

Video game playing: Potential problems and consequences

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Overview

- Samples
- Video gaming
 - Total gaming figures
 - What games are popular?
 - The Problem Video Playing Scale
 - The icelandic version-adapted (PVP-R)
 - Psychometric properties of the icelandic PVP-R
- Problem video gaming and correlates
 - Smoking, alcohol, drugs
 - Social anxiety
 - Family problems
 - Strength and difficulties

Study 1: Heavy users

- **Sample**
 - Participants in computer game competition named Skjálfti (Quake).
 - Participants played constantly for three days 24/7
 - The total sample was 305.
 - Gender: Boys were 279 and girls were 26.
 - Questionnaires were administered to volunteers during the competition
 - Mean age 17 years, ranged from 13 to 35, 80% younger than 20.

Study 2: Normal sample of youth

- Population
 - About 1.887 thirteen to eighteen year old adolescents were registred in Hafnarfjörður in 7 primary-and 2 comprehensive schools.
 - All schools agreed to participate.
 - Questionnaires were administrated during class.
- Sample
 - The total sample was 1.537 students or 81,4%.
 - Gender distribution: Boys (768), girls (747).
 - Age distribution:
 - Primary: 13y (350), 14y (351) 15y (324).
 - Comprehensive: 16y (184), 17y (194), 18y (127).

Problem videogame playing

- PVP (Salguero & Morán, 2002)
 - Nine items that measure 9 criterias for pathological gambling or alcohol dependency.
 - Factor analysis revealed one factor loading all criterias
 - Alpha (0,69), correlation with frequency ($r=0,64$) and time spent playing ($r=0,56$).
- Adapted Icelandic version
 - Two independent translations, combined into one final version. For each item the timeframe “For the past 12 months” was included.
 - Closer examination of items revealed that items for criteria 3, 8 and 9 where confusing as more than one behavior was asked in the same item. They were split so only one behavior was asked in each item resulting in 13 items for the 9 criteria.

Adaptation of items

- Loss of control
 - Item 6: I have tried to control, cut back or stop playing, or I usually play with the video games over a longer period than I intended.
- Disregard for physical or psychological consequences
 - Item 8: In order to play video games I have skipped classes or work, or lied, or stolen, or had an argument or a fight with someone.
- Family/schooling disruption
 - Item 9: Because of the video game playing I have reduced my homework, or schoolwork, or I have not eaten, or I have gone to bed late, or I spent less time with my friends and family

Measurements of well-being

- Smoking, alcohol, drugs
- Multidimensional Anxiety scale (March, 1997)
 - Social anxiety
- Conners-Wells ' Adolescent scale (Conners,1997)
 - Family problems
- Strength and Difficulties Q. (Goodman, 1997)
 - Emotional symptoms (depression, anxiety disorders)
 - Conduct problems (conduct and oppositional disorders)
 - Hyperactivity/inattention
 - Peer relationship problems
 - Prosocial behavior

Computer gaming: Total figures

	Heavy users	Normal sample
Total gaming	99,7%	85,1%
Hours per week	20,3h	7,2 h
Number of years playing games	6,17y	5,97y
Number of games owned	47 games	20 games

- **Normal sample:** Boys were more likely to play, played more hours per week, done so for a longer time and owned more games than girls ($p < 0,001$).

Individual games: Normal sample

	Boys	Girls
First person shooter games (e.g. Battlefield II, Counter strike)	34,3	2,2**
Army strategy games (e.g. Red alert, company of heroes)	16,9	1,3**
Strategy games (e.g. civilisation, SimCity, Sims)	7,2	22,7**
Adventure-role playing games (e.g. Neverwinter, Diablo II)	16,5	6,3**
Manager games (e.g. Championship- football manager)	17,3	1,5**
Buisness games (Capitalism, Tycoon)	2,4	0,6**
MMORPG (World of Warcraft, EverQuest, EVE)	16,6	1,3**
Sport games (FIFA, Tiger Woods, Soccer)	24,4	4,0**
Age limited games (18+) (Grand theft auto, Fear, Punisher)	27,4	6,9**
Music/party games (Sing star, Guitar Hero, Dance Revolution)	8,5	19,4**
Percentages are shown for answers indicating played much or very much		

Psychometric properties of PVP-R

Criteria	Heavy users		Normal sample	
	Factor loadings	Item-total	Factor loadings	Item-total
Preoccupation	0,45	0,39	0,57	0,51
Tolerance	0,51	0,43	0,64	0,57
Loss of control	0,39	0,38	0,48	0,43
Chasing	0,48	0,40	0,48	0,43
Withdrawal	0,50	0,42	0,59	0,53
Escape	0,37	0,33	0,51	0,46
Lies	0,45	0,45	0,46	0,41
Disregard for physical and psychological consequences	0,60	0,50	0,61	0,53
Risk to job, relationship or education	0,55	0,46	0,70	0,60
Alpha		0,74		0,80

