidemiological track of Swelogs connects to and resumes the previous Swedish population study from 1997/98 (SWEGS). The choice of variables and questions for the interview guide in Swelogs was, as mentioned before, partly guided by the intention to being able to compare the results with SWEGS (Statens folkhälsoinstitut, 2008). In addition to the test of performance at Statistics Sweden, a pilot study was conducted in spring of 2008. The sample initially consisted on 2000 individuals and 1109 completed the interview/questionnaire (SCB 2008).

**Swelogs: EPI (Paper I, II, III, IV)**
In EPI, a stratified sample of 15,000 persons aged 16-84 years was drawn from the frame population of 7,320,367. The stratification was made by age group and register characteristics estimated the risk of problem gambling as found in the pilot study. Being male, unemployed, having a low income, and being on social welfare were variables in the risk estimation. A total of 8,165 respondents corresponded to an unweighted response rate of 57.3% and a weighted response rate of 63% (postal questionnaires raised the response rate by 5%; n=550). The questionnaire included questions on involvement in 9 different gambling forms, gambling problems, health, security and social relations. The degree of gambling problems was assessed based on the PGSI as well as the SOGS-R.

**Swelogs: EPII (Paper II, IV)**
The 8,165 individuals who were respondents in EPI were contacted one year later (2009/10) and 74% (n = 6,021) participated in EPII. 485 (8.1% of the respondents) answered by postal questionnaires. The questions were designed as in EPI but excluded question on matters that did not change over 1-year period. An additional section with questions on important life events was included.

**Attrition**
In SWEGS, the attrition rate was 28% of the total sample. The data in SWEGS was weighted (as was the data in EPI and EPII) and the weights were constructed in part by compensating for sampling strategy and in part constructed by compensating for the attrition in the study. In SWEGS the compensating for
attrition was made via a comparison with population studies done in other countries. It was not reported how the attrition was distributed in SWECS.

A common pattern in population studies is a greater loss among youth, and especially among young men. In EPI, however, the highest percentage of respondents was from the youngest age group. The largest loss was those aged 25-34 years, followed by 35-64 years olds (half of that group responded). Another pattern that is often repeated in population studies is that socio-economic vulnerable groups have lower response rates. The calculation risk for problem gambling included several variables that measure socio-economic vulnerability, such as low income, unemployment and receiving social assistance. Overall, the proportion of non-respondents with estimated high risk for problem gambling was high. Here again, the youngest men who had an estimated high risk for problem gambling were interesting exceptions. The group with the highest proportion of respondents was those with a low risk of problem gambling in the 25-34 and 35-64 age groups, and in the 16-24 age group with a slightly elevated risk of problem gambling.

Of those that participated in EPI, 74% also participated in EPII. The attrition analysis shows that women rather than men and people aged less than 35 years were over-represented among those who did not participate in the second study. Other groups that were lost between EPI and EPII included: people under 35 years old (with the exception of besides those aged 16 and 17 years of age at the first measurement), single people (with or without children), immigrants, people from larger cities (Stockholm, Göteborg or Malmö), people with mid level education, with low socio-economic status. There were also differences in the gambling habits of those who participated in EPII and lost from EPI to EPII. Among the lost, there were a greater proportion of people who did not play at all in EPI, and those at risk for gambling problems or who have a gambling problem. This meant that players without gambling problems were more likely to continue to participate, and especially those who play at least monthly in one or more forms of gambling.

The attrition for EPI CSOs between EPI and EPII was 245 individuals (no significant differences between men and women).

Participants

Paper I

The study presented in Paper I is based on weighted data from SWECS and EPI which comprised a comparison between the two separate national prevalence surveys. In the study of Paper I, only the data from the telephone interviews in
both studies were used because the questionnaires did not include comparable questions regarding the specific gambling forms. Many of the gambling forms available in 2008/09 were not recognized in 1997/98, such as online gambling. The telephone interview in SWEGS consisted of 6,754 individuals but because 80 respondents did not answer the questions on problem gambling the final sample from 1997/98 was reduced to 6,674 individuals, 3,323 men and 3,351 women. The final sample from EPI was 7,617 individuals; 3,820 men and 3,797 women).

Paper II
The study presented in Paper II used the total weighted samples from EPI and EPII. In some analyses only the individuals who had started to gamble online were included. All analyses used weights. In EPI 8.6% (n=702) of the 8,165 participants were online gamblers. Corresponding figures in EPII was 13.3 (n=800). In EPII 409 persons were incident Internet gamblers among which 6.2% (n=55) did not gamble at all in EPI.

Paper III
The study presented in Paper III used unweighted data from a subsample of EPI. Every participant who had gambled at least 6 times a year was included. The unweighted sample included 3,191 individuals: 64.2% men, n = 2,048, and 35.8% women, n = 1,143 (weighted included 4,045 respondents: 54.9% men, n = 2,224 and 45.1% women, n = 1,830).

Paper IV
The study presented in Paper IV used data from EPI and EPII. The 8,165 individuals in EPI (weighted) and the 6,021 individuals in EPII were used when describing CSOs and their relation to health, social support and financial situation. The final analyses in Paper IV only looked at participants in EPII (unweighted) who were defined as CSOs in EPII (1,227 individuals: 645 men and 582 women).

Measurements
Like the study design, the questionnaire and interview questions were constructed and agreed on by SNIPH with the support of the Swelogs Advisory Board. Considerations in the development of the questionnaire included compatibility between SWEGS and the national public health survey “Health on Equal Terms” and international longitudinal research projects as Victorian Gambling Study in Australia and the Leisure, Lifetime and Lifecycle Project in Canada. The final questionnaire contained questions regarding gambling, gambling problems, health, security, social relations, occupation, economy, living environment, close ones and help-seeking. Selected socio-demographic factors included age, country
of birth (immigration), education, family situation, whether or not respondents lived in a large city, family status and income.

Concerned significant other (CSO): All respondents in EPI and EPII were asked if someone close to them— as far as they knew—had or previously had problems with gambling. Respondents answering “yes, one” or “yes, several” were defined as CSOs.

Gambling participation: In EPI and II, gambling participation was measured by asking respondents if, in the past 12 months, they had gambled on any of the nine gambling forms: horses, bingo, sports betting, lotto (number games including Keno and Joker), lotteries, gaming machines, poker, casino games or calling live TV contests for which one may win money. Each gambling form consisted of different subsets, e.g., car bingo as a subset of bingo, betting on sports online at Svenska spel.se as a subset of sports betting, SVECS differed from EPI and EPII by asking questions about shares and the stock market. SVECS did not include calling live TV-shows or Internet gambling.

Gambling domains: Figure 6 shows how the different gambling forms were divided into three gambling domains in Paper I and Figure 7 shows the four different domains in Paper IV. The stock market as gambling form and calling live TV-shows were excluded in Paper I.

