

# Pathological gambling and video game addiction in Norway

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## OMFANG AV PENGE- OG DATASPILLPROBLEMER I NORGE 2013

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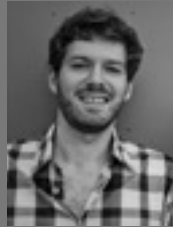
# Project group



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Lotteri- og  
stiftelsestilsynet



Full report (Norwegian with English  
summary) available at  
[www.lottstift.no](http://www.lottstift.no)



# About the study

Sample = 24.000, aged 16-74,  
randomly drawn from  
population registry

Received paper questionnaire  
by mail, could be completed  
online

Up to two reminders sent to  
non-responders

Response rate = 43.6%

N = 10.081

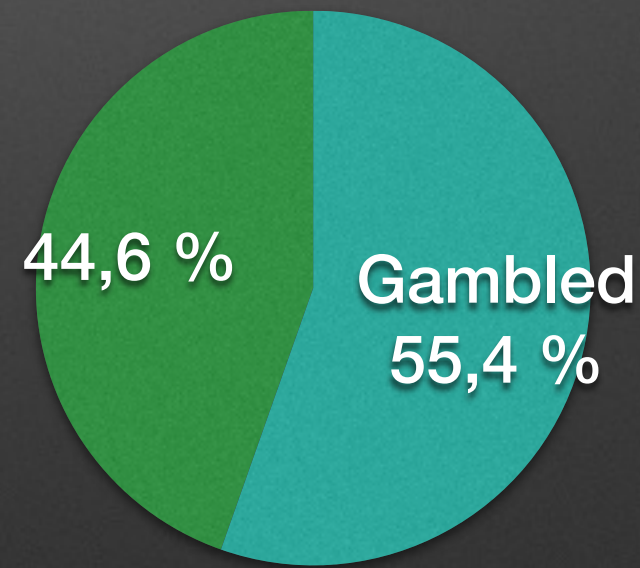
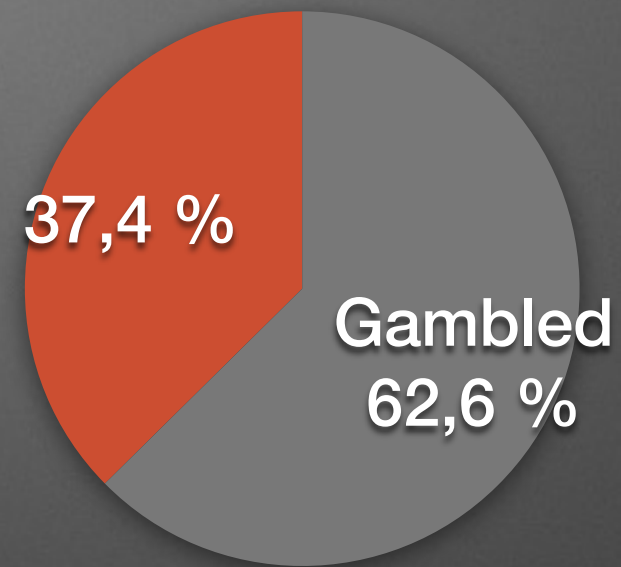
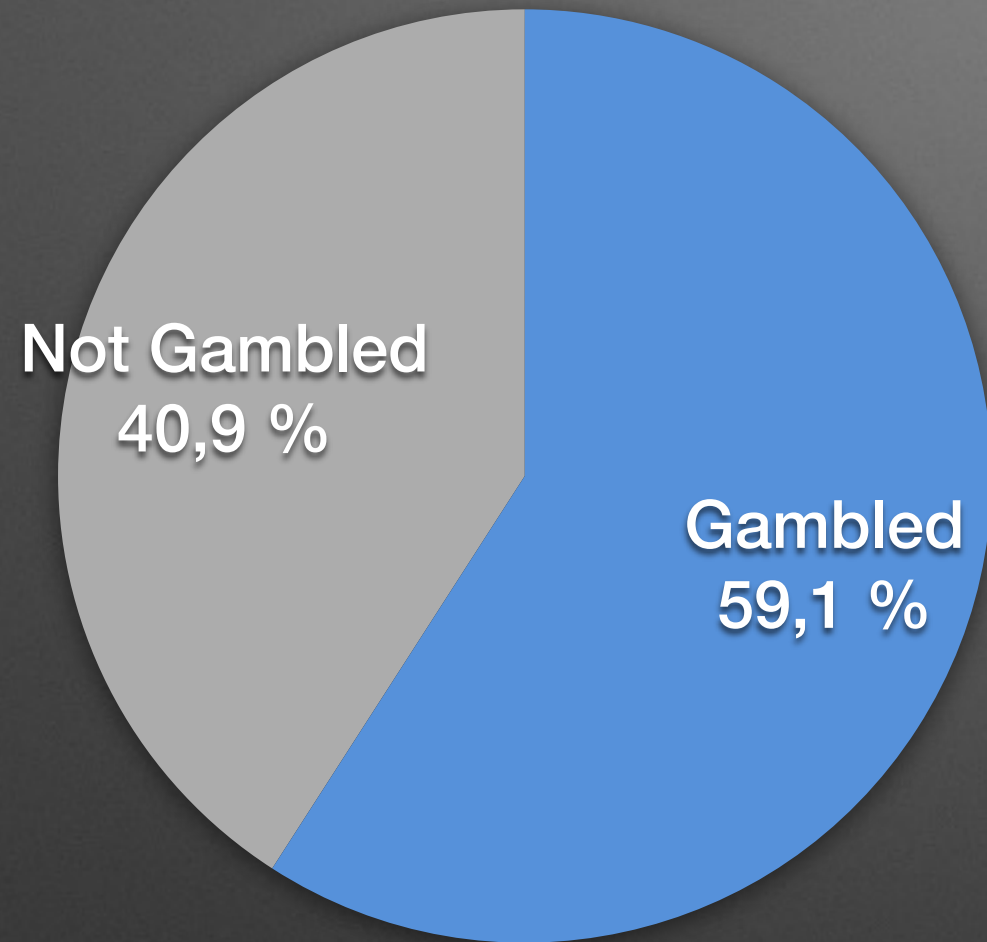






