Swedish National Institute of Public Health

The Swedish Longitudinal Gambling Study

Swelogs

9th SNSUS conference, May 28th 2013,
in beautiful Hamar, Norway

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The Swedish National Institute of Public Health

- The structure of Swelogs
- First wave results: EP1 2008/2009
- Second wave results: EP2 2009/2010
- Sampling strategy and attrition
- Ongoing and upcoming events

Public Health Objectives

1. The overarching aim of Sweden's national public health policy is to create social conditions that will ensure good health, on equal terms for the entire population.

2. The aim for society's measures against pathological gambling is to reduce harm from exaggerated gambling.

Government proposal prop 2007/08:110

Swelogs' overarching goal

Swelogs aims at developing evidence-based methods and strategies for prevention of harmful gambling.

Swelogs' five main objectives

- Study changes in incidence and prevalence of PG.
- Describe problem gambling in relation to changes in gambling behavior and gambling related environmental factors.
- Identify relevant target groups for prevention.
- Examine the health-related, social and economic consequences of problem gambling.
- Establish risk factors and protective factors of gambling behaviours/habits.

Swelogs' survey plan

	2008/2009	2009/2010	2011	2012	2013	2014	2015
Epidemiological Track	EP I N=15 000 16-84 yrs	EP II N=8 200 17-85 yrs		EP III N=7 100 19-87 yrs		EP IV N~7 000 21-89 yrs	
In-depth track			ID I N=2 400 18-86 yrs		ID II N~2 000 20-89 yrs		ID III N~2 000 22-91 yrs
Follow-up track	FU I N=578 23-83 yrs						

EP1 2008/09

Sampling and methods for data collection

- The sample consists of 15 000 individuals, aged 16-84, representative for the population
- Sample stratification based on predicted probabilities for having gambling problems, age and gender
- Data collection, phase 1:
  - Telephone interviews from October 2008 until April 2009
  - Questionnaires sent by post to those not reached by telephone until August 2009
- Around 8 200 responded; weighted response rate 63 percent

Questionnaire

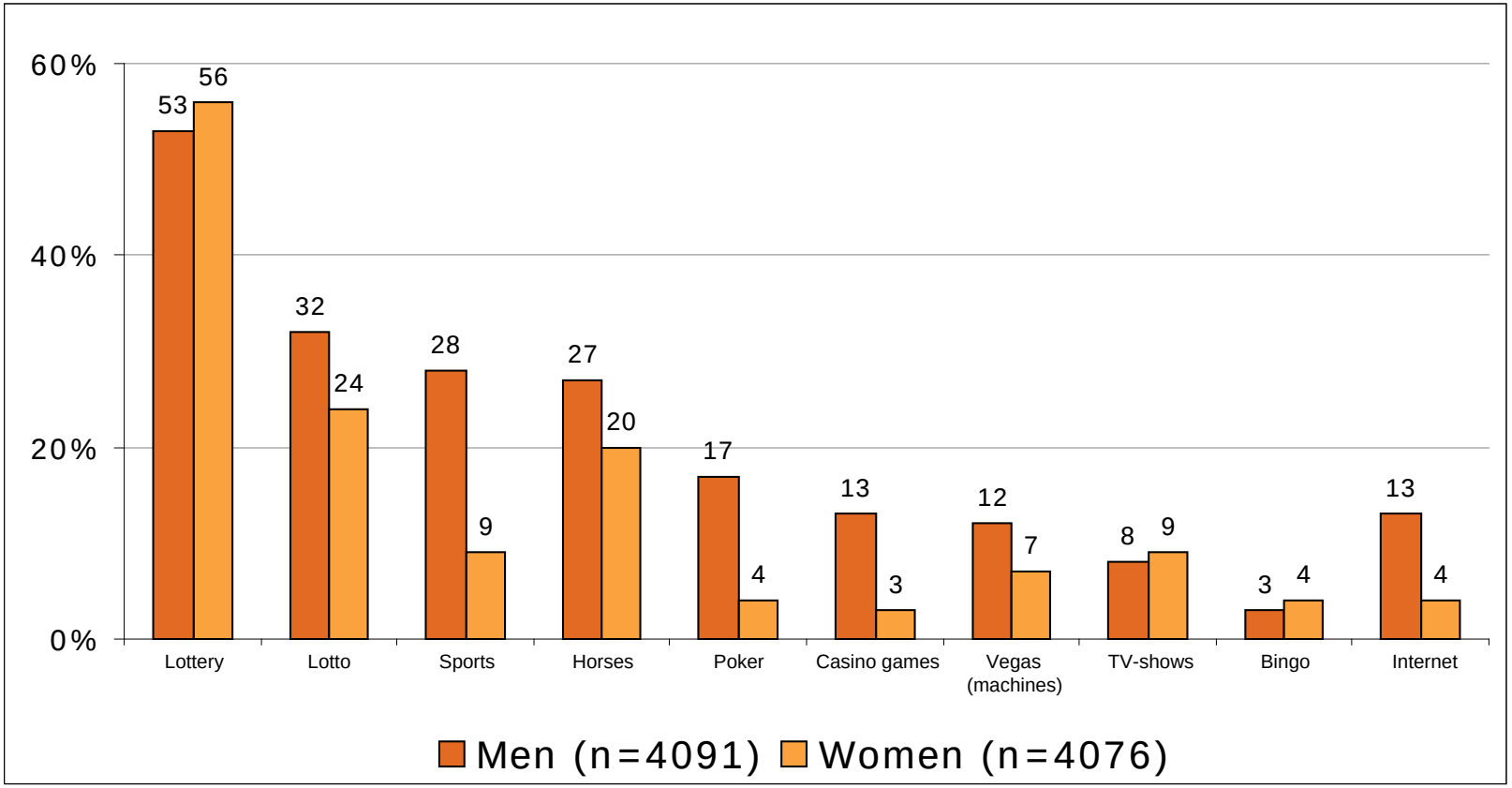
- Gambling (lifetime and past 12 months)
- Gambling problems (SOGS, PGSI, FORS) and gambling related questions
- Computer gaming
- Health, demografics, socio-economy

+ register variables from Statistics Sweden

Population registers

- National register over the total population (for sampling)
- Registers over income, taxes, education, occupation, immigration, emmigration, household etc

Male and female gambling in different gambling forms



Gambling problems in Sweden

Type of gambler	Proportion in the sample	Estimated number in the population aged 16-84
No gambling problem 0 points	92.4%	6742900
Low risk 1-2 points	5.4%	393700
Moderate risk 3-7 points	1.9%	140100
Problem gambling 8+ points	0.3%	23700

The categories *Moderate risk* and *Problem gambling* will in this presentation sometimes/mostly be combined and presented as *Gambling problems*

Conclusions after wave 1

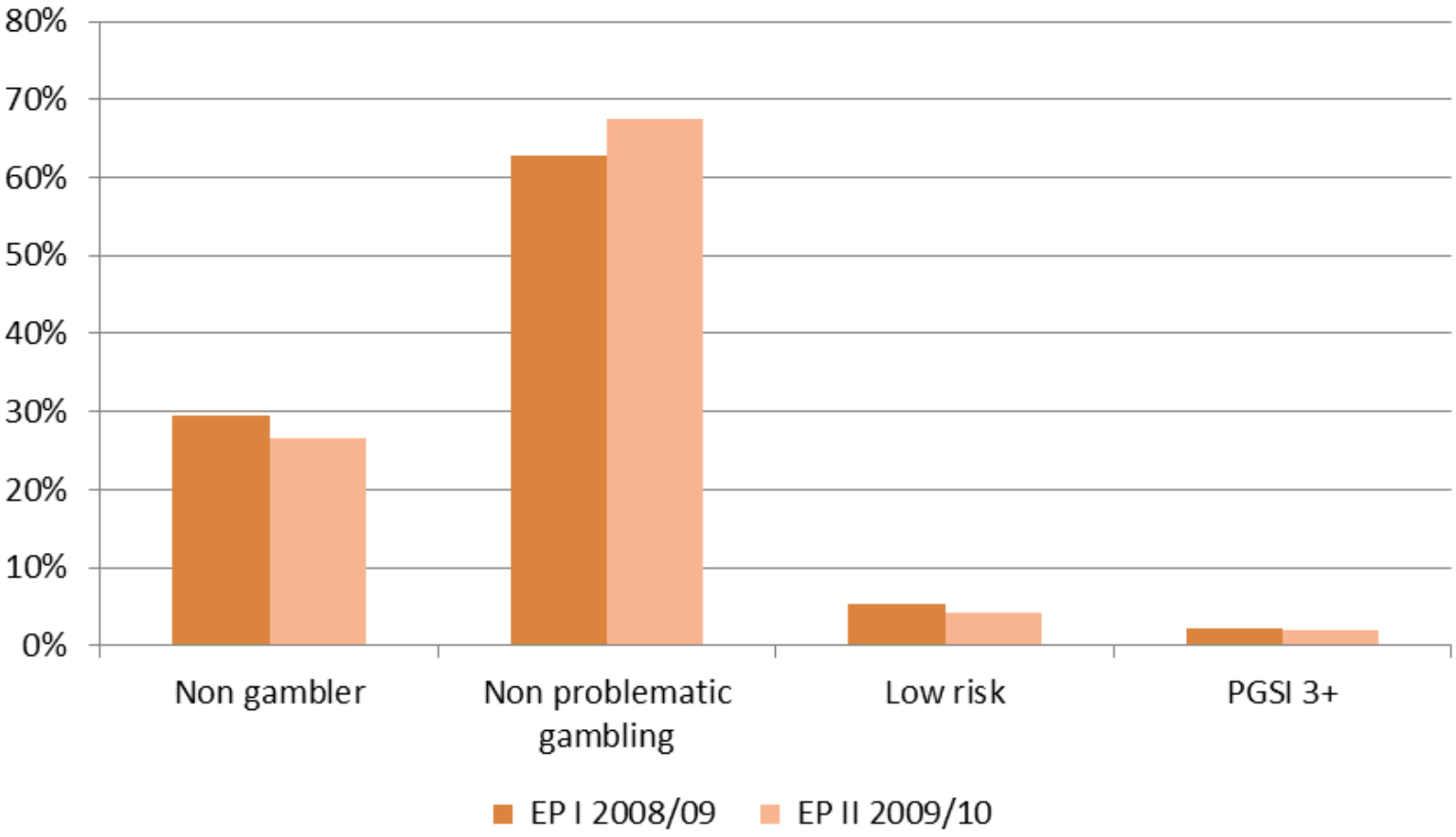
- Problem gambling treatment is needed all over the country
- Continuous need for information and educational measures
- One target group is young men without secure footing on the labour market
- Improved control of age limits
- Extended responsible gaming for casino, poker, machines and Internet gambling