<table>
<thead>
<tr>
<th>STRATEGY</th>
<th>CHANCE</th>
</tr>
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<tbody>
<tr>
<td>SVECS: card games, betting on horses, betting on sports, casino gambling and other betting</td>
<td>Domestic: SVECS lottery tickets, number games, Bingo-Lotto. EPI: Harry Boy via Internet, Internet bingo Bingo-Lotto, lotteries via Internet (such as scratch ticket, Postcode lottery). Lotto (via gambling agent or Internet); Internet casino Internet gambling machines</td>
</tr>
<tr>
<td>EPI: Horses (via Internet, at gambling via agent, racing tack), sports betting (via gambling agents or Internet), poker (via Internet, at casinos, clubs or private)</td>
<td>Public; SVECS gambling machines and bingo EPI: Bingo in halls and pubs, car bingo gambling machines (at casinos, bingo halls, clubs or pubs), Harry Boy at gambling agent, lottery (tombola); casino gambling (at casinos, pubs, clubs or clubs)</td>
</tr>
</tbody>
</table>

*Figure 6. Gambling domains in Paper I.*

2 Harry Boy is a computerized rapid bet that picks the horses for the player, not at random, but on the basis of other customers' bets. Harry Boy is a game offered by the Swedish Horse Racing Totaliser Board (ATG; the Swedish monopoly for horse betting).
<table>
<thead>
<tr>
<th>STRATEGY</th>
<th>CHANCE</th>
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<tbody>
<tr>
<td><strong>DOMESTIC</strong></td>
<td>Harry Boy via Internet, Internet bingo lottery, Lotto (via gambling agent or Internet); Internet casino, Internet gambling machines, phoning live TV-shows.</td>
</tr>
<tr>
<td>Horses via Internet, sports betting (via gambling agents or Internet); Internet poker</td>
<td></td>
</tr>
<tr>
<td><strong>PUBLIC</strong></td>
<td>Bingo hall, car bingo gambling machines (at casinos; bingo halls, boats or pubs), Harry Boy at gambling agent, lottery (tombola); casino gambling (at casinos, pubs, boats or clubs)</td>
</tr>
<tr>
<td>Horses at racing tracks, horses at gambling agent, private sports betting, poker (at casinos, private clubs, or clubs)</td>
<td></td>
</tr>
</tbody>
</table>

Figure 7. Gambling domains in Paper III.

Internet gambling: SWECS did not ask respondents questions about online gambling. In EPI, all participants who answered ‘Yes’ to the grid question for Internet gambling were when asked more specific questions about their Internet gambling. In EPII, there was no grid question regarding Internet gambling. Instead, there was one grid question about each of the nine gambling forms. The questions for each sub-mode were adjusted to the specific gambling form, but all had alternatives for Internet gambling. A variable for Internet gambling was then created from the results in all gambling modes. It is important to note that this study primarily used the overall variable. Appendix 1.

Problem gambling: In Paper I problem gambling was assessed using a revised version of South Oakes Gambling Screen (SOGS-R). Although this paper only used the past year’s measures, SOGS-R gives both the lifetime prevalence and current prevalence (within the past year) of problem and probable pathological gambling; the unrevised version SOGS only offers a life time measure. SOGS was primarily developed for more clinical contexts (Holtgraves 2009b; McCready and Adlaf 2006), as it is based on DSM criteria for pathological gambling (Lesieur and Blume 1987). In 1997/98 when it was used in SWECS, SOGS was used in most international problem gambling surveys (Volberg et al. 2001). Problem gamblers that obtain a score of at least 3 are differentiated from those without problems (0–2 points). Scores of 5 and above indicate that the individuals are probable pathological gamblers. In this thesis, the variable was dichotomized into problem gambler (SOGS-R 3+) or non-problem gambler (SOGS-R 0–2). Appendix 2.
In Paper II, III and IV problem gambling was assessed by PGSI. PGSI was largely
developed as a response to criticism about other more diagnostic instruments
(Wynne and Ferris 2001). PGSI has become the standard in population based
research in many countries (Currie et al. 2010) and has been used for example in
Canada (Wiebe et al. 2006), Australia (Department of Justice Victoria 2011) and the
United Kingdom (Wardle et al. 2011). PGSI provides current measures of problem
gambling and consists of nine questions. The PGSI population is commonly
divided into four groups: no problems (0), low risk (1-2), moderate risk (3-7) and
problem gambling (8+). In this thesis moderate risk and problem gambling were
merged into a group called problem gambling (PGSI 3+). Appendix 3.

Self-reported health: Respondents were asked “How would you assess your
general health?” The response options were as follows: very good, good, fair, bad
and very bad. The response alternatives were collapsed into two categories: having
good health (containing the answers “very good”, “good” and “fair”) and having
poor health (“bad” or “very bad”).

Mental health: An assessment by Kessler 6 (respondents were asked six questions
regarding their mental health for the last 30 days) generated an index with a
maximum of 24 points. Scores over 13 are highly predictive of individuals with
severe and clinically mental illness. The cut-off for this thesis was set at 9 points to

Physical violence: Whether the respondent was subjected to physical violence
during the last 12 months and during his/her lifetime.

Risky alcohol consumption: Respondents were asked three questions from the
Alcohol Use Disorder Identification Test (AUDIT); these were used to create an
index with a maximum score of 12. The cut-off was 8 for men and 6 for women.
Appendix 5.

Social support: Social support was measured using two questions concerning
whether the respondent had someone to: 1) talk to about their inner feelings and 2)
someone they could get practical help from. The questions were 1) “Is there anyone
who can help you when you have practical problems or become ill? For example,
to give you advice or support, to lend you things, to help with grocery shopping,
to do repairs.” 2) “Do you have someone with whom to share your innermost
thoughts or feelings?”
Life events: Life events were assessed in EPII and used in Paper IV. Areas of interest were divorce or separation, improved or worsened financial situation, legal problems, problems at work, death of someone close and more arguments with someone close.

Statistics and analyses
All data analysis was carried out through Statistics Sweden Microdata Access (MONA), where both the response data and registry data were accessed via a remote desktop solution and required a special security token to login to the server. For confidentiality all data was processed and analysed at MONA. After the analyses the result files were downloaded from MONA.

Statistical analyses were performed using SPSS, version 17. Between group differences were tested using Pearson Chi-squared statistics. Logistic regressions were used to examine the associations between different potential risk factors and various outcomes throughout the thesis. In most models both crude odds ratios and adjusted odds ratios were presented. Most, but not all, logistic regressions were performed separately for men and women. Confidence intervals of 95% were calculated.

ETHICS
Ethical approval was given by the Examination Board for Ethical Research at Umeå both for the longitudinal study Swelogs and for this thesis (dnr 08-078, dnr 1020-160-32). All persons in the sample were given an information folder about the study and brochures about the SNIFH. A special parent/guardian letter was also sent to the parents/guardians of the 16 and 17 years olds in the sample. Of particular interest in this thesis were the CSOs. However, the Ethical Board did not approve of asking the respondents how they were related to the person who they thought had or previously had gambling problems. Respondents could only be asked if they had “someone close” that previously or currently had gambling problems. The contact information of different helpline, such as the national helpline for gamblers and family members of problem gamblers, was provided to all respondents.
FINDINGS

How does gambling interact with socio-demographic factors? (Paper I, II, III)
Socio-demographic characteristics intersect with gambling when examining the gendered gambling domains for 1997/98 and 2008/09 and when examining Internet gambling. Overall, when looking at regular gamblers in EPI (Paper III): men, people aged above 25 years and those with a mid level of education were more likely to be regular gamblers. There was no difference in relation to immigration (Paper III). Paper I showed that people with a high level of education were less likely than others to gamble frequently in any domain; this relationship was strengthened between 1997/98 and 2008/09. Immigrants were more likely to gamble on chance games in a public environment at both time points. In 1997/98, no other differences existed between people born in Sweden and immigrants but 10 years later (in 2008/09), Swedish-born people were more likely than immigrants to gamble on both games of strategy and chance games in a domestic environment. In 2008/09, juvenile gambling was less prevalent than gambling among people aged over 18 years. In the public-chance domain juvenile gambling has decreased dramatically while it increased for youth aged 18-24 years. Strategy gambling showed signs of rejuvenation.