# Pathological gambling in Norway

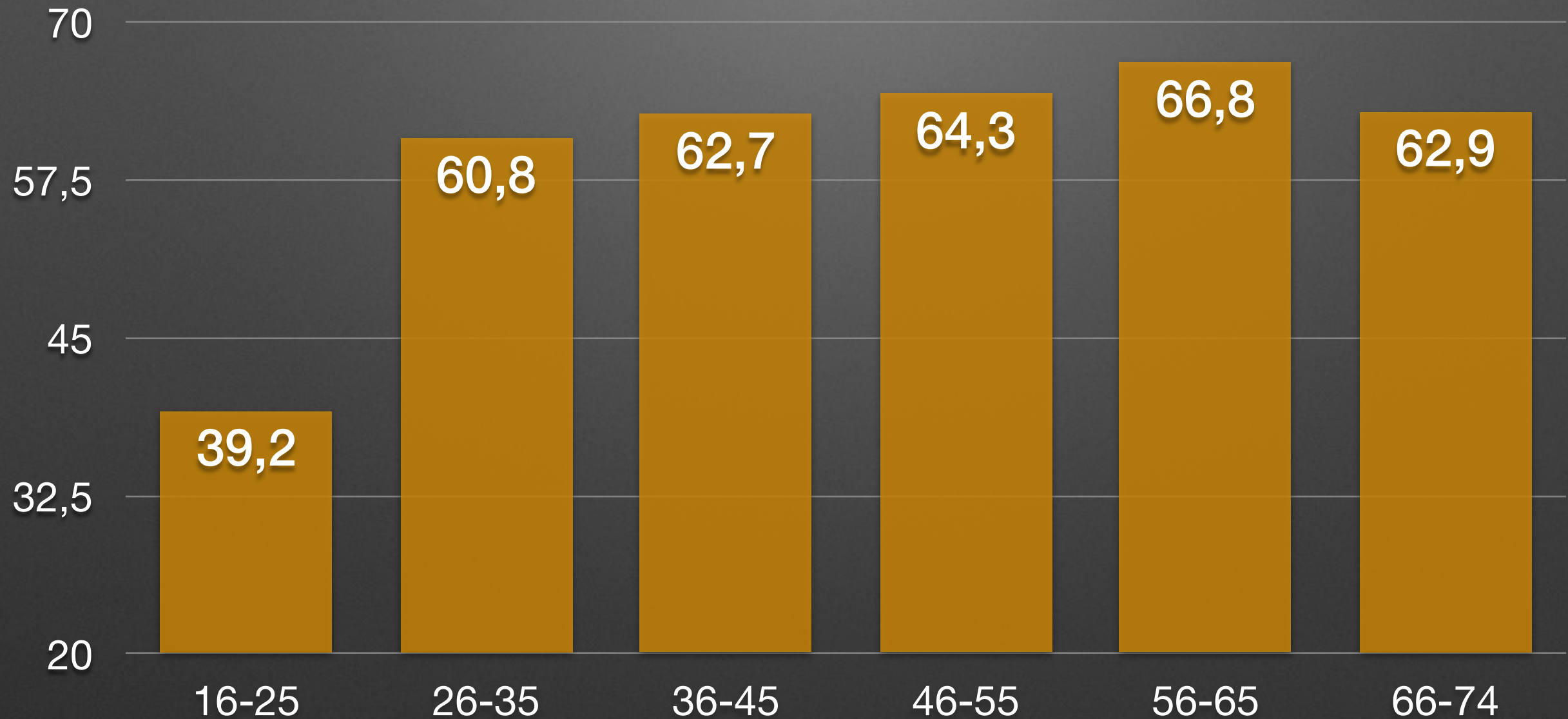
# Participation in gambling





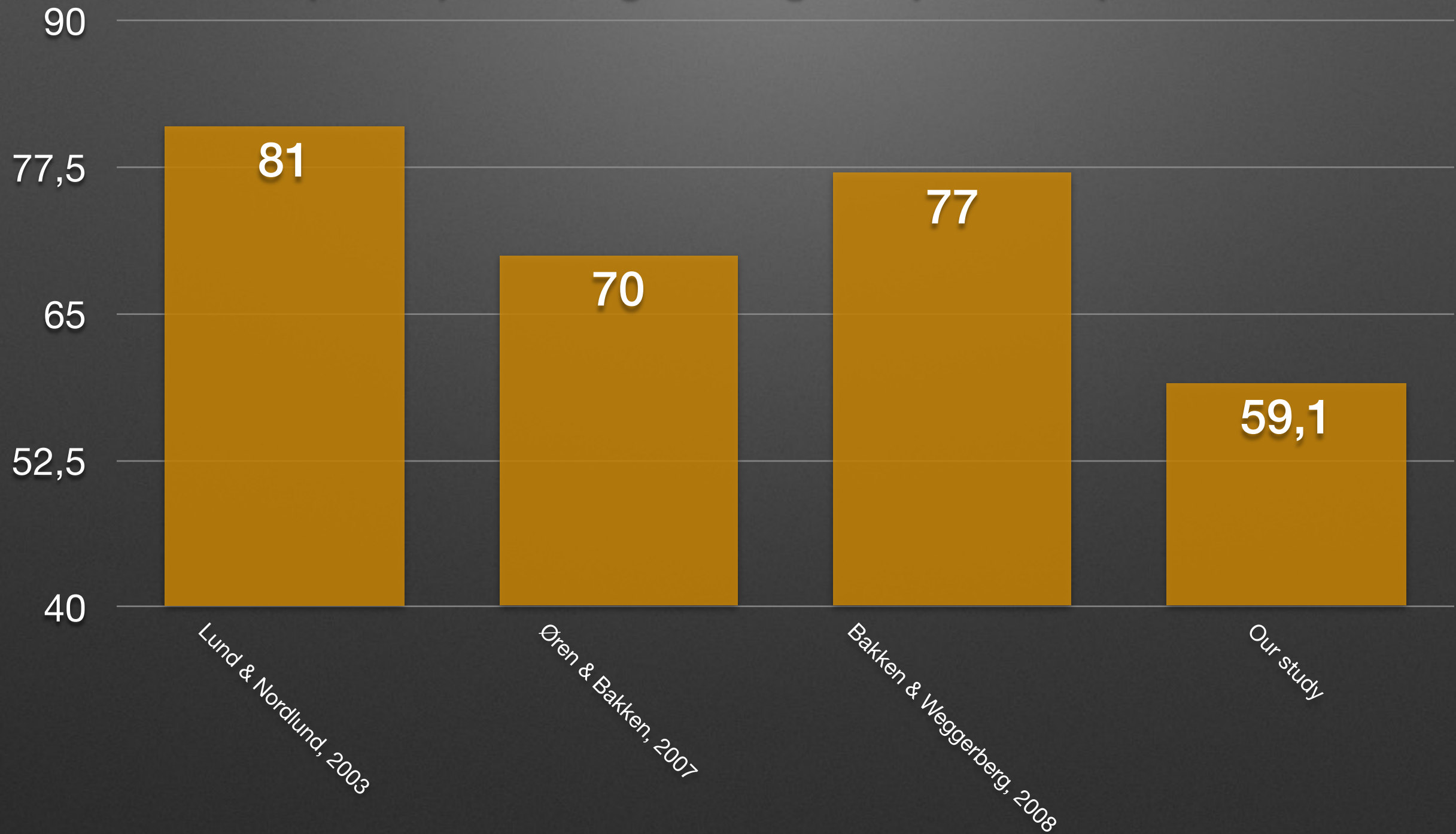
# Participation in gambling

Percent participated in gambling by age group



# Participation in gambling

Percent participated in gambling compared to previous studies





# Prevalence of problem gambling

Measured using Problem Gambling Severity Index (PGSI)

9 items about past 12 months, e.g. «Have you bet more than you could really afford to lose?»