Validation analysis

	Heavy users	Normal sample
	Total score	Total score
Frequency of play	0,27**	0,37**
How long each time	0,35**	0,52**
Number of months playing	0,13*	0,24**
Total number of games	0,15*	0,23*

Scores on PVP-R

Scores	Samples	
	Heavy users %	Normal sample %
0-1	16,3	66,3
2-3	26,2	16,8
4	12,9	4,6
5	15,9	4,0
6	12,6	3,9
7	8,3	1,7
8	5,6	1,5
9	2,3	1,2
4+ (Problem video player?)	57,6%	16,9%
6+ (Problem video player?)	28,8%	8,3%

PVP-R by gender and age

	PVP-R classification		
	Non-gamers	No problem gamers	Problematic gamers
Gender**			
Boys	4,6	81,7	13,7
Girls	27,5	70,2	2,4
School level			
Primary school	12,7	78,9	8,4
Secondary school	20,4	71,7	7,9

Problematic gaming and games

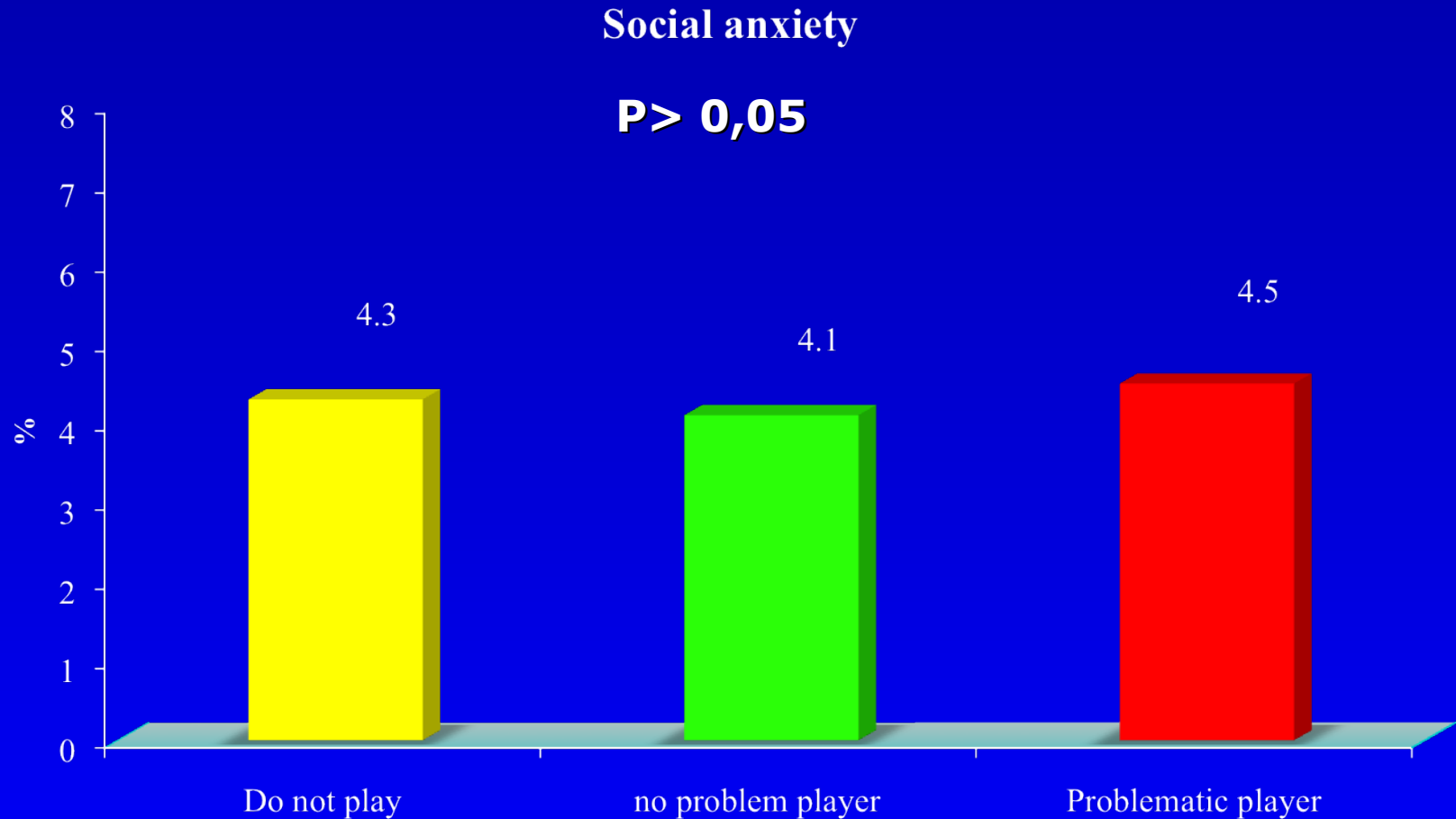
	No problem gamers	Problematic gamers
First person shooter games**	16,2	54,8
Real time strategy games**	8,0	27,6
Strategy games	13,3	15,0
Adventure-role playing games**	9,3	26,9
Manager games**	9,5	17,2
Buisness games	1,1	3,8
MMORPG**	7,5	30,8
Sport games	15,1	17,9
Age limited games (18+)**	16,1	44,4
Music/party games	13,1	14,2