EP2 2009/10

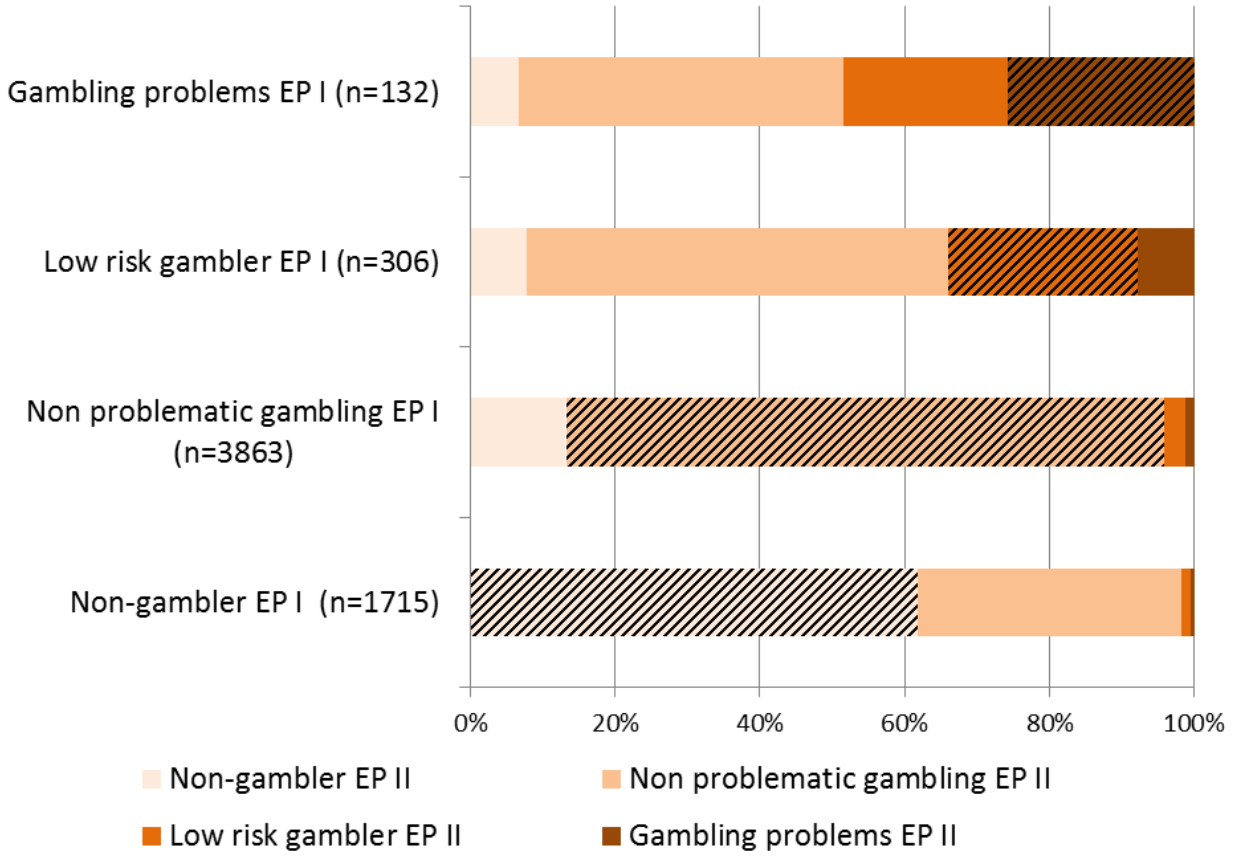
Data collection EP2

- The sample consisted of the 8 165 respondents from EP1, now aged 17-85
- Data collection, phase 2:
  - Telephone interviews from December 2009 until April 2010
  - Questionnaires sent by post to those not reached by telephone until August 2010
- 6 021 responded; weighted response rate 80 percent

Prevalence EP I and EP II



Transitions in different PGSI categories

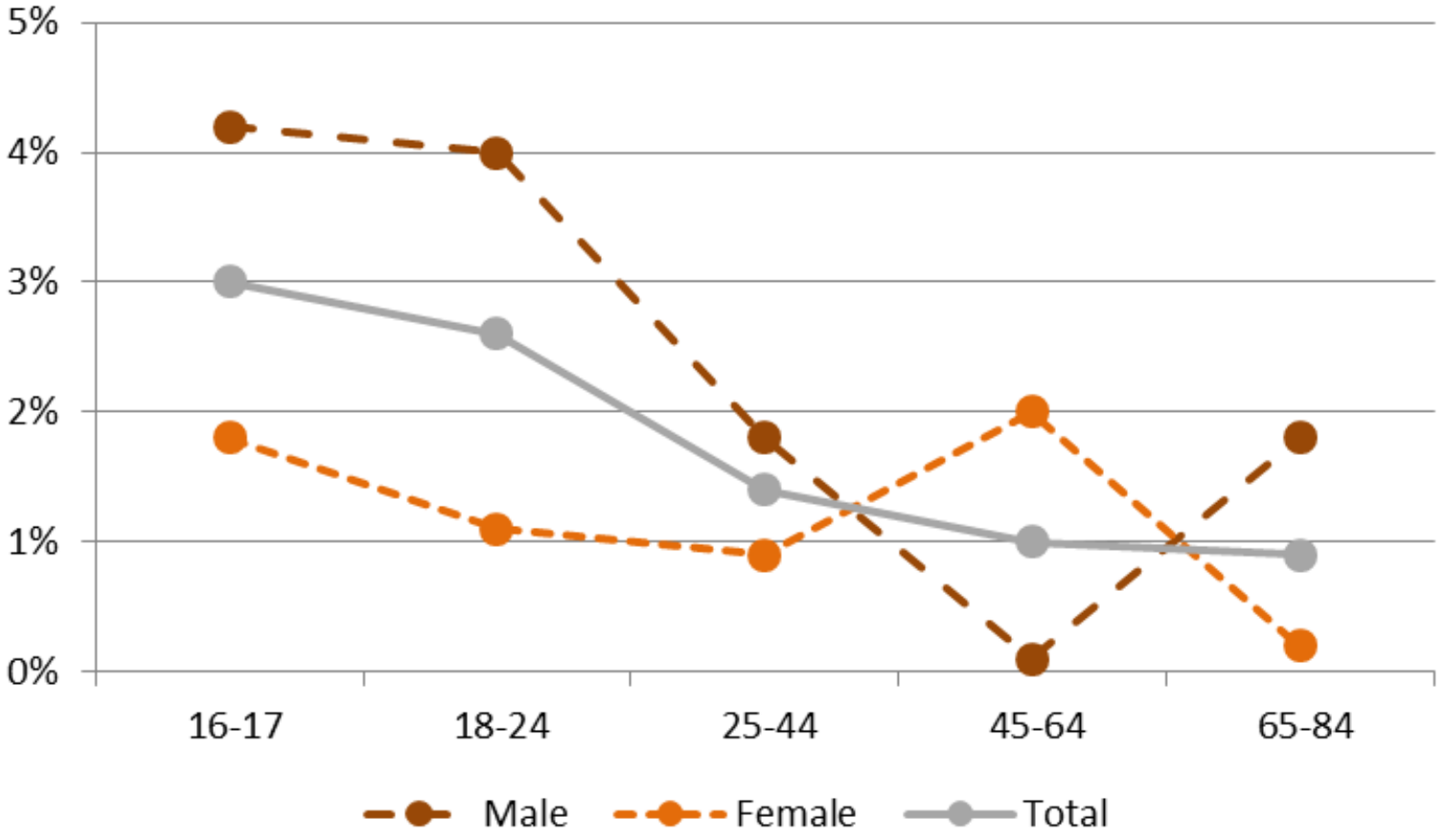


Incidence from 2008 to 2009

- Problem gambling: 0.18 %
- Combined Moderate risk/Problem gambling:
  - In the population aged 17-85: 1.4 %
  - Among previous Non problem/low risk gamblers: 1.7 %