An increase in Internet gambling was observed for all socio-demographic groups between 2008/09 and 2009/10. Some groups did not increase their online gambling to the same extent as others, such as immigrant women. In addition, men still dominated the Internet gambling scene. However, our findings indicate that women are entering the Internet gambling, as evidenced by the increased proportion of women who gambled on the Internet in 2009/10 and in the proportion of women being incident Internet gamblers. In contrast to the pattern seen for men, age did not predict incident Internet gambling for women. Women with children, who lived in larger cities, who were married or in a relationship, as well as women with a low level of education, appeared to denote new female incident Internet gamblers. It was also notable that women born in Sweden represented the majority of the female rise in Internet gambling in Sweden. Immigration did not have any impact on whether men would begin to gamble on Internet.

Noteworthy, being a single parent was strongly predictive for incident Internet gambling in men, as well as having a close relative who had a chronic disease or disability. These factors could be indicators of being more caring or bound to a home environment.
Is there a convergence of men’s and women’s gambling behavior in Sweden? (Paper I, II)

Looking at 10-year period of time, between 1997/98 and 2008/09, almost no signs of that men’s and women’s gambling behavior or problems started to resemble the other were found. Preferences for different domains were still highly gendered. Men still gambled more than women. Men also gambled in more domains than women (multi-gambling), and men were over-represented in domains associated with risks of gambling problems (Paper I). Men also still had more problems with gambling than women. Of interest is the fact that the gambling market had moved towards games characterized by chance and it was not women whose had changed gambling pattern but men who now to gamble more on games of chance in public compared with 1997/98.

An examination of the changes in Internet gambling between 2008/09 and 2009/10 indicates a change (Paper II). In 2008/09, most Internet gamblers were men, representing 72.0%. One year later, men still dominated but now at 62.5%. However, men were more likely to gamble on the Internet at both time points.

What is the relation between problem gambling and gender among gamblers and CSOs? (Paper II, III, IV)

Looking at regular gamblers, no gender differences were found in problem gambling rates (women 7.9%, men 7.5%), even though most women generally gambled in domains generally less associated with risk for problem gambling, such as the chance-domestic domain. All other domains are associated with a higher likelihood of having a gambling problem for men in the crude analysis; the risk disappeared for the domain strategy-public and chance-public when controlling for age and gambling in other domains (Paper III). However, the domain chance-domestic was not associated with less risk for women when analysing men and women separately.

The domain of chance-public was the only domain associated with problem gambling for women in both the crude and controlled analyses. The association became stronger when controlling for age and gambling in other domains for women but disappeared for men. In the examination of the different features of problem gambling as in the separate PCSI items, very few differences existed between men and women within the same domains. In the domain of chance-public, no differences at all were found. However, overall the gamblers within this
domain experienced a high level of diverse gambling-related problems and 12% of the women had felt guilty about their gambling.

The most endorsed item among men who gambled regularly in all domains was, “When you gambled, did you come back another day to get the money back” (PGSI 3), almost every fourth man (24%) stated that they engaged in such behavior within the domain of strategy-domestic and every fifth in chance-public and strategy-public domains (18% and 20%, respectively). For women who gambled regularly, this item was not endorsed in the domain of chance-public (16%). The most endorsed item for the women was, “Have you bet more than you could afford to lose?” (PGSI 1), approximately every sixth woman reported that they had done this during the last year in every domain with the exception of chance-domestic.

The results of Paper II showed that problem gambling among Internet gamblers decreased dramatically between EPI and II. Neither did problem gambling generally seem to be a predictor for incident Internet gambling. Paper IV examined CSOs and found that men who were CSOs were more likely to be problem gamblers themselves compared with men in the general population. No such association was found for women.

**What is the health situation of CSOs and Internet gamblers? (Paper II, IV)**

Paper IV found that 18% of the population could be defined as a CSO; there was no difference between men and women. Only one in ten had sought help. All CSOs in both EPI and EPII experienced poorer mental health and a higher degree of risky alcohol consumption than the general population at baseline and in the follow-up. As mentioned previously: men who were CSOs were more likely to be problem gamblers while there was no such association for women. Women reported poorer health than the general population. They also reported more sick-leave from work. Both male and female CSOs had more difficulties than others paying bills.

All CSOs had lent money to someone who they thought or knew would use it to gamble or pay gambling debts. One third of men who were CSOs had done this compared with “only” 13% of the women. However, the odds ratio was higher for women than for men. The explanation for this is found in the fact that other men (and to a relatively high degree) had also lent money. After one year, CSOs still experienced financial hardship even if this association disappeared in men who were CSOs if controlled for age and their own problem gambling.
Women who were CSOs were less likely than the general population and men who were CSOs to report that they received social support. CSOs also experienced a fear of losing their job to a higher degree; this was most striking among men. Further, although being a CSO was associated with having being subjected to violence the last 12 months for both genders, women were exposed significantly more than men. In the follow-up, CSOs reported more arguments with someone close and separations and they had a higher probability of experiencing work-related problems. Men who were CSOs were more likely in the last 12 months than others to have encountered legal problems.

Half of the people, who were defined as a CSO in EPI, did not in EPII (no difference between women or men). When comparing respondents who were defined as CSOs at both time points with respondents who only did so in EPI, we found that ex-CSOs reported improved mental health and fewer arguments with someone close the last year. Compared to women who still were defined as CSOs, women who were ex-CSOs also had less difficulty in paying bills and were less likely to have had someone close to them die. Men who were ex-CSOs in EPI had fewer legal problems the last year than men still defined as CSOs in EPII.

Mental health problems, alcohol, smoking and social support were not found to be predictive factors for incident Internet gambling in Paper II. However, men who lived with someone with a chronic disease or disability were more likely to start gamble online. Poor self-reported health seems to be a predictor for refraining from starting to gamble on the Internet. Problem gambling was a predictive factor for incident Internet gambling but only for women. In addition, being subjected to violence in the past 12 months was only a predictive factor for women.

DISCUSSION

Main findings
The main findings of this thesis can be summarized as follows First, the gambling market is still appears to be a gendered arena. Within this arena, men gamble more and have more gambling-related problems than women. Men and women generally choose different kinds of games and engage in different gambling domains, categorized as chance-domestic, chance-public, strategy-public and strategy-domestic domains. The dichotomy of public and private spheres was relevant because there is a link between the public sphere and notions of masculinity and a link between the private and notions of femininity. Further, the literature had suggested that men are attracted to gambling that involves features
of strategy, whereas women generally prefer game of chance. This might be changing but, if so, very slowly. The findings indicate that men have moved towards games of chance and although men still heavily dominated the domains of strategy in both 1997/98 and in 2008/09, their presence decreased slightly.

Second, there are generally many similarities between the men and women who gamble, especially if they gamble within the same domain. Men and women who gambled regularly were just as likely to be problem gamblers. No differences were found when looking at the PGSI items scores of regular male and female gamblers (men and women were analysed separately) in the domain of chance-public – the only domain that was significantly associated with gambling problems for women. Generally, when men and women were not divided in separate analyses, gambling in the domain chance-domestic had the weakest association with problem gambling. The other domains (chance-public, strategy-public, and strategy-domestic) were associated with risk. Looking at men and women separately, this was only the case for women, illustrating how gender differences may be missed if separately analyses are not conducted for men and women. For women only the domain of chance-public was associated with risk and the domain of chance-domestic was not associated with risk. Third, there was, however, important differences even between men and women who gambled within the same domain, illustrated by those women who gambled regularly did so more often than men who gambled regularly and bet more than they could afford. This finding is not unexpected, because women generally have less money than men and if women try to gamble like men and for similar amounts they would lose proportionally more money.