Four response alternatives, ranging from «never» (0) to «always» (3)





# Prevalence of problem gambling

Four categories:

No problems / no gambler  
(PGSI = 0 or did not gamble)

Low risk gambler (PGSI = 1-2)

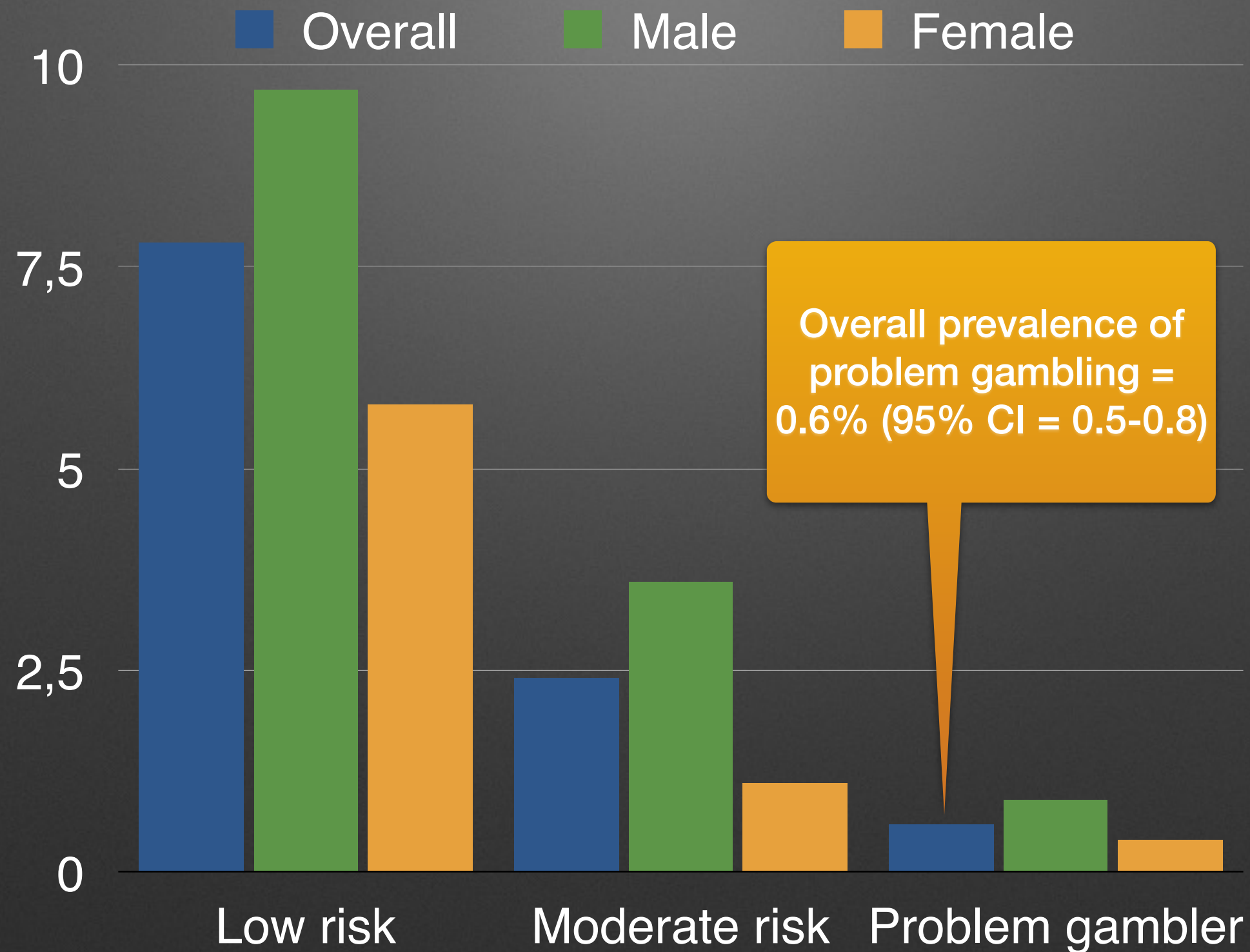
Moderate risk (PGSI = 3-7)

Problem gambling (PGSI = 8-27)