	Tot	M	F	16–24 yrs 2008		25–44 yrs 2008		45–64 yrs 2008		65–84 yrs 2008	
				M	F	M	F	M	F	M	F
Continued problem gamblers	26 %	32 %	13 %	41 %	11 %	21 %	6 %	32 %	–	50 %	27 %
Est. number	41 700	35 900	5 800	14 900	1 200	10 000	900	7 500	<100	3 500	3 700
with gambling problems	46 %	41 %	60 %	23 %	–	50 %	–	67 %	–	67 %	Most
True incidence	1,0 %	1,0 %	1,1 %	2,9 %	1,0 %	0,5 %	0,9 %	0,1 %	1,9 %	1,6 %	0,2 %
Est. number	78 300	36 900	41 400	16 400	5 300	6 600	11 000	1 700	23 800	12 100	1 200
with gambling problems	5 %	7 %	3 %	8 %	–	–	11 %	–	–	11 %	–
Relaps after EP1 (of people with previous problems)	11 %	12 %	2 %	14 %	3 %	15 %	1 %	–	28 %	–	–
Est. number	20 500	20 200	400	6 100	300	14 100	<100	–	<100	–	–
with gambling problems	4 %	4 %	2 %	5 %	–	4 %	–		Most	–	–
Total incidens	1,4 %	1,6 %	1,1 %	4,3 %	1,3 %	1,8 %	0,9 %	0,1 %	1,9 %	1,6 %	0,2 %
Est. number	98 800	57 000	42 000	22 500	5 700	20 700	11 000	1 700	23 800	12 100	1 200
with gambling problems	6 %	8 %	3 %	10 %	–	6 %	11 %	–	–	11 %	–

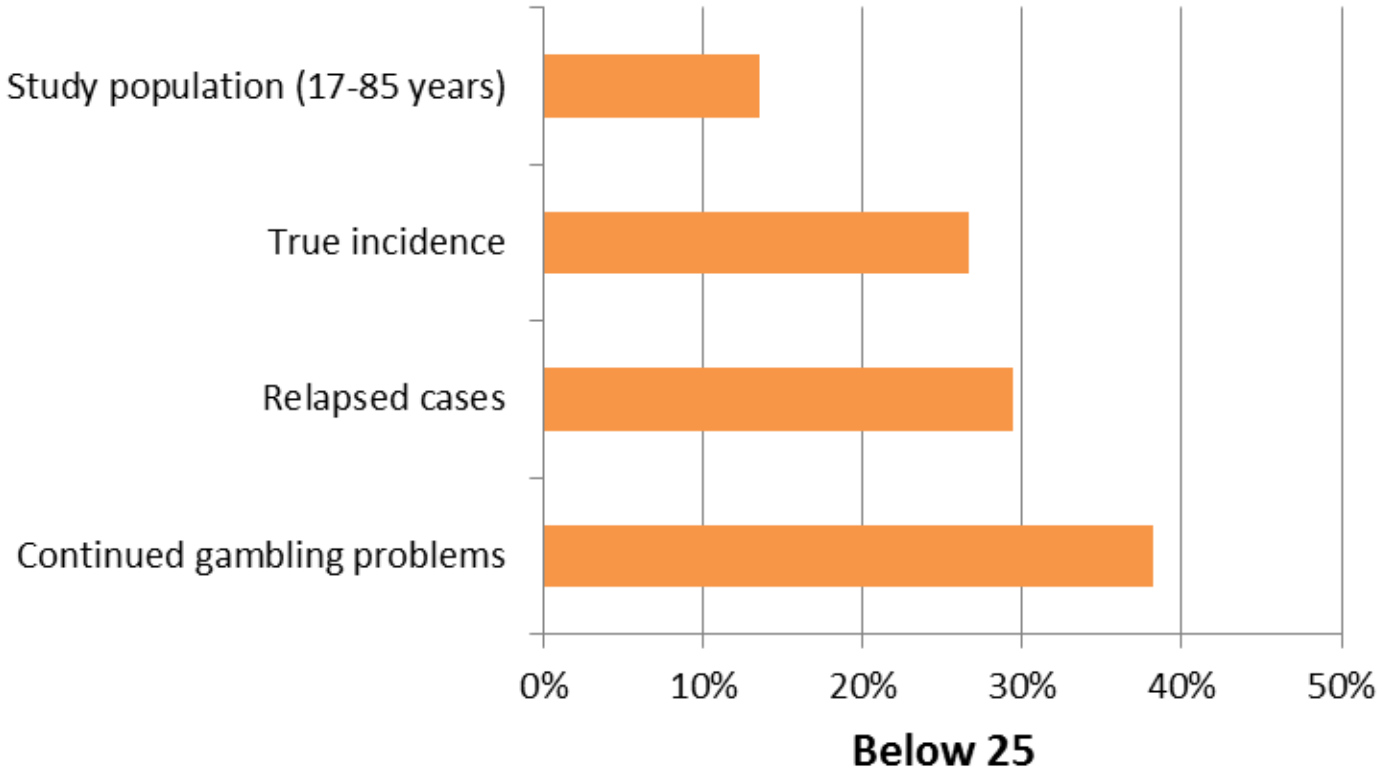
Incidence (new PGSI 3+)



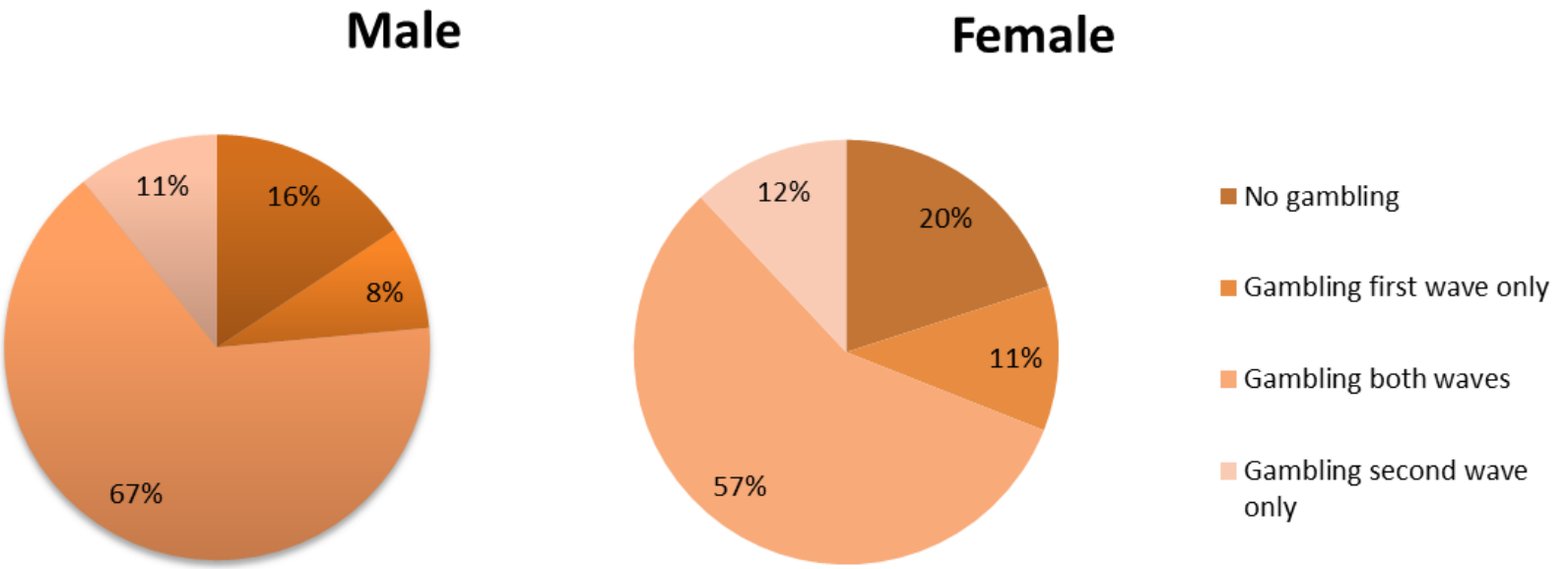
Why is the incidence higher among women 45-64 years of age?