Fourth, and finally, CSOs represented 18% of the population, and experienced a range of problems that often continued in the 1-year follow-up. Men who were CSOs had more often own problem gambling, were afraid of losing their job and men overall lend more money to problem gamblers. All CSOs experienced violence but women significantly more so than men. The women who were CSOs were also more likely to lack social support and reported less good health than other women and the male CSOs.

It is important to stress that the overall similarities between genders do not necessarily mean that men and women experience the same factors or contexts in the same thing. For illustration, research has found that both men and women engage in erroneous thoughts and superstitious ritual behaviors in regard to gambling on machines or playing lotteries. However, those rituals and thoughts differed. For example, women were more likely to choose specific numbers that
held personal and emotional meaning whereas men relied on mathematical means, like choosing computerized random numbers (Phillips 2009). In a study of the preferences of machine gamblers, the authors found that men preferred games that are stereotypically masculine and feature wild animals while women more preferred games that have supernatural themes (Wilson and Phillips 2009).

**Problem gambling and gender in Sweden**

In Sweden, 2% of adults had some level of problematic gambling both in 1997/98 and 2008/09. It is important to bear in mind that gambling rates in the general population have dramatically declined. Hence, people who do gamble now are generally at more risk than in 1997/98.

As noted: men gambled more than women, more often in multiple domains and also in domains containing gambling forms more associated with risk according to risk potentials (Meyer et al. 2011) and had overall more gambling problems than women. The domain of chance-domestic was associated with a decreased likelihood of problem gambling in both 1997/98 and 2008/09 when controlled for gambling in other domains. The domains of strategy were associated with problem gambling at both time points and chance-public was strongly associated with problem gambling in the crude analyses but not when controlling for multigambling and age. When analysing men and women separately, the domain of chance-public was the only domain associated with risk for women. Noteworthy, the domain of chance-domestic was not associated with less risk for women. In this domain gambling forms as Internet bingo, Internet gaming machine and other Internet lotteries based on chance, are found.

Men and women who gamble regularly were just as likely to have gambling problems. Very few differences existed between men and women looking at different features of problem gambling as in the separate PGSI items. In the domain of chance-public, no differences were found. The fact that women and men who gamble regularly were just as likely to be problem gamblers and that there were very few differences between genders when separately analysing PGSI items may be surprising because most women who gambled regularly did so in the domain with no general associated risk. Other research has found that men who gamble not only gamble more often but also bet more money than women (Statsen folkhälsoinstitut 2010). However, the commonalities between genders are sustained by findings from other studies where being male was no longer a significant predictor for problem gambling after controlling for gambling behavior (Ross et al. 2010; Statsen folkhälsoinstitut 2010). One factor could be that women
are more vulnerable to gambling harm as women generally have lower incomes than men, which make them more vulnerable to financial loss. This explanation is supported by the fact that the most endorsed PGSI item for women who gambled regularly was “Have you bet more than you afford?” In addition, female regular gamblers stated more often than men that their gambling had caused them financial problems. Problem gambling is still related to stigma and probably even more so for women because they often experience additional concerns from failure to meet traditional caring responsibilities (McMillen et al. 2004).

The strategy domains were only associated with problem gambling for men who gambled regularly, not women. These domains included few women which may impact the possibilities to reach significance. However, the associations became weaker when controlling for gambling in other domains. This may be an indication that women who play strategy games, which are masculine coded domains, and avoid feminine domains such as chance domains, may obtain other rewards and benefits from their gambling compared with women in other domains. Thus, such activities may be considered as a serious leisure activity that widens the gender role and improves the self-image, a way of negotiating femininity. Women do not seem to chase losses the same as men, this could be an indication that women in these domains differ from men regarding monetary motivations to gamble. That female gamblers within the gambling domains of strategy appear to be very similar to men in the same domains compared to gamblers in other domains while they also appear to be obtain other rewards than the men, is supported in parts by a thesis on gender differences in gambling related beliefs in different type of gambling where “skill” was one type of gambling (McDowall 2009). However, it only examined problem gamblers while this thesis examined regularly gamblers. The author suggested that female non-random gamblers believe gambling to be exciting, socially meaningful and strategies (even illusory ones) to a higher degree than players in other types of gambling as well as men within the same type of gambling (McDowall 2009).

Problem gambling among Internet gamblers decreased significant between EP I and II. Neither did problem gambling generally seem to be a predictor for incident Internet gambling, although it was for women. Internet use is becoming more standard, and people are beginning to use the Internet for activities that were previously performed offline, such as making travel reservations, ordering products, and now also buying lottery tickets and such more harmless gambling activities.
Gambling and gender in Sweden
Many researchers have contested that most gambling occurs in an arena of masculinity. However, few studies have examined this phenomenon. Although gender may influence gambling, gambling may also be seen as a way of ‘doing gender’ and accomplishing both traditional and non-traditional gender identities. The connection between masculinity and consumption has been more prevalent in alcohol research: some researchers argue that gender differences in alcohol consumption can be explained by the degree to which society conceptualizes alcohol consumption as both normative of masculine behavior and as a prominent feature of the male domain (Lyons and Willott 2008). Drinking could be symbolic of masculinity, as it is closely tied to other masculine gender role attributes such as aggression and risk taking (De Visser et al. 2009; Groescheel and Wester 2010). Thus, gambling may in a similar way, serve as a resurrection or an affirmation of manhood for some men. According to Evans et al. (1998), arenas for masculine ideals present various opportunities and meanings depending on socio-economic status (Evans et al. 1998). Working class or immigrant men face limited opportunities for masculine validation within or through their work and may be more likely to see gambling as a primary means for validating their masculinity.

Women may refrain from most forms of gambling because they are bound more closely to the home and to the caring gender role. If this is indeed so, then it would be logical that men who are also likely to be bound to the home or engage in caring practices refrain from gambling. However, the thesis found that men who were more likely to be directed toward a domestic environment or caring role, for example men who had a close relative that has a chronic disease and men who were single fathers, were more likely to become Internet gamblers. Findings from EPI also showed that men on parental leave (but not women) were more likely to be problem gamblers (Statsens folkhälsoinstitut 2010). In search of explanations as to why the gambling scene is highly gendered, perhaps this indicates that it is more about power and women being excluded from certain gambling sites than it is due to the fact that women are directed to domestic tasks. In the other alternative, perhaps being responsible for domestic tasks and is not the same for men and women: expectations and responsibilities may differ. It may also be plausible, as in line with Clarke et al. (2006) that social, cultural and environmental factors are important indicators of whether a person will start to gamble and reasons such as loneliness and stress are more important in understanding continuing and developing gambling problems (Reith and Dobbie 2012). Men are socially and cultural inclined to gamble, while women’s access to leisure activities including many forms of gambling is cultural, social and economic constrained. This can shed light over as to women gamblers, who do not engage in the
gambling in the same way as men, still are as likely as men to be problem gamblers. Women’s access to gambling is constrained, but because women are more likely to experience psychological stress or depression (Statsen folkhälsoinstitut 2012b), feeling the urge to “get away”. Such experiences would make women more likely to develop problems if they have started to gamble. It is logical that men who, for various reasons, are directed to a more domestic environment turn to accessible ways to gamble (e.g., Internet gambling); women in the same situation are socially and culturally encouraged towards other leisure activities and more causal leisure activities.