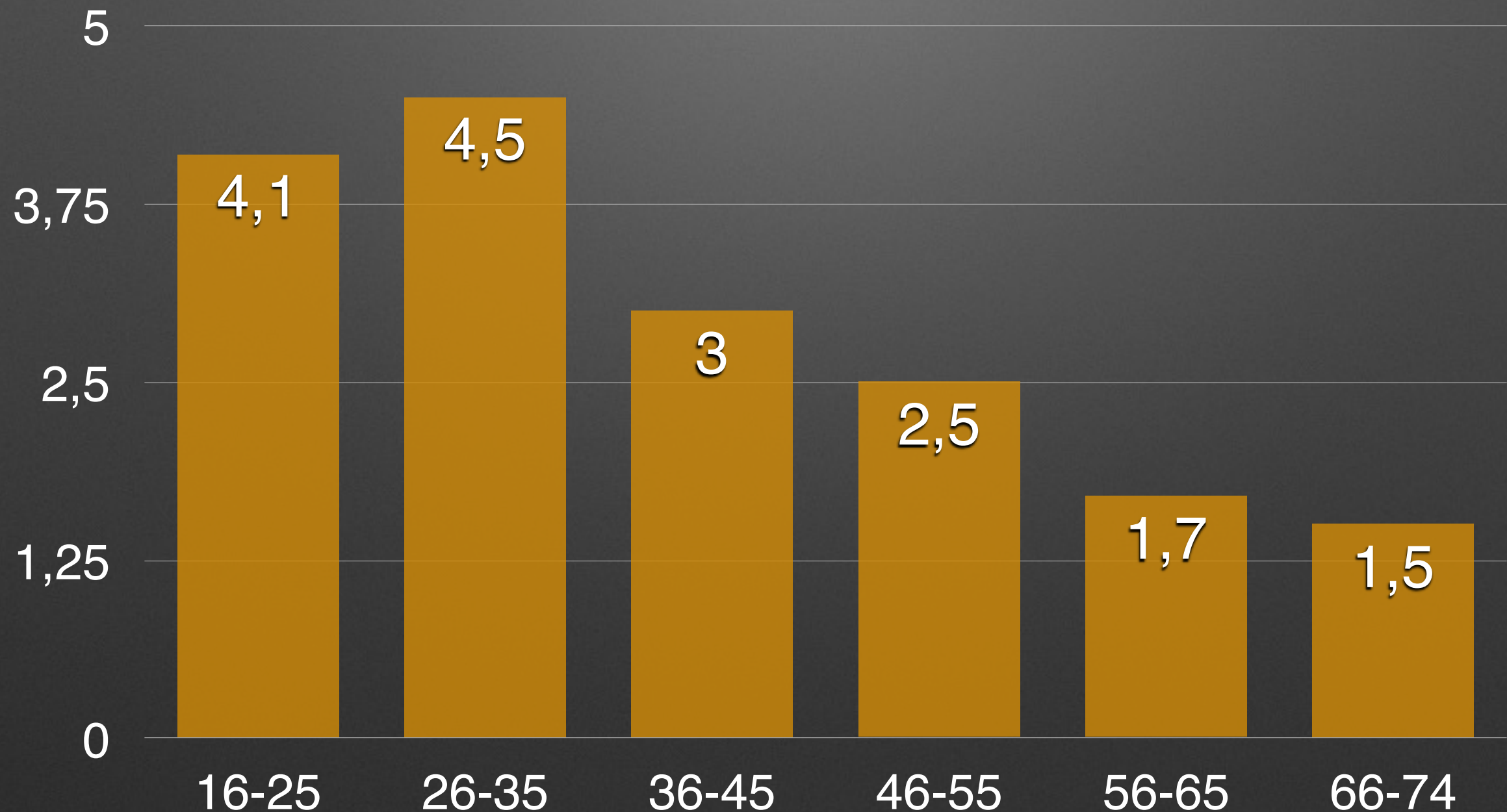


# Prevalence of problem gambling



# Prevalence of problem gambling

Prevalence of moderate risk and problem gambling  
by age group





# Demographic variables: Moderate risk and problem gambling

	Odds ratio	95% CI
<b>Gender</b>		
Male	3,29	2,41 4,49
<b>Marital status</b>		
Single/Divorced/Widow	1,78	1,30 2,43
<b>Education</b>		
Primary school	2,37	1,26 4,47
Secondary school	3,55	2,06 6,13
Vocational school	2,75	1,58 4,79
Higher ed. lower degree	2,32	1,36 3,96
Higher ed. higher / PhD	1	
<b>Vocational status</b>		
Unemployed/disabled	1,92	1,25 2,93
<b>Place of birth</b>		
Europe, NAm, Oceania	1,83	1,21 2,77
Africa, Asia, SAm, CAm	3,27	2,10 5,09
Norway	1	

Adjusted logistic regression

Not significant predictors included in analysis:

Age group

Number of children

Last year income

Played video games

All factors except number of children had significant bivariate associations with problem gambling category

# Gambling advertisements

Younger respondents more frequently exposed to gambling advertisements

Particularly on TV and online

Counterintuitive, since other studies show younger people watch less TV than do older





# Gambling advertisements

Respondents who were moderate risk or problem gamblers more frequently exposed to gambling advertisement than no problem or low risk gamblers

Observed for all marketing channels: TV, online, newspapers, in stores





# Gambling advertisements

How are attitudes and behaviours affected by advertisements?