- They gamble more: spend more time, more money, gamble more often compared to other female age groups
- They gamble more on horses and on lotto
- More of them prefer to gamble alone
- They gamble more at work
- Higher proportion on sick leave/early retirement
- More common to experience the death of someone close

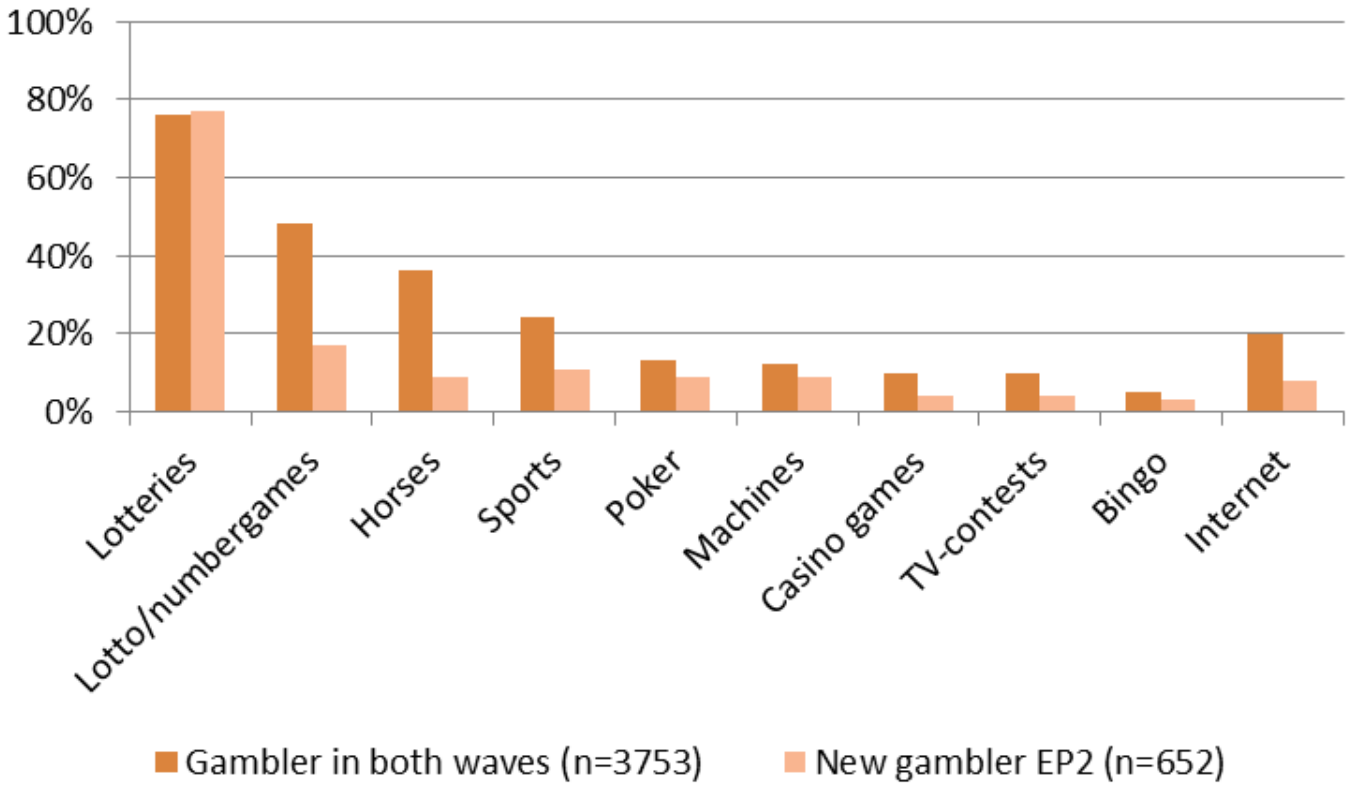
% young people among…



Gambling in either, both or none waves of Swelogs (EP1 and EP2)



Gambling among established and new gamblers



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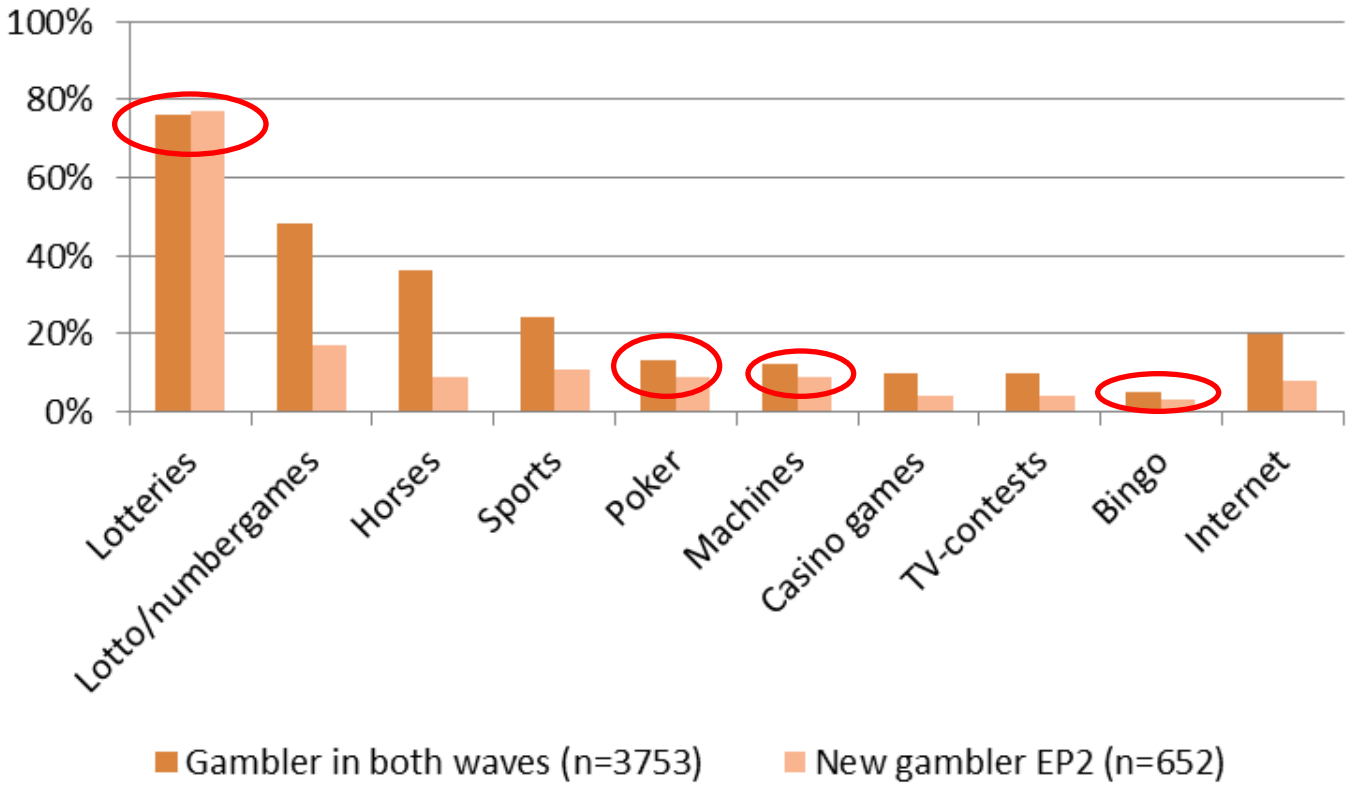