The idea that the Internet has an emancipating potential for women to transgress traditional notions of femininity and enables women to experiment with activities that would be taboo elsewhere (Svenningsson 2009) does not seem to apply to Internet gambling. Women seem to maintain their gambling patterns when they go online. We can only speculate about the reasons for this, but there are probably several factors involved such as marketing that confirms the stereotypes and traditional roles of men and women. Women who gambled online experienced more guilt about their gambling than men. Women also gambled less money and shorter sessions (McCormack and Griffiths 2010). The assumption that Internet gambling would attract people with low social support, psychological problems, physical problems or other health problems such as riskier alcohol consumption was not verified.

Socio-economic changes in gambling and in the Swedish society
The good news in the findings of the thesis was that juvenile gambling in the domain of chance-public decreased between 1997/98 and 2008/09. This domain had a high level of problem gamblers both among both male and female regular gamblers. A report from SNIPH also showed that the problem gambling rates in the juvenile age group decreased (Statsen folkhälsoinstitut 2010).

This thesis found that the distribution of gambling varied within and between groups. People with a high level of education did not gamble as much as people with a low or mid level education, especially not in the domain of chance-public. Immigrants were more likely to gamble in the domain in 1997/98 and in 2008/09. The domain is associated with escapist gambling and problem gambling. It is problematic that people from lower socio-economic strata engage more than others in this form of gambling. There is reason to believe that working class and lower socio-economic groups are more inclined to gamble because of the hope of winning, to escape poverty. This is especially true if the social mobility between
classes is difficult within that society. If the odds of getting a job or a better future seem just as high as winning the lottery, when gambling can almost seem rational. However, it could be that the gambling of the working class has received greater condemnation and is more likely to be viewed as sinful and immoral compared with other classes because it divorces wealth from work and labor, undermining the protestant work ethics (Reith 2007). This may also be the case for other underprivileged groups as immigrants or women. Therefore it is possible that gambling in lower socioeconomic groups has a greater association with stigma at the same time as it is encouraged by social structures that do not offer any hope for the future. This stresses the importance to adopt a public health perspective which includes social contexts and an inclusion of life circumstances.

It is important to see the changes in relation to the rest of society. Even if the economic status of Swedish households has substantially increased during the 2000s, the increase has not been the same for all people or households, and income inequality has grown (SCB 2013). Employed persons have enjoyed better development than the non-working. Immigrants have not experienced as much growth as those born in Sweden. The increase was significantly greater for those with the highest incomes. At the same time, the proportion of the population with a low economic standard increased from 8.4% in 1999 to 14.4% in 2011. Among single parents, the proportion increased from 11% to 31% between 1999 and 2011 (SCS 2013). In light of the widening social and economic gaps and the associations between low socio-economic status and gambling, these trends are worrying.

Gender changes in the gambling scene occur to work just as slowly as the changes in the labor market. As showed in the background, to state that gender equality in Sweden has progressed to the degree that it should impact behavioral arenas as gambling would be controversial. The modernistic tendency to think that gender equity follows a straight progressive line is not supported. However, as noted, there were small indications in favor to a convergence of men and women gambling behaviors. In addition, women seem to increase their involvement in Internet gambling, and the report launched by the SNIPH, using the EPII data, found that the half of the incident problem gamblers was women (Statens folkhälsoinstitut 2012a).

All of the gambling domains seem to be masculine spaces, with the exception of chance-domestic, which is often perceived as a feminine domain. Hence, women appear to refrain from breaking into new gambling spaces. Women also appear to retain their gambling behavior when starting to gamble on the Internet, for
example playing Lotto. This indicates that there are ideological gender representations and social processes that keep some domains masculine.

**CSOs**
A sizable proportion (18%) of the population aged 16-84 defined as CSOs. This is a high number. However, it is consistent with other research; Blomqvist (2009) found that 11% of the sample reported having someone close with a gambling problem. We also know that 80,000 children in Sweden live in the same household as a problem gambler (Statens folkhälsoinstitut 2010). In our study, women and men were as likely to be CSOs and all CSOs experienced various problems related to health, economy and social life, such as separations and arguments with close relatives. Although we were not able to discover the actual relationship between the CSO and the close one with gambling problems, we found that there was a significant relationship between being a CSO and problem gambling for men. This may indicate that more male CSOs were friends with the person with gambling problems, sharing the gambling interest. Women CSOs reporter less social support, poorer health and more sick-leave and men reported a greater fear of losing their work. As these results are in line with the gender differences of problem gamblers, this could be due to gender differences in reactions to problems; women’s problems often manifest in social relations and health and men focus on work. Violence against women, as with violence in general, is a serious public health issue in its own right. These findings show that both men and women who defined as CSOs were exposed to violence, and women more so than men.

In the follow-up EP11 almost half of the CSOs in EP1 no longer defined as CSOs. It may be related to the fact that gambling problems is a very fluid phenomenon (Abbott and Clarke 2007; LaPlante et al. 2008). Reith and Dobbie found in a longitudinal qualitative study that changes, rather than stability, was the norm in gambling behaviour (Reith and Dobbie 2012). In EP11, three quarters of the problem gamblers were replaced with new ones (Statens folkhälsoinstitut 2010). But since the question was “Does anyone close to you – as far as you know-have or previously had problems with gambling?” technically they should answer yes even if the person close to them had “stepped” gambling problematically. One explanation could be that the person was not close to them anymore, such as getting divorced or being a colleague or friend they were no longer was friend with. We also saw that ex-CSOs improved their mental health and had fewer arguments with people close to them. Women’s financial situation seemed to improve and ex-CSO men experienced fewer legal problems than men who again defined as CSOs.
Methodological considerations

The attrition was compensated for by weights. However, these kinds of surveys do not reach people who are at institutionalized in health care systems or prisons, or those without stable residential address or landline telephone. Thus, the data is possibly not accurate. In longitudinal surveys we also face the problem of regression towards the mean, the studies lose people along the way and it is more likely that people at the two ends of the distribution curve are lost. For example in Swelogs, this trend is illustrated by people not gambling at all and by those with gambling problems. However, in this thesis we only used data from EPI and EPII, the two first measurement points, and as such this issue should not be significant.

One of the most central limitations is a methodological issue in Paper II. It is possible that the replacement of the grid question for online gambling with questions on the nine gambling forms in EPII heavily affected the results. This issue may explain in part the increase in Internet gambling, because people may not perceive buying lottery tickets on the Internet as Internet gambling. However, the interviewers had instructions to inform the respondents about this. Even if it affected the results it is unlikely to be responsible for the majority of the increase. The increase is probably much smaller which would affect the results as a whole. If so, an interesting conclusion would be that the gambling of women, such as lotteries, is not perceived as gambling while masculine gambling forms are. In the British Gambling Prevalence Survey they even report the proportion of Internet gambling in two ways: one there lotteries are included, 14% and one there lotteries are excluded, 7% (Wardle et al. 2011b).

A further methodological concern is the construction of the gambling domains that was theory driven. The division into domains makes it harder to understand specific gambling forms, for example gaming machines and bingo in the domain chance-public. However, the domains have made it possible to test the hypothesis on gender and the characteristics of strategy-chance and public-domestic. No previous study has tested both dimensions simultaneously. In addition, the domains made analyses possible. If we looked into specific gambling forms, the numbers would have been too small to make gender comparisons. One dimension not addressed in the domains is the social aspect; an important dimension raised by Holtgraves (2009).