Measured by five items from the Effects of Gambling Advertising Questionnaire and four items constructed by us

«Gambling advertisements increase my interest in gambling»

«Gambling advertisements make me play with increased risk (spend more money)»

Strongly disagree (1) - Strongly agree (4)





# Gambling advertisements

	No prob / Low risk	Mod risk / Problem	Cohens d
Increased chance of gambling	1,80	2,38	0,61
Affects gambling frequency	1,99	2,32	0,27
Increased interest	1,64	2,29	0,72
Leads to considering gambling	1,68	2,28	0,66
Pay attention to gambling adverts	1,93	2,29	0,33
Increased awareness of gambling types	2,68	2,96	0,27
Increased awareness of gambling providers	2,67	3,17	0,46
Play with higher risk	1,20	1,93	1,27
Positively influences gambling attitudes	1,47	2,04	0,75



# Gambling advertisements

	No prob / Low risk	Mod risk / Problem	Cohens d
Increased chance of gambling	1,80	2,38	0,61
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Play with higher risk	1,20	1,93	1,27
Positively influences gambling attitudes	1,47	2,04	0,75





# Gambling advertisements

Psychology of Addictive Behaviors

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## The Impact of Gambling Advertising: Problem Gamblers Report Stronger Impacts on Involvement, Knowledge, and Awareness Than Recreational Gamblers

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Although there is a general lack of empirical evidence that advertising influences gambling participation, the regulation of gambling advertising is hotly debated among academic researchers, treatment specialists, lobby groups, regulators, and policymakers. This study contributes to the ongoing debate by investigating perceived impacts of gambling advertising in a sample of gamblers drawn from the general population in Norway ( $n = 6,034$ ). Three dimensions of advertising impacts were identified, representing perceived impacts on (a) gambling-related attitudes, interest, and behavior ("involvement"); (b) knowledge about gambling options and providers ("knowledge"); and (c) the degree to which people are aware of gambling advertising ("awareness"). Overall, impacts were strongest for the knowledge dimension, and, for all 3 dimensions, the impact increased with level of advertising exposure. Those identified as problem gamblers in the sample ( $n = 57$ ) reported advertising impacts concerning involvement more than recreational gamblers, and this finding was not attributable to differences in advertising exposure. Additionally, younger gamblers reported stronger impacts on involvement and knowledge but were less likely to agree that they were aware of gambling advertising than older gamblers. Male gamblers were more likely than female gamblers to report stronger impacts on both involvement and knowledge. These findings are discussed with regard to existing research on gambling advertising as well as their implications for future research and policy-making.

**Keywords:** gambling advertising, advertising exposure, marketing, problem gambling, gambling regulation



# Attitudes towards structural regulations

10 items asking about existing or possible structural regulations of gambling

«The following helps me or would help me in regulating my gambling expenditure»

Each item rated from «strongly disagree» (1) to «strongly agree» (5)





# Attitudes towards structural regulations

	No prob / Low risk	Mod risk / Problem	Cohens d
Wins transferred directly to private account	3,00	3,29	0,22
Bet limit	2,97	3,13	0,12
Info about expenditure	3,04	3,35	0,23
Info about time spent	2,87	3,00	ns
Win size limits	2,77	2,95	0,14
Loss limits	3,04	3,36	0,24
Self determined loss limit	3,11	3,41	0,23
Self determined time limit	2,92	3,07	ns
Self exclusion	2,95	3,16	0,16
Self test for problem gambling	2,93	3,13	0,15



# Attitudes towards structural regulations

Overall, respondents were neutral towards structural regulations

Risk and problem gamblers were more positive towards regulations, but the differences were small to negligible





# Problem gambling and health

8 items measured aspects of psychosomatic health

«In the past 2 months, how often have you experienced»

Headache, back pain, stomach, sleep, mood, nervousness, tired in daytime, palpitations

Five response alternatives for each symptom, from «never» «3 days per week or more»



# Problem gambling and health

## Group comparison

Headache	No difference
Neck and back	PG > All other groups
Stomach and bowel	PG > No problems
Trouble sleeping	PG > All other groups
Feeling sad	PG > No problems, Low risk
Feeling nervous	PG > All others
Tired / Sleepy in daytime	PG > No problems, Low risk
Palpitations	PG > No problems, Low risk





# Problem gambling and health

Some differences were substancial



3 days or more per week

No problem

Problem gambler

**Trouble  
sleeping**

5,7 %

30,6 %

**Feeling sad**

2,7 %

21,0 %

**Feeling  
nervous**

2,3 %

21,3 %

**Palpitations**

1,6 %

11,5 %



# Video game addiction in Norway



# Video game addiction

Measured using Game Addiction Scale for Adolescents (GASA)

7 items about past six month, e.g.

«have you felt bad when you were unable to play?»