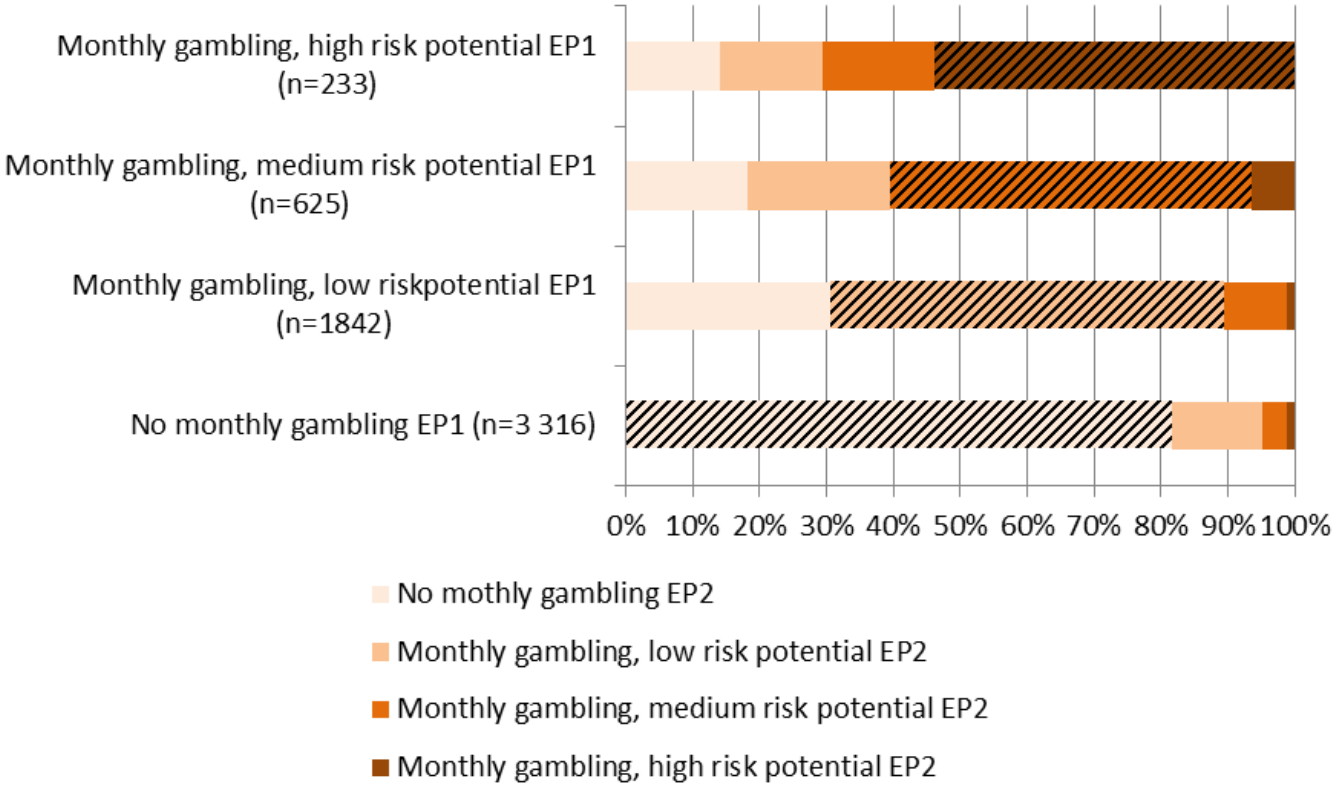
Risk potential

- Event frequency (3.0)
- Multigame/stake opportunities (2.0)
- Light and sound effects (1.5)
- Variable stake size (1.4)
- Availability (1.3)
- Cashout interval (1.3)
- Continuity of the game (1.0)

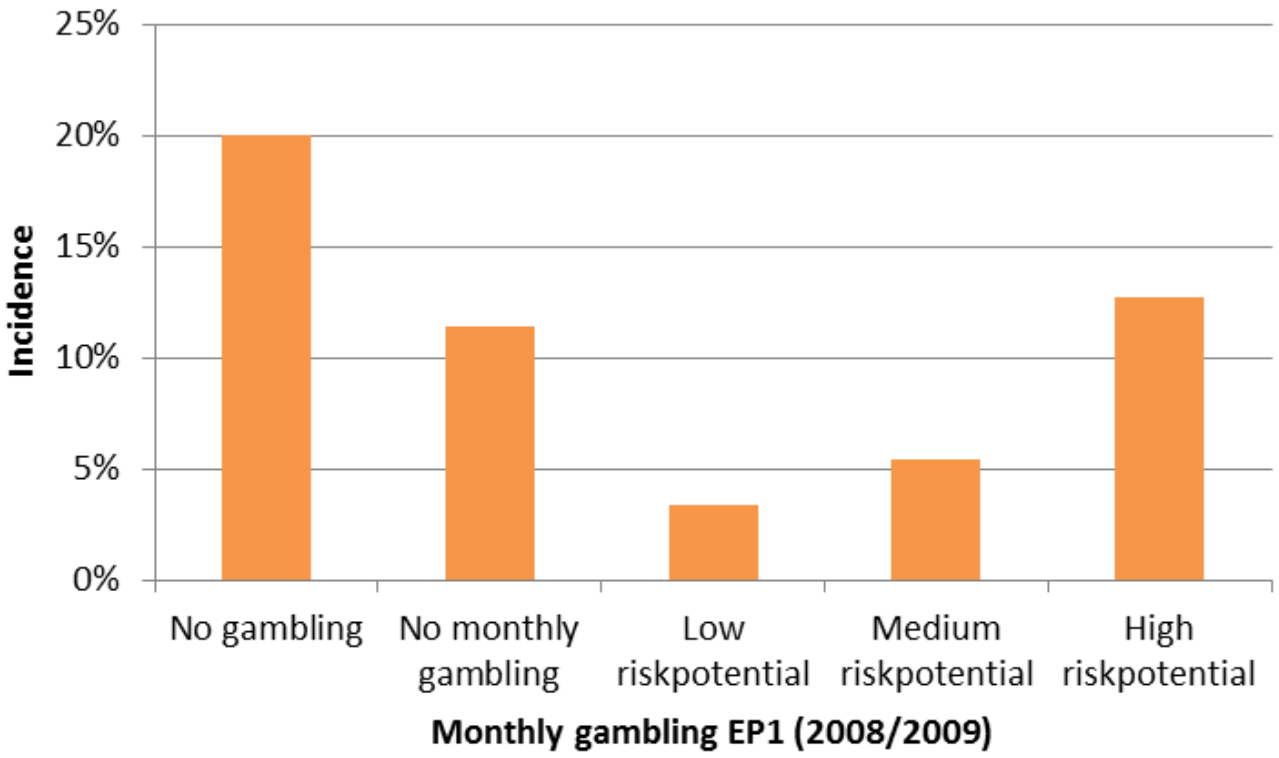
- High: All types of casino games and machines. Scratch tickets, bingo, poker and sports games (other than Svenska Spel) online.
- Increased: Live bingo, Live poker, Lotto online, horses except Harry Boy, TV-contests and most sports gambling
- Low: Lotteries, Lotto from agent, Bingolotto from agent or online, Harry Boy from agent or online

Monthly gambling at different levels of riskpotential

Transitions between gambling with different risk potential



Incidence among people gambling monthly at high riskpotential in EP2 (2009/2010)



Multivariate analysis; dependent variables

- 1. New at risk; non-gamblers or no problem gamblers in EP1, PGSI 1+ in EP2 (n=5331; non gamblers or no problem gamblers EP1)
- 2. Incidence; new with PGSI 3+ in EP2 (n=5829; all except previous PGSI 3+)
- 3. Reduced risk; From low risk or higher, reduced at least one category (n=690; PGSI 1+)
- 4. Recovery; From PGSI 3+ into low risk or no problem in EP2 (n=192; previous PGSI 3+)

OR for Incidence and for New at risk. Multivariate results

	Inc.	Risk		Inc.	Risk
Male	n.s	n.s	Living in larger cities	n.s	1.8
Age below 25	n.s	1.4	Computergaming:	2.3	n.s
Male*below 25	n.s	2.1	Good general health	0.5	n.s
Born outside Sweden	2.5	n.s	Reduced mental health	1.6	1.7
Gambled past year:	2.2	2.2	Worse economy	n.s	1.5
Started to gamble at work/schooltime simultanously	4.4	2.9	Death of someone close	1.6	n.s
Risky alcohol consumption	2.0	1.7	Increased arguments with someone close	1.6	1.6
Simultanous development of risky alcohol consumption	2.0	1.7	Increased working conditions	n.s	1.6

OR for	Recovery	Reduced risk
Male		0.46
Bad mental health		0.53
Risky alcohol consumption	0.42	0.61
Divorce or separation	0.32	
Increased number of arguments with someone close		0.52