There may also be methodological problems with merging moderate risk gamblers with problem gamblers, because problem gamblers are experiencing problems while moderate risk gamblers may only be at risk of developing future problems. However, we were interested in both moderate risk gamblers and problem gamblers for two reasons: 1) the category of problem gamblers would be too small
for gender analyses and 2) to only include PGSI 8+ would lead to a more pathological or medical approach. Using the approach applauded by the commercial neo-liberal gambling industry and states relying on the gambling profits runs the risk that the focus is on the deviant individual instead of the product or the power structures. For public health research, it is more appropriate to concentrate on excessive gambling rates than the small group of pathological gamblers. The distinction between problem and pathological gambling is less evident and meaningful from an epidemiological viewpoint (Stucki and Rihls-Middel 2007). However, in merging the categories we get a larger group of problem gamblers and this may lead to an exaggeration of risk. This criticism is both interesting and important and is also a call to further sociological research on gambling and more research focusing on different risk societies; e.g., how does legislation and monetary interactions between different agencies contribute to the risk and development of gambling problems (Adams 2008)? Those of us, who work with problem gambling, even if we want to prevent it, are part of an industry that makes a living on the constructions of risk in gambling.

Implication and future research
From a gender perspective, the equal rights for men and women are an intervened theme in the public health approach. However, we do not know if gender equality implies that men’s and women’s gambling behaviors would converge. Theoretically this would be the logical case. It is important that we focus on and question the masculine norm and act to make masculine gambling forms and men’s gambling behavior less risky. There is a tendency in alcohol and tobacco prevention to get upset by the increase in the female consumption when the more severe problem is the consumption of men. Women should not have to avoid gambling due to discrimination or exclusion; a more appropriate preventive approach should be to make gambling less risky and less problematic for all.

Further, the only domain that had a significant relation to problem gambling for women was the domain of chance-public, including gambling forms such as Vegas and other gambling machines. A reduction in the availability of gambling machines seems crucial to prevent problem gambling. Studies have shown that the increase in women help-seeking (e.g., some states or provinces in Australia and Canadian provinces) has been partly explained by normalization and the wider acceptance and availability of gaming machines (Delfabbro 2009; Holdsworth et al. 2012; Moore et al. 2011). The domain also had an overrepresentation of immigrants and people with lower levels of education. In a qualitative longitudinal study, such machines were significant themes in the narratives of the progression of problem gambling, alongside alcohol and insecure employment (Reith and Dobbie 2012). This supports Clarke’s (2006) finding that gaming machines play an important role
in the shift from social to problematic gambling behavior. Gaming machines in Sweden, for example Vegas, are located in environments where alcohol is served. Alcohol drinking was identified as a risk factor for problem gambling in the Swedish incident study (Statens folkhälsoinstitut 2012a). Further, low socio-economic status has also been singled out as important in the onset of gambling and that accessibility to machines in Sweden is much higher in neighbourhoods with low socio-economic status (Riksdagen 2007). These findings show that significant legislative and educational initiatives are required regarding the control of gambling machines. Due to that gambling seem to be closely related to unequal power relations and low socio-economic status, a public health perspective should not only work with specific gambling form. It is also imperative with overall strategies to reduce inequalities. The domain chance-domestic was not associated with less risk for women which raises concerns in regard to chance games on the Internet such as bingo, gaming machines, casino games, and quick lotteries.

The findings also identified gamblers as heterogeneous category; this factor needs to be recognized in interventions and policies. There is a tendency to generalize all gambling by women as “women’s gambling”. Although generalizations about gambling of men and women can be made, it is important to remember in any analysis that both men and women are heterogeneous categories and that there are also many similarities if we compare men and women within the same domains. If the gambling motive for some women, and maybe women in gambling domains generally perceived as risky, is to some extent to distance them from “womanhood” and to renegotiate femininity, they will hardly be reached by or interested in interventions targeting them as “women” in a stereotypical way.

CSOs experienced several health issues. Further, earlier research has shown that the involvement of significant others in treatment is helpful for the problem gambler (Ingle et al. 2008; Saugeres et al. 2012). CSOs are important both for their own sake and because they can be a great support to the problem gambler. The fact that so many people seem to be affected by other peoples gambling must be addressed. The early detection of, and support to CSOs are vital. Few of the CSOs in this study had attempted to receive help and Swedish statistics from a problem gambler helpline show that women represent the majority of close relatives of problem gamblers seeking help - 80% of calls from close relatives are from women (Statens folkhälsoinstitut 2011).

Health was viewed as a dynamic process and as a resource rather than a goal in its own right. The thesis’ approach to health was that health is more than absence of diseases. However, many of the health variables measured ill-health more than
positive health as well-being. This would be an interesting field to further explore. Is it possible that for some gamblers there are negative health effects but maybe also improvement of measure on well-being, confidence and empowerment?

Gendered processes are not easily explained by quantitative data. This thesis is based on epidemiological data but it stands clear that epidemiology is not enough – we also need other kinds of research, including qualitative studies. These approaches ask different kinds of questions to grasp the context and lived experience of people. Future research should consider the implications of gender for specific gambling forms and the ways in which those sites interact with, and reproduce the gender order where men can prove their masculinity and women can negotiate the cost and constraints of femininity. Here Connells theory of hegemonic gender identities as well as the Bourdieu’s theory of capitals could be useful in understanding gambling and gender (Connell 1995; 2009; Bourdieu 1989). Both theories could be linked to Binde’s theory of motivation for gambling.

In some regards this study has raised more question than it answered: What relation do the CSOs have to the persons who had gambling problems and why do they stop being CSOs? In addition, how will this indication of convergence develop? Will women continue to gamble or will they drop out? Will the women who started gamble on the Internet keep to less harmful gambling behavior or will there be a transition to a more risky behavior? One year is a short period of time. A longer follow-up is necessary to obtain a more valid picture of risk-associated factors and protective factors for Internet gambling, problem gambling and consequences for CSOs.

CONCLUSIONS
This thesis including the four papers constitutes a significant contribution to the gambling research field. This research is the first to examine incident Internet gamblers and CSOs in a population based study with separate analyses for men and women. It is also the first to construct domains based on gendered assumptions of strategy-chance games and public-domestic games. Important conclusions:

- The gambling market is still very gendered, where men gamble more, in different domains and have more gambling problems than women
- However, men and women who gamble regularly are just as likely to have problems with gambling, despite that women are more likely to gamble in domains lesser associated with risk
• The domain that includes games characterized by chance and that are played in public places, such as gaming machines, was the only domain associated with problem gambling for women and in this domain there were no differences between men and women regarding separate PCSI items.

• The domain of chance-domestic was not associated with less risk of problem gambling for women which implies that chance games on Internet such as gaming machines, bingo, quick lotteries may constitute a great problem in the future, especially for women.

• A large proportion of the population is CSOs, men as much as women. Both genders experience a range of social, economic and health-related problems. Being a CSO and male was significantly associated with problem gambling. No such association was found for women.

The assumption that Internet gambling would attract people with low social support, psychological problems, physical problems or other health problems such as risky alcohol consumption was not verified. The proportion of problem gamblers decreased as new groups of gamblers entered the net. What will happen among these gamblers who appear to have fewer problems with gambling and health, when they start to gamble on the Internet, as Internet gambling is considered to be associated with gambling problems and health problems. Will their gambling behavior continue to be non-problematic?