Percentages are shown for answers indicating played much or very much

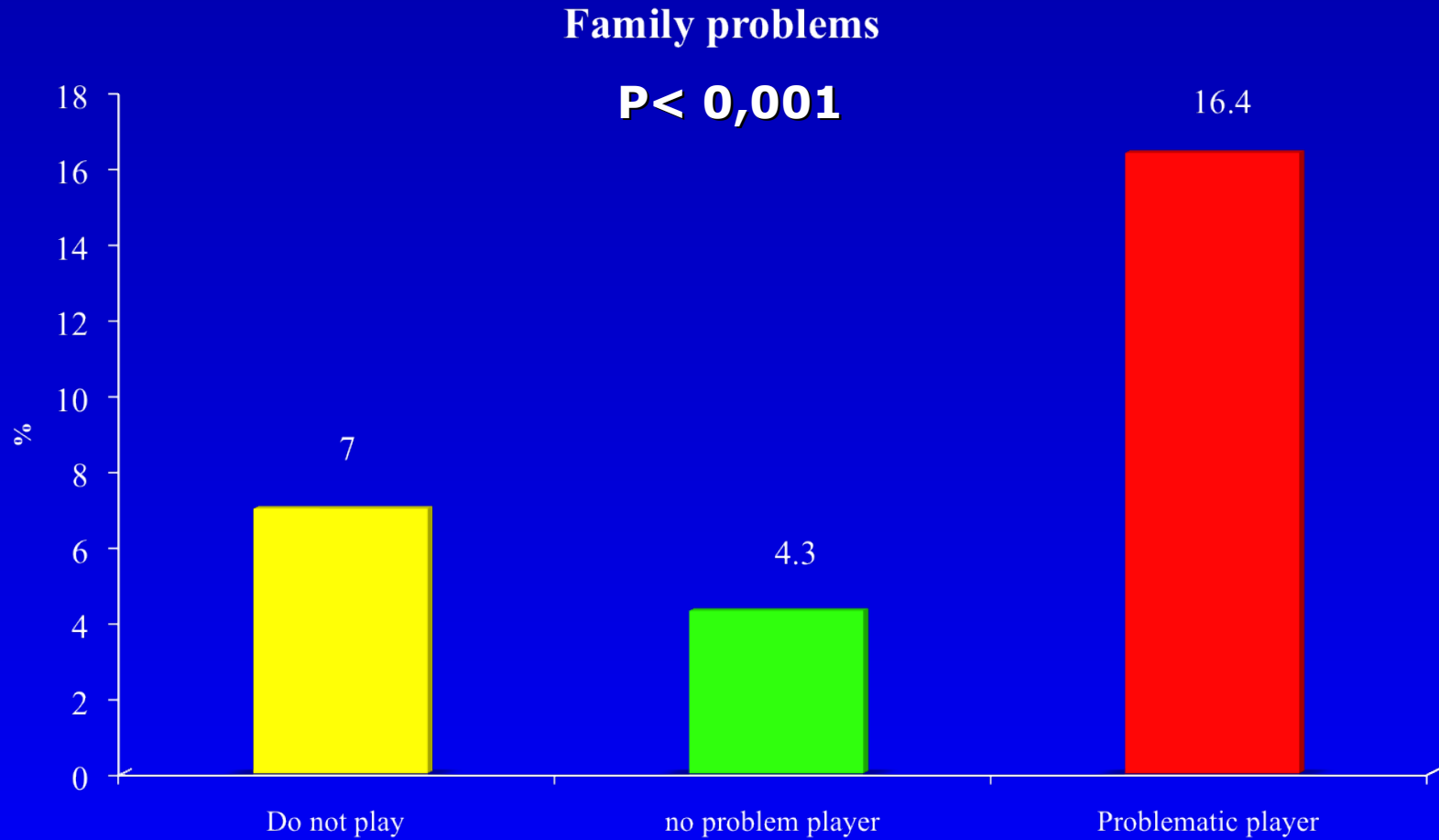
Problematic gaming, alcohol & drugs

	No – gamers	No problem gamers	Problematic gamers
Smoking*	20,3	15,3	23,5
Beer/wine (at least monthly)**	38,0	23,6	28,0
Strong alcohol (at least monthly)*	19,4	14,6	21,8
Got drunk (at least monthly)	22,6	18,7	17,3
Marihuana (at least once)**	7,0	8,4	16,5
Other drugs (at least once)**	13,2	12,2	26,3