Sampling and Attrition

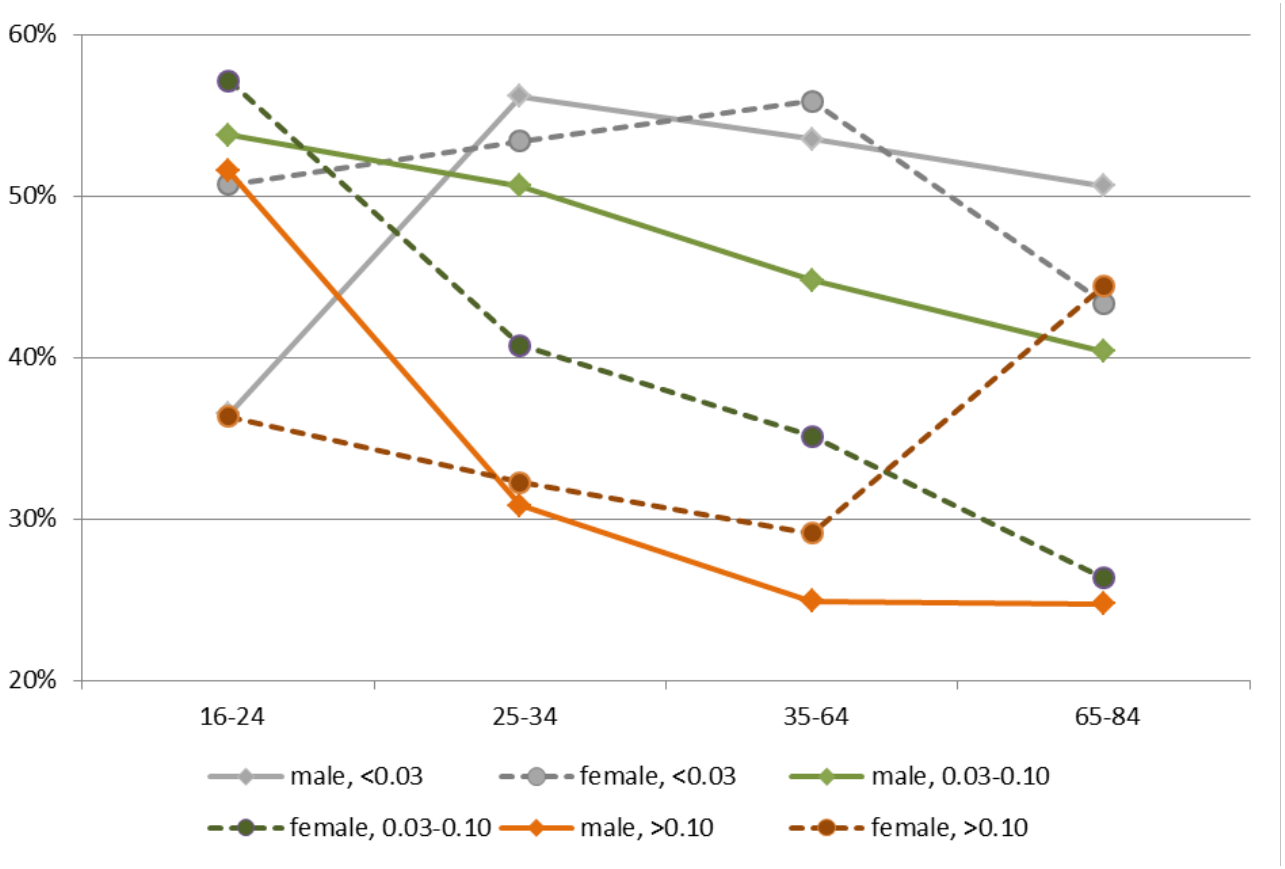
Sampling Strategy

p_k – values	Gender	Age-groups 2008				Total
		16-24	25-34	35-64	65-84	
$p_k \leq 0.03$	male	**307** 2,757	**203** 89,754	**742** 985,291	**749** 432,879	**2,001** 1,510,681
	female	**347** 375,622	**444** 516,388	**512** 1,789,951	**697** 756,867	**2,000** 3,438,828
$0.03 < p_k \leq 0.1$	male	**582** 342,966	**632** 400,130	**422** 801,697	**364** 214,761	**2,000** 1,759,554
	female	**1477** 141,629	**243** 38,339	**242** 35,092	**38** 3625	**2,000** 218,685
$0.1 < p_k$	male	**2184** 200,786	**938** 92,634	**285** 84,338	**93** 8,606	**3,500** 386,364
	female	**1,029** 1,323	**1,230** 2638	**1,231** 2283	**9** 11	**3,499** 6,255
Total		**5,926** 1,065,083	**3,690** 1,139,883	**3,434** 3,698,652	**1,950** 1,416,749	**15,000** 7,320,367

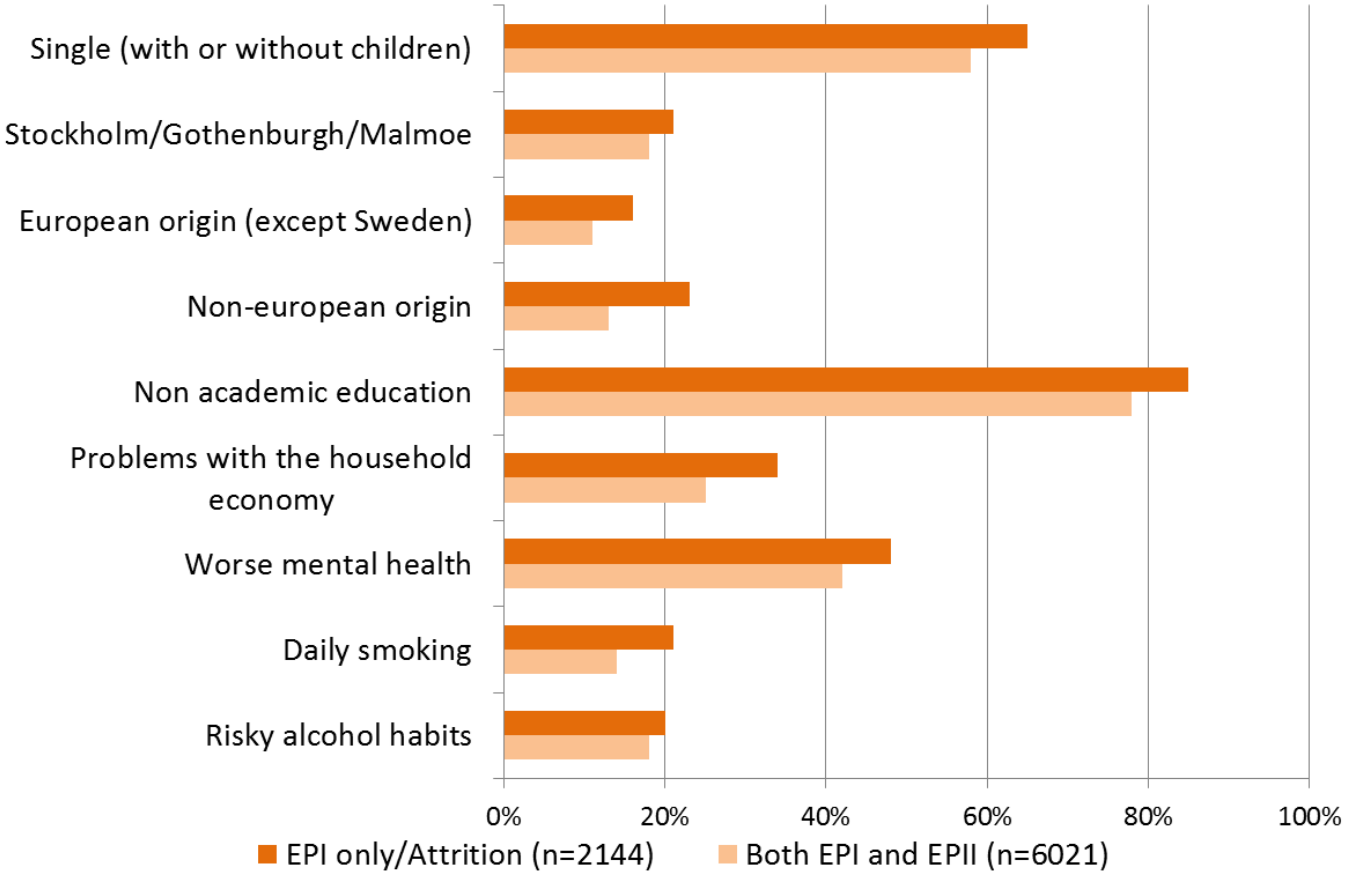
Response rate in EP1 and EP2

p_k – values	Gender	Age-groups 2008				Total
		16-24	25-34	35-64	65-84	
$p_k \leq 0.03$	male	36,5%	56,2%	53,5%	50,6%	50,1%
	female	50,7%	53,4%	55,9%	43,3%	50,1%
$0.03 < p_k \leq 0.1$	male	53,8%	50,6%	44,8%	40,4%	48,5%
	female	57,1%	40,7%	35,1%	26,3%	51,9%
$0.1 < p_k$	male	51,6%	30,8%	24,9%	24,7%	43,1%
	female	36,3%	32,3%	29,1%	44,4%	32,4%
Total		49,7%	39,4%	40,4%	44,4%	44,3%