Response alternatives ranging from «Never» (1) to «Very often» (5)





# Video game addiction

Three categories:

Video game addiction: Endorse ( $\geq 3$ ) all seven items

Problem gaming: Endorse ( $\geq 3$ ) at least four items

No problems: Zero to three items endorsed, or did not play





# Video game addiction

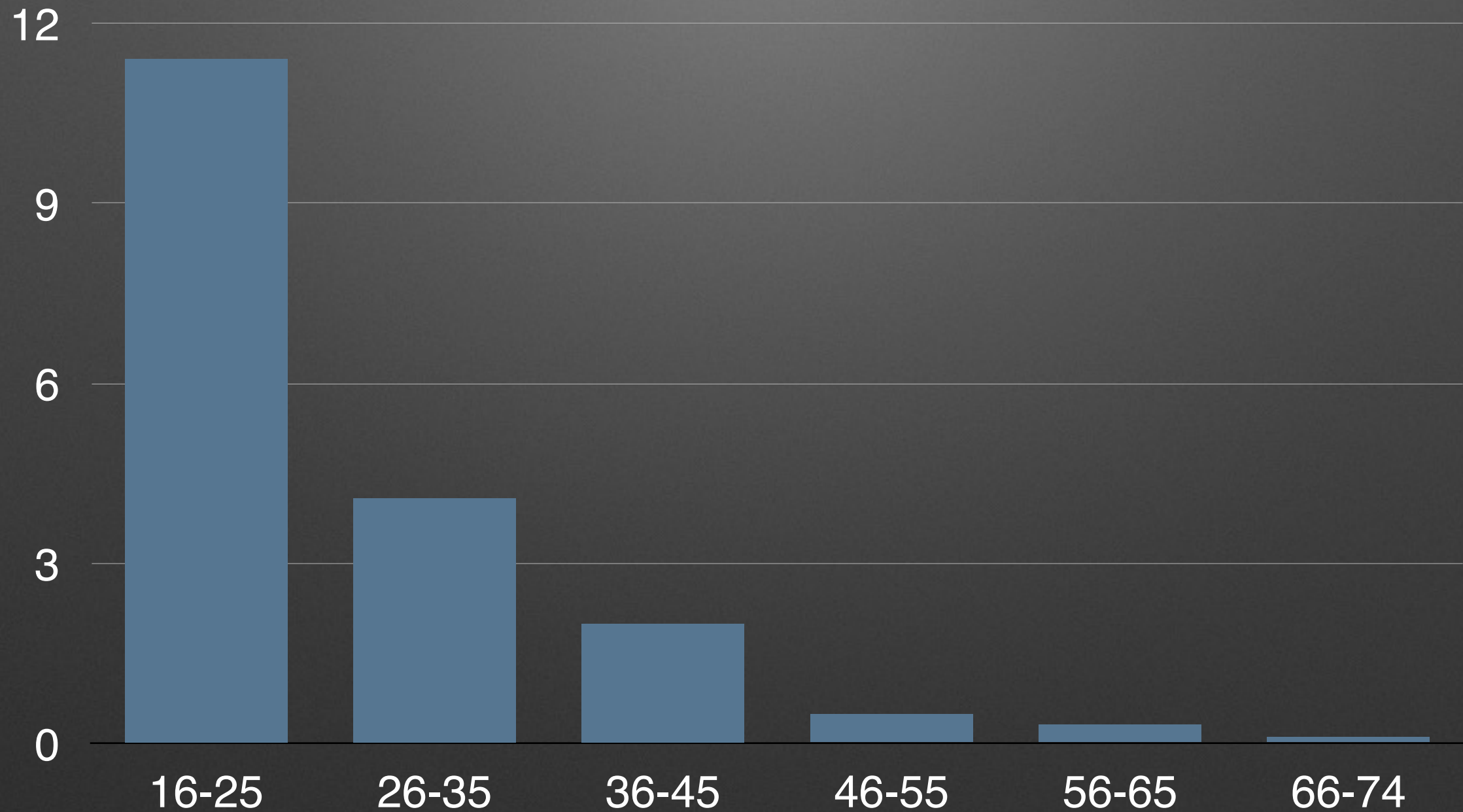
	Prevalence	95% CI	
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No problems	96,7 %	96,3	97,0
Problem gaming	3,0 %	2,7	3,3
Video game addiction	0,3 %	0,2	0,4