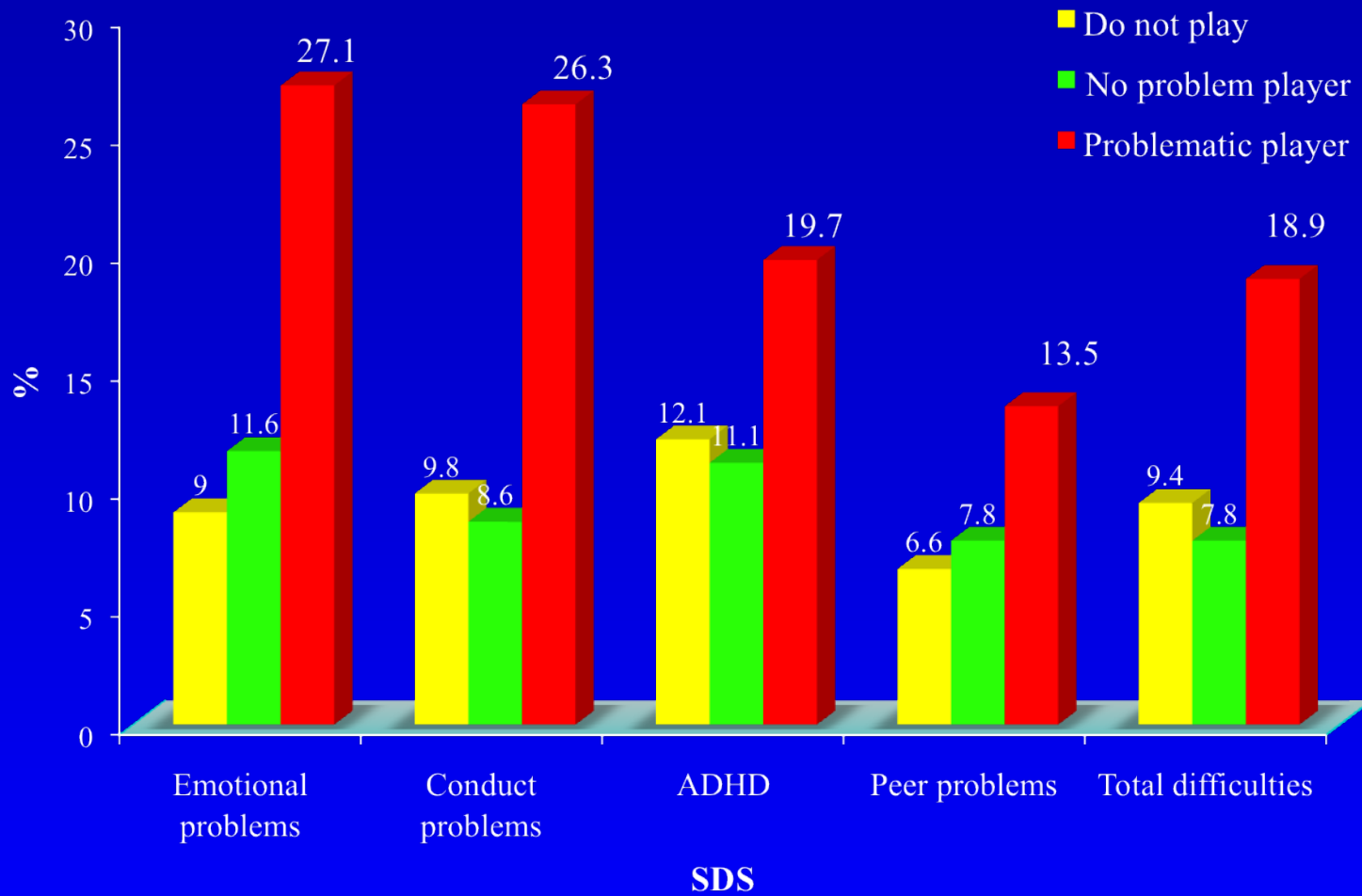
Problem gaming and Social Anxiety



Problem gaming and family problems



Problem gaming and Strengths & difficulties



Summary and conclusion

- Computer gaming is common among Icelandic adolescents and boys play more than girls.
- Gender differences:
 - Boys play aggressive games, girls more social or non-aggressive games!
- Frequency of potential problem gaming was high and predominantly among boys.
- Aggressive and/or continues games are the preferred games among problematic gamers.
- The results suggest that problematic gaming is linked to emotional and behavioral problems among adolescents!