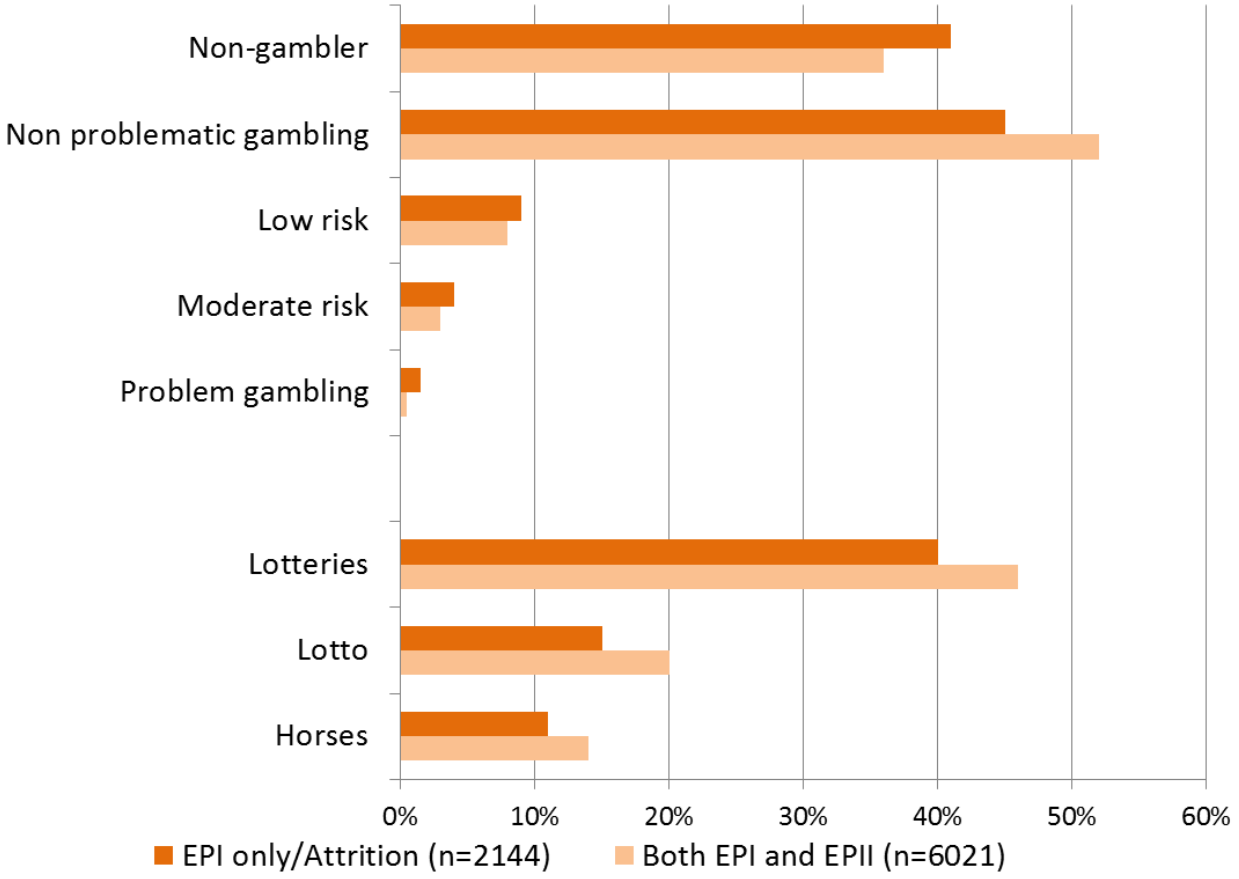
Response rates in EP1 and EP2



Socio-demographic factors in relation to attrition



Gambling habits EP1 in relation to attrition

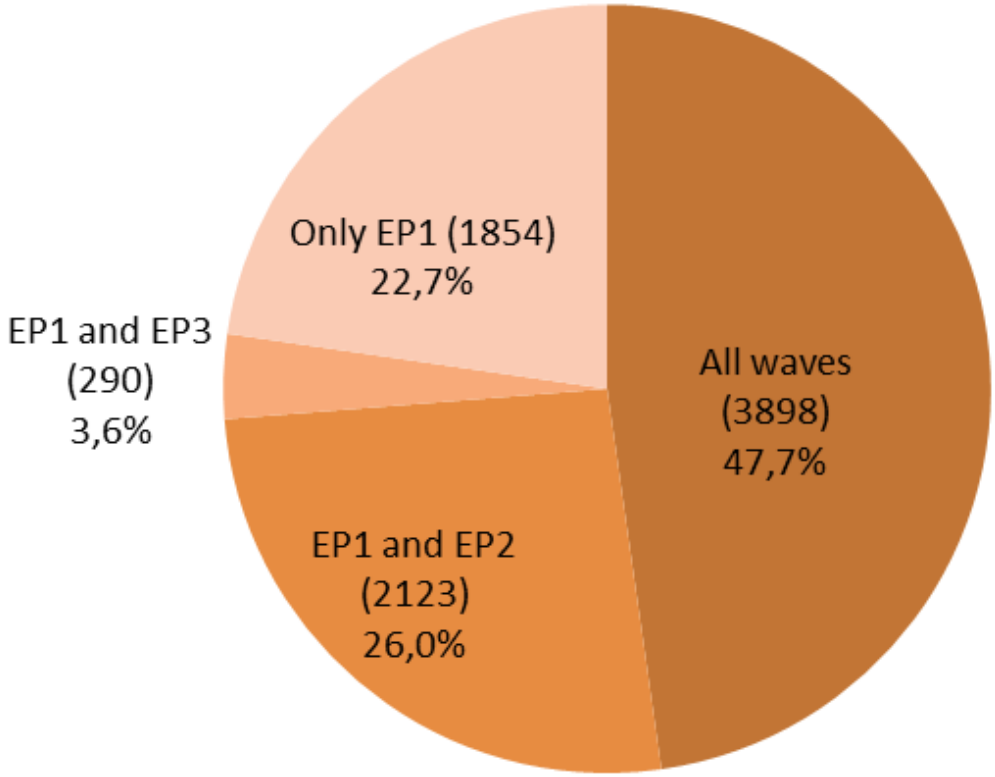


EP1-EP3

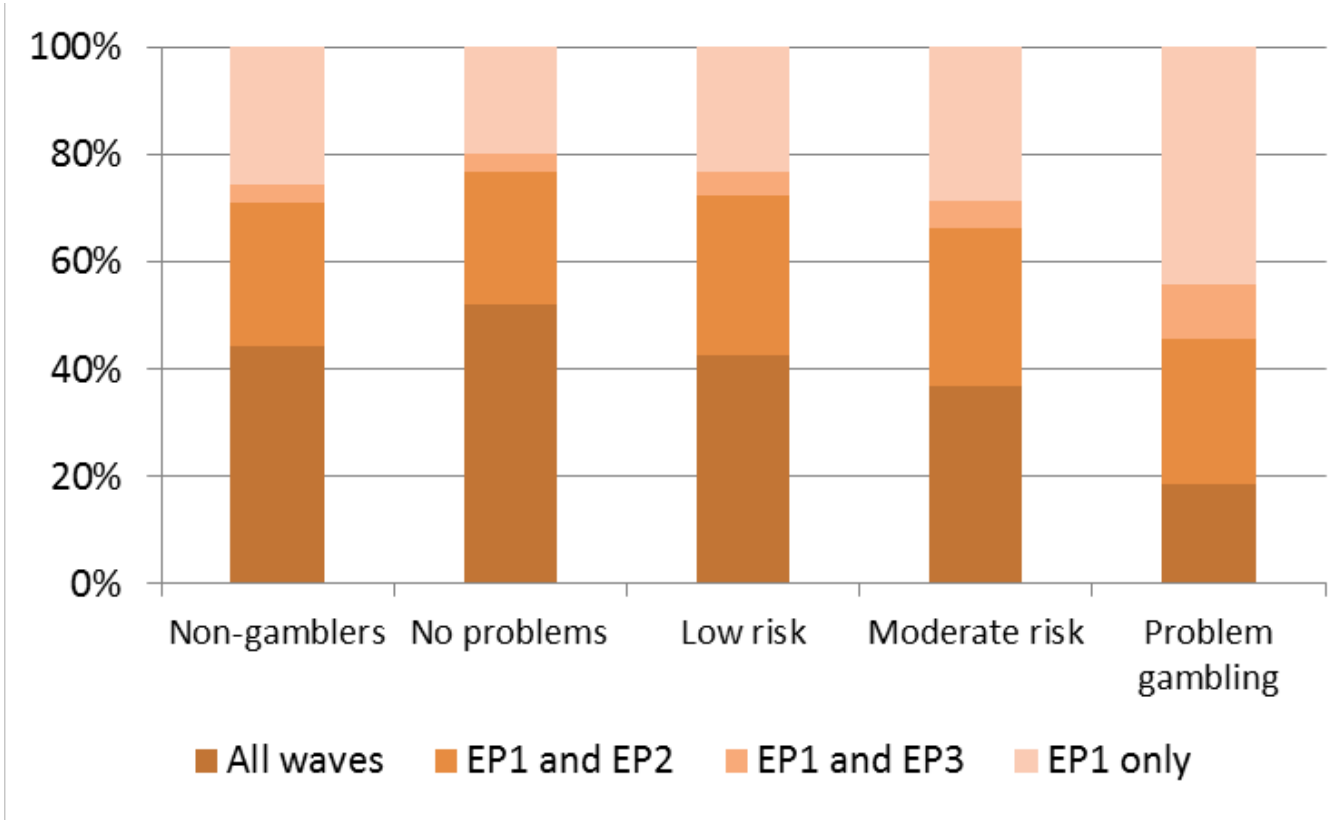
EP3 respondent; % of the initial sample per strata

		16-24	25-34	35-64	65-84	Total
pk<=0.03	male	19%	40%	44%	41%	38%
	female	33%	38%	50%	33%	38%
0.03<pk<0.01	male	31%	36%	34%	33%	34%
	female	34%	24%	20%	11%	31%
0.01<pk	male	28%	15%	13%	17%	23%
	female	17%	17%	14%	11%	16%
	Total	28%	24%	29%	35%	**28%**