# Video game addiction

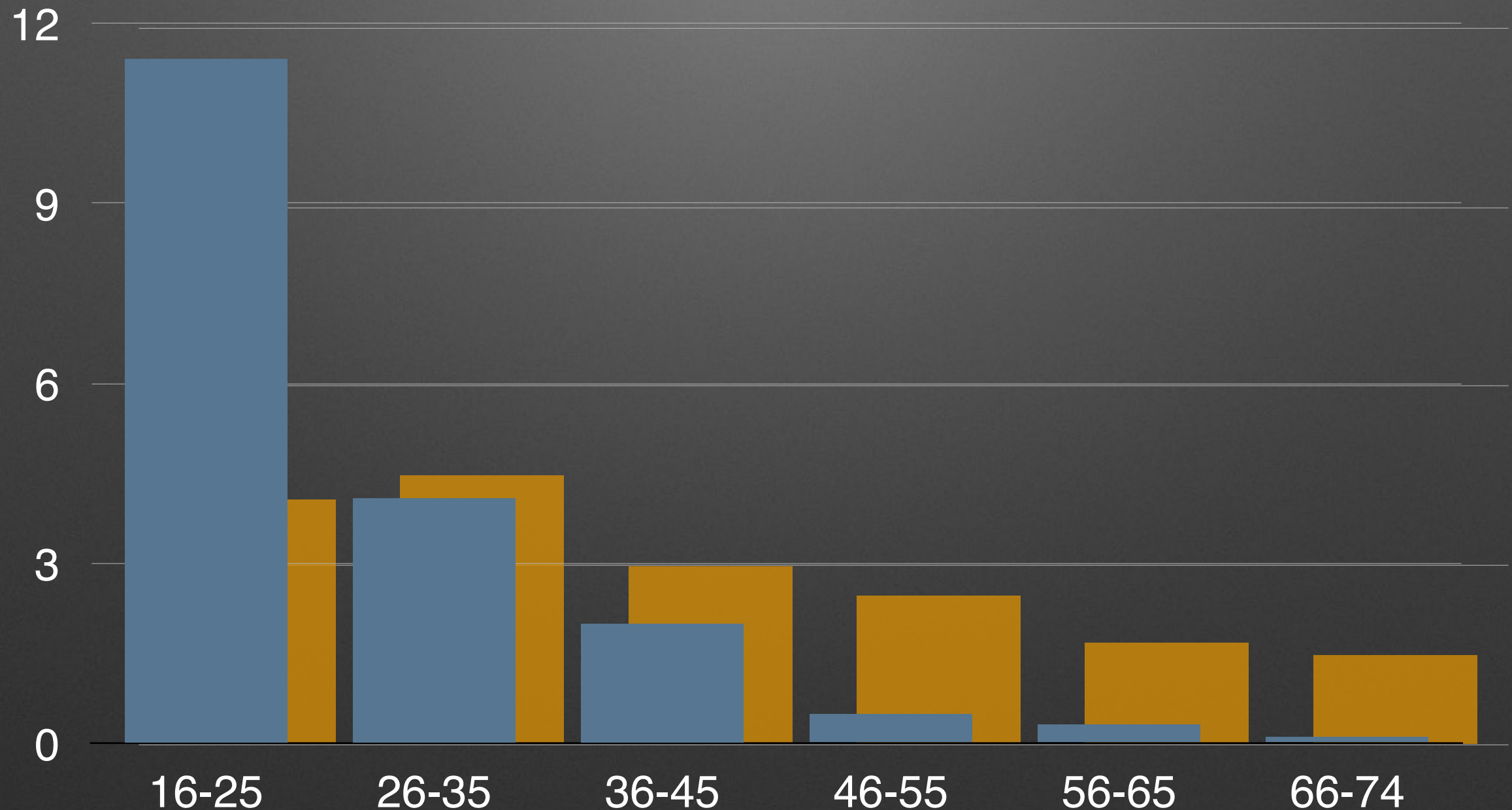
Problem gaming or video game addiction by age group





# Video game addiction

Problem gaming or video game addiction, compared to moderate risk or problem gambling



# Demographic variables: Problem gamer and video game addiction

	Odds ratio	95% CI
<b>Gender</b>		
Male	4,34	3,20 5,89
<b>Age</b>	0,91	0,90 0,93
<b>Number of children</b>		
Three or more	1,85	1,05 3,23
<b>Vocational status</b>		
Part time employed	1,91	1,12 3,27
Student	1,56	1,01 2,24
Unemployed/Disabled	3,09	1,94 4,94

Adjusted logistic regression

Not significant predictors included in analysis:

Marital status  
Level of education  
Last year income  
Place of birth

All factors had significant bivariate associations with problem gambling category



# Problem gaming and health

## Group comparison

Headache

Neck and back

Stomach and bowel

Trouble sleeping

Feeling sad

Feeling nervous

Tired / Sleepy in daytime

Palpitations

Problem gaming and video game addiction were compared with no problem gaming / no gaming.

The problem gaming and video game addiction group experienced all eight symptoms more frequently than did the no problem gamer group.



# Problem gaming and health

Some differences were large

But frequencies were still lower than for problem gamblers



3 days or more per week

No problem

Problem gamer

Problem gambler

Trouble sleeping

5,8 %

18,3 %

30,6 %

Feeling sad

2,7 %

9,8 %

21,0 %

Feeling nervous

2,4 %

8,6 %

21,3 %

Palpitations

1,6 %

5,2 %

11,5 %





**Thank you for listening!**