These findings suggest that issues of gambling machines need to be addressed for the prevention of problem gambling and that separate analyses for men and women are essential to identify important differences, despite the fact that men and women with similar gambling preferences share overall gambling experiences. There exist gendered meanings, understandings and experiences within the general framework. Qualitative research can add valuable knowledge. Further, a public health approach is important to widen the understanding of gambling and problem gambling, going beyond the individual and to address the problem on various levels. In order to reduce the harm related to problem gambling there are probably other issues than gambling needed to be addressed. Wider issues include employment, distribution of wealth, and level of income support for those in need, social and economic integration for immigrants and the variety of leisure activities in the community. However, public health is a normative field and it should be noted that the field is contributing to the discourse of risk. It is imperative to acknowledge the ethical principles of justice, autonomy, do no harm and beneficence in public health research and interventions.
ACKNOWLEDGEMENTS

First, thanks to my supervisor Mikael Nordenmark. You have been a great support during all these years, always available, helpful and kind. Thanks for engaging in a new field, the field of gambling, with an open mind and intelligent thoughts.

Anna Månsdotter, co-supervisor, friend, role-model and Queen of Fucking Everything. Would not have made it without you.

Warm and special thanks to Ulla Romild, my colleague and close friend. Your support, jokes, encouragement and harsh tone when I needed it have been invaluable. You are the fish hat in my life.

I am completely thankful to Marie Risbeck at the Swedish National Institute of Public Health, who made it possible and believed in me from the beginning. I am indebted to all persons who had been involved in the Swedish longitudinal gambling study: Thomas Jacobsson, Johanna Lundberg, Dr Ulla Romild (again), Marie Risbeck (again), Bodil Edler, Katarina Paulson, Maria Evans, Mineko von Eulers. Special thanks to all members of the advisory board: Jakob Jonsson, Anders Stymne, Dr Rachel Volberg, Prof. Max Abbott, ass. Prof. Per Binde, and Dr Anders Tengström. I am grateful to Prof. Sten Rönnberg and the former International Gambling Research Team of Sweden for conducting the SWEGS. To Frida Fröberg who is writing a thesis on youth and gambling: thanks for being my Ph.D buddy within Swelogs!

Thanks to all my colleagues at the institute among them Ann-Christine Jonsson, Chatrice Höckertin, Anna-Lena Persson, and Ulla-Britta Gabrielson. I am indebted to Linda Rebane, Christina Schörling, Elisabeth Svedberg-Jonsson, Håkan Kvarnlöf, Inger Rehnfors-Marklund, Monica Lorenzen and Nettan Oliw for always being willing to help out. Thanks to Carolina Nordlinder for friendship and all the times you have held my hand while flying.

I am honored to have worked with the Spelberoendes Riksförbund, a NGO working with peer support groups for problem gamblers. Thanks Kim, Patrik, Tommy, Niklas, Kalle, Ing-Marie, Arne P, Arne E, Omid, Madde, Mikael, Gustav, Anne, Matthias and more. Working with you has taught me as much about problem gambling as these years of doctoral studies. Thanks for sharing your experiences and stories on hope and friendship.
Thanks to Thomas Nilsson for having a good heart and a fighting spirit: characteristics needed in the problem gambling field as well as in society as a whole.

I owe thanks to Azzam Khalaf who opened the door to the beautiful world of statistics to me! I am grateful to Per-Anders Tengland who taught us students that health is not so much about exercising as about well-being, empowerment, music and tango. I am also grateful for Dr Emma Casey’s contribution to the gambling field, making working class women and gambling as leisure visible and showing the value in sociological approaches to gambling. Carin Holmberg for her kindness and for conducting important well-needed research in Sweden.

Thanks to all the doctoral students and Marianne Svedlund at Faculty of Health Science at the Mid Sweden University. Special thanks to Maria Warne and Kristina Eivergård for interesting discussions and support – I hope our friendship will last long after the disputation.

To all dear friends: Linda Peterson (love u), Björn Båtshake, Hans & Helena, Jessica Rundberg, Helena Lassen Wikén, Jesper Odelberg, Jessica Enevold, Monica Nordvik, Christina Hedin, Sara and Karin, Eva Samuelsson, Annelie Lundberg with family, Rasmus, Mattias & Linn, Sandis, Anna L & J-Lo, Fellis, Mark, Kribbe. Evelina Landstedt: You have been my star ever since we studied public health together in Malmö all those years ago. During the last years you also have been my guide in the academic jungle, I would have been lost without you! Sending my love to the Spångberg/Holmberg family, and to the best neighbours in the world: Rintzens & Karlströms! Thanks to Anna Sonntag, Jörgen Blom, Marie Svensson and Christer Toft. Thanks to Fredrik Ringfelter, Daniel Hedblom, Madeleine Korsgren, Alexandra Sundgren, Niclas Lihufvud, Linda Andersson and Östersunds Assistansförmedling. We are lucky to have you in our lives.

I am grateful for Lennart Börjesson’s unremitting patience with the kids and your kindness. You are the best granddad in the world. You are family by heart. My mother and sister. My children Bilbo and Manne. Calle. Love you endlessly.

Thanks to all people in the world who fight for justice and solidarity as well as to all women in the present and in the past that are fighting or have fought for women’s rights. I will proudly follow your path.

The dissertation was founded by the Swedish National Institute of Public Health
REFERENCES


APPENDICIES

Appendix 1. Internet gambling

There were slight differences in the question of Internet gambling in EPI and EPII. In EPI, all participants who answered ‘Yes’ to the grid question for Internet gambling received more specific questions on their Internet gambling. In EPII, there was no grid question for Internet gambling. Instead, there was one grid question for each of the nine gambling forms. In both surveys, after the grid questions: the questions for each sub-mode were adjusted to the specific gambling form, but all had alternatives for Internet gambling. In this thesis a variable for Internet gambling was created from the results in all gambling modes. It is important to note that this study primarily used the overall variable.

Grid question in EPI: “Have you ever spent money playing on-line games or bought lottery tickets over the Internet? This question applies to all the games or lotteries we just talked about, but not video games or computer games.” Answer format: “Yes” or “No”.

Grid question in EP II (example for bingo): “Have you ever played bingo for money – besides Bingolotto? Don’t count bingo machines.” Answer format: “Yes” or “No”.

Example on how Internet gambling was asked in both EPI and EPII if the respondent answered “Yes” to the grid question:

“In the past 12 months, how often have you placed bets on the following types bingo games:

- At a bingo hall?
- On-line bingo at svenskaspel.se?
- On-line bingo at bingolotto.se?
- On-line bingo with another gaming company?
- Other bingo games, for example, car bingo?”

The answer format was “Daily/Almost daily”, “Several times/week”, “Once/week”, “Several times/month”, “Once/month”, “6-11 times/year”, “Less often/Never”
Appendix 2. South Oakes Gambling Screen – Revised (SOGS-R)

South Oakes Gambling Screen – Revised include 20 questions, both lifetime and current measures. Answer format is for questions 1-10 is “Never”, “Sometimes”, “Often”, “Always”. For question 11-20 the answer format is “Yes” or “No”. If the respondent answer questions with 1-10 with “Sometime”/”Often”/”Always” or questions 11-20 with “Yes” when the respondents are asked the question about the last 12 months.