Participation EP1 – EP3

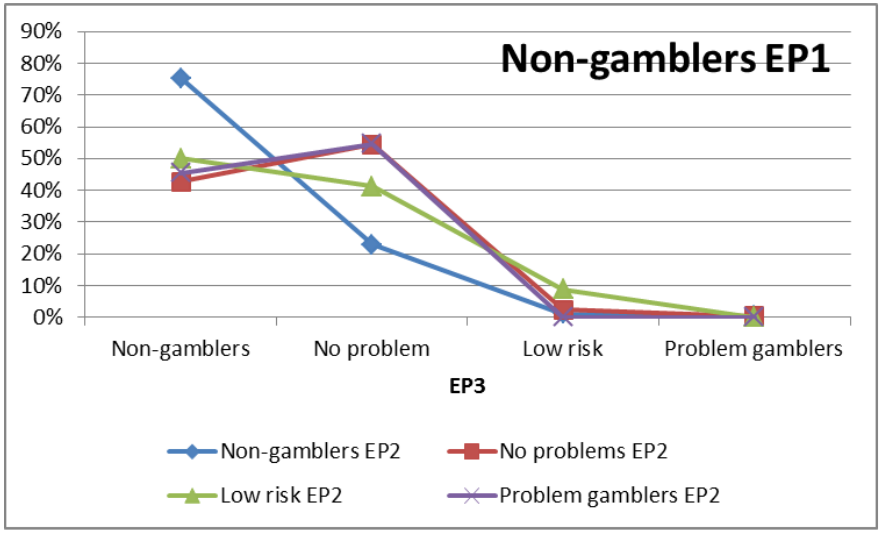


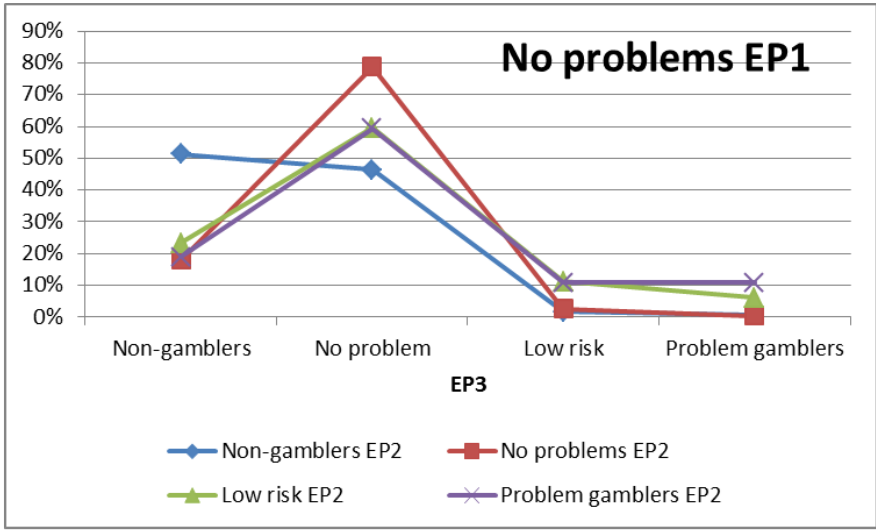
Participation in different PGSI-categories from EP1



PGSI over EP1-3

EP1	EP2		EP3 Non-gamblers	EP3 No problem	EP3 Low risk	EP3 Problem gamblers
Non-gamblers	Non-gamblers EP2	61%	**75,4%**	22,9%	1,2%	0,5%
	No problems EP2	35%	42,7%	**54,4%**	2,5%	0,4%
	Low risk EP2	2%	**50,0%**	41,2%	8,8%	0
	Problem gamblers EP2	1%	45,5%	**54,5%**	0	0
No problems	Non-gamblers EP2	16%	**51,3%**	46,4%	1,7%	0,6%
	No problems EP2	77%	18,0%	**78,9%**	2,7%	0,5%
	Low risk EP2	5%	23,3%	**59,5%**	11,2%	6,0%
	Problem gamblers EP2	2%	18,9%	**59,5%**	10,8%	10,8%
Low risk	Non-gamblers EP2	12%	38,2%	**50,0%**	2,9%	8,8%
	No problems EP2	55%	16,0%	**73,5%**	6,8%	3,7%
	Low risk EP2	27%	15,2%	**49,4%**	29,1%	6,3%
	Problem gamblers EP2	6%	10,5%	**42,1%**	**42,1%**	5,3%
Problem gamblers	Non-gamblers EP2	11%	**54,5%**	9,1%	27,3%	9,1%
	No problems EP2	32%	18,2%	**57,6%**	21,2%	3,0%
	Low risk EP2	31%	9,4%	**53,1%**	21,9%	15,6%
	Problem gamblers EP2	26%	11,1%	25,9%	25,9%	**37,0%**


Non-gamblers EP1
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
Non-gamblers
No problem
Low risk
Problem gamblers
EP3
Non-gamblers EP2
No problems EP2
Low risk EP2
Problem gamblers EP2


No problems EP1
90%
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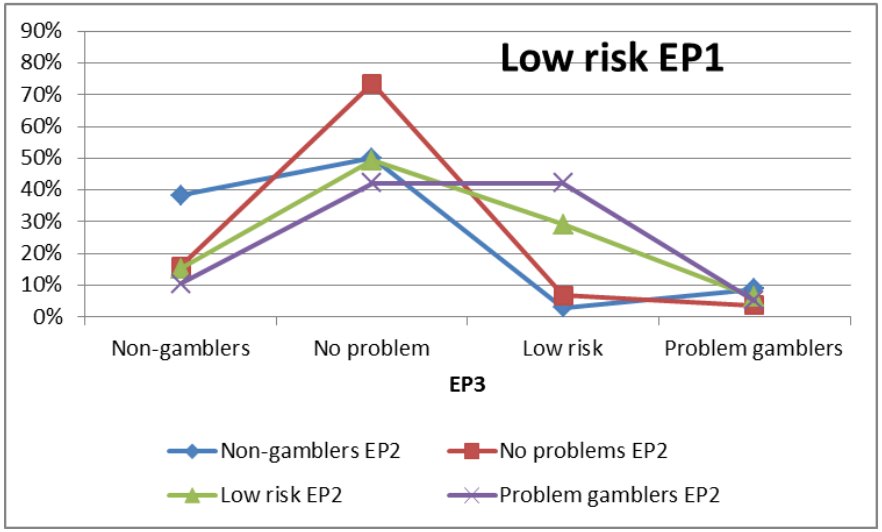
0%
Non-gamblers
No problem
Low risk
Problem gamblers
EP3
Non-gamblers EP2
No problems EP2
Low risk EP2
Problem gamblers EP2


Low risk EP1
90%
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60%
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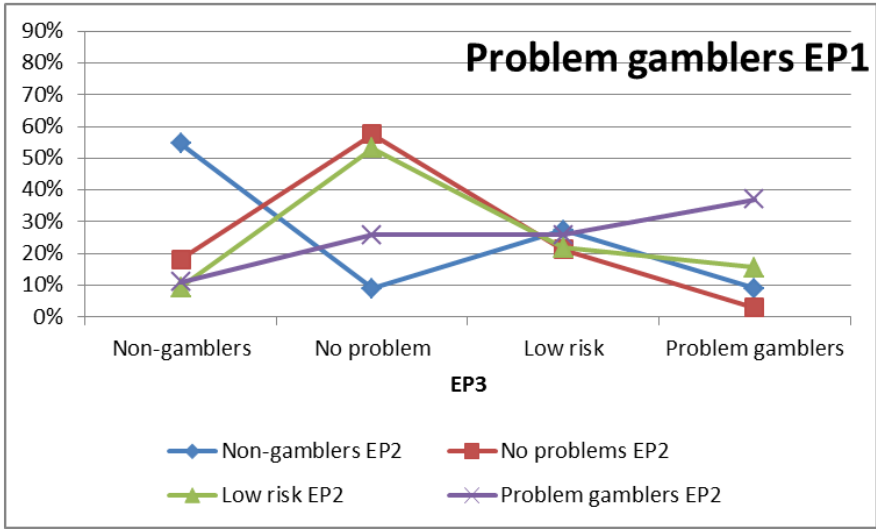
40%
30%
20%
10%
0%
Non-gamblers
No problem
Low risk
Problem gamblers
EP3
Non-gamblers EP2
No problems EP2
Low risk EP2
Problem gamblers EP2


Problem gamblers EP1
90%
80%
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20%
10%
0%
Non-gamblers
No problem
Low risk
Problem gamblers
EP3
Non-gamblers EP2
No problems EP2
Low risk EP2
Problem gamblers EP2

Summary and conclusions after wave 2

100,000 new problem gamblers in a year

- In all age groups, but more <25 and 65+
- 50 % of the new problem gamblers are women
- Larger % among those born in other countries
- Equal proportions in all education levels for men. Highest proportion among low educated women.
- Equal proportions for men and women with academic education.

100,000 new problem gamblers in a year, continued

- 20 % had experienced previous problems:
  - Mostly male
  - Few with academic education
  - Gamble more on horses, machines, poker and casino games compared to totally new problem gamblers
  - Similar to totally new problem gamblers in socio-demographic background and health

Gambling related predictors for incidence

- Gambling monthly on games with high risk potential
- Gambling on computer- and tv-games
- Gamble for more time and money than intended
- Prefer to gamble alone: higher incidence among those that agree AND among those that certainly disagree

Other important predictors for incidence

- Reduced general health, to some extent
- Reduced mental health
- Risky alcohol habits
- Divorce or separation
- Death of someone close
- Factors related to work life

General conclusions concerning gambling problems

- A common problem
- With serious negative consequences
- Unevenly distributed in the population
- Possible to prevent
- A public health problem!

Prevention target groups and arenas

- Young people – but also middle aged women
- Work places and schools
- Integrated with alcohol prevention
- Regulation

What's up 2013?

- Reporting ID1
- Dissertation on gender and gambling (14 June)
- Analysing and reporting of 578-follow up
- Analysing and reporting EP3
- Scientific papers on Swelogs' methods and EP1 compared to Swegs in the process of being published
- Data collection ID2

Thankyou for your attention

http://www.fhi.se/en/Highlights/SWELOGS/