1A. In case you lost money in gambling, has it ever happened that you came back another day to win back the money once lost? B. How often has this happened to you in the last 12 months?

2A. Have you ever claimed to be winning money gambling but weren’t really? In fact, you lost? B. How often has this happened in the last 12 months?

3A. Did you ever gamble more than you intended? B. How often has this happened to you in the last 12 months?

4A. Have you ever been criticized because of your gambling? B. Has this ever happened to you in the past 12 months?

5A. Have you ever felt guilty about your gambling? B. Have you felt so any time in the past 12 months?

6A. Have you ever felt that you should stop gambling but not believed that you could? B. Have you felt so some time in the last 12 months?

7A. Have you ever hidden betting slips, lottery tickets, gambling money, or other signs of gambling from your spouse/partner, children, or other important people in your life? B. Have you ever done so in the last 12 months?

8A. Have you ever had any heated discussions in your family concerning how you spend the money? (The question is only used as a grid question for question 8B) B. Have money arguments ever centered on your gambling? Have you had any of these arguments in the past year?

9A Have you ever lost time from work (or school) due to gambling? B. Have you done so in the last 12 months?

10A. Have you ever borrowed from someone and not paid them back as a result of your gambling? B. Have you done so in the last 12 months?
The following questions concern various ways of getting money for various sorts of gambling. Please give your answers if you have practised one or more of those in order to get money for your gambling.

11A. Have you ever borrowed money in order to gamble or to pay back gambling debts from household (housekeeping) money? B. Have you done so in the last 12 months?

12A. Have you ever borrowed money from your spouse/partner in order to gamble or to pay back your gambling debts? B. Have you done so in the last 12 months?

13A. Have you ever borrowed money from other relatives or in-laws in order to gamble or pay back your gambling debts? B. Have you done so in the last 12 months?

14A. Have you ever borrowed money from banks, loan companies or credit unions in order to gamble or to pay back your gambling debts? B. Have you done so in the last 12 months?

15A. Have you ever used your credit card to get cash or to pay for gambling or for your gambling debts? B. Have you done so in the last 12 months?

16A. Have you ever borrowed money with a lending rate, for example, from a private money lender / money broker or from so-called loan sharks in order to gamble or pay back your gambling debts? B. Have you done so in the last 12 months?

17A. Have you ever cashed in stock shares, bonds or other securities in order to gamble or to pay back your gambling debts? B. Have you done so in the last 12 months?

18A. Have you ever sold a part of personal or family property in order to gamble or pay back your gambling debts? B. Have you done so in the last 12 months?

19A. Have you ever signed a check without coverage or overdrawn your check account in order to gamble or to pay back your gambling debts? B. Have you done so in the last 12 months?

20A. Have you ever felt that you might have a problem because of your gambling? B. Have you done so in the last 12 months?
Every positive answer, e.g., “Sometimes”/“Often”/“Always”, result in 1 point. Life time and current score are counted separately. This thesis did not use the lifetime score. Max score is 20. Following cut off score are used:

0-2 No problem
3-4 Problem gambling
5+ Probably pathological gambling

In this thesis problem gambling and pathological gambling was merged into one group called problem gambling.
Appendix 3. Problem Gambling Severity Index (PGSI)

Problem gambling Severity Index include 9 questions regarding the last 12 months with answer format “Never”, “Sometimes”, “Most of the time”, “Almost always”.

1. Have you bet more than you could really afford to lose?

2. Still thinking about the last 12 month, have you needed to gamble with larger amounts of money to get the same feeling of excitement?

3. When you gambled, did you go back another day to try to win back the money you lost?

4. Have you borrowed money or sold anything to get money to gamble?

5. Have you felt that you might have a problem with gambling?

6. Has gambling caused you any health problems, including stress or anxiety?

7. Have people criticized your betting or told you that you had a gambling problem, regardless of whether or not you thought it was true?

8. Has your gambling caused any financial problems for you or your household?

9. Have you felt guilty about the way you gamble or what happens when you gamble?

Score the following for each response: Never = 0, Sometimes = 1, Most of the time = 2, Almost always = 3

Scores for the nine items are summed, and the results are interpreted as follows:

0 = Non-problem gambling.
1-2 = Low risk of problems with few or no identified negative consequences.
3-7 = Moderate risk for problems leading to some negative consequences.
8 or more = Problem gambling with negative consequences and a possible loss of control.

In this is “Moderate risk” and “problem gambling” was merged into one group called problem gambling.
Appendix 4. Mental health, Kessler 6

Kessler 6 is a short version of Kessler 10. Answer format is “All of the time”, “Most of the time”, “Some of the time”, “Seldom”, Not at all”.

1. About how often in the past 30 days have you felt worried or anxious? Would you say that it was all of the time, most of the time, some of the time, a bit of the time or not at all?

2. In the past 30 days, how often have you felt a sense of hopelessness? Would you say that it was all of the time, most of the time, some of the time, a bit of the time or not at all?

3. In the past 30 days, how often have you felt restless or nervous? Would you say that it was all of the time, most of the time, some of the time, a bit of the time or not at all?

4. In the past 30 days, how often have you felt so depressed that nothing could cheer you up? Would you say that it was all of the time, most of the time, some of the time, a bit of the time or not at all?

5. In the past 30 days, how often have you felt that everything has been a strain? Would you say that it was all of the time, most of the time, some of the time, a bit of the time or not at all?

6. In the past 30 days, how often have you felt worthless? Would you say that it was all of the time, most of the time, some of the time, a bit of the time or not at all?

Score the following for each response: All of the time = 4 Most of the time = 3
Some of the time = 2 Seldom= 1 Not at all = 0

Maximum score are 24. Cut-off for severe mental illness is 13. But in this thesis the cut-off was set to 9; a cut-off for impaired mental health.
Appendix 5. The Alcohol Use Disorders Identification Test (AUDIT)
The Alcohol Use Disorders Identification Test (AUDIT) is used to identify persons
with hazardous and harmful patterns of alcohol consumption. In this thesis a short
version including 3 questions was used, as in the Public health survey in Sweden.
AUDIT was developed by the World Health Organization (WHO) and originally
includes 10 questions. “Alcohol” here means medium- and strong beer, cider,
wine, fortified wine and spirits.

1. How often have you consumed alcohol in the past 12 months?
   1 Daily/Almost daily
   2 Several times/week
   3 Once/week
   4 Several times/month
   5 Once/month
   6 6-11 times
   7 Less often
   8 Never
   F8 DON’T KNOW
   F9 REFUSED

2. On a typical day when you drank alcohol in the past 12 months, how many
   “glasses” did you drink? A “glass” refers to 50 cl medium-strength beer, 33 cl full-
   strength beer or cider, 10-15 cl wine, 5-8 cl fortified wine, or 4 cl spirits, e.g., whiskey.
   1 1-2 Glasses
   2 3-4 Glasses
   3 5-6 Glasses

   In the past 12 months, how often have you had 6 or more ”glasses” on the same
   occasion?
   1 Daily or almost daily
   2 Every week
   3 Every month
   4 6-10 times
   5 Less often
   6 Very seldom or Never
   F8 DON’T KNOW
   F9 REFUSED
3. In the past 12 months, how often have you consumed enough alcohol to make you drunk?
1 Daily or almost daily
2 Every week
3 Every month
4 6-10 times
5 Less often
6 Very seldom or Never
F8 DON’T KNOW
F9 REFUSED

Maximum score are 12. Cut-off for a risky alcohol consumption were set 8+ for men and 6+ for women, respectively.