Gesundheit Österreich GmbH

Game time and perceived problems with online gaming among adolescents in Europe

Differences across countries and associations with substance use and gambling.

Julian Strizek

ESPAD assembly, Lisbon, October 2018

background

- anecdotal evidence on the importance of gaming being major problem among adolescents
- anecdotal evidence on the effect of gaming on substance sue (changing leisure time activities, e.g. national HBSC report)
- enormous variety in the prevalence estimates of problem gaming: 0.2 % up to 34 % globally (Griffiths et al., 2015), 1 % up to 12 % (Van Rooij et al. 2014)
- positive (Rumpf et al. 2018) and negative comments (Van Rooij et al., 2018) on including “Internet gaming disorders” (IGD) in the annex of DSM V “gaming disorder” into ICD-11
- little knowledge about gaming and substance use: positive association (general problem-behavior theory) as well as negative association plausible (competing leisure activities)

aim

1. analyze trends in gaming activity

2. provide descriptive information on gaming indicators across European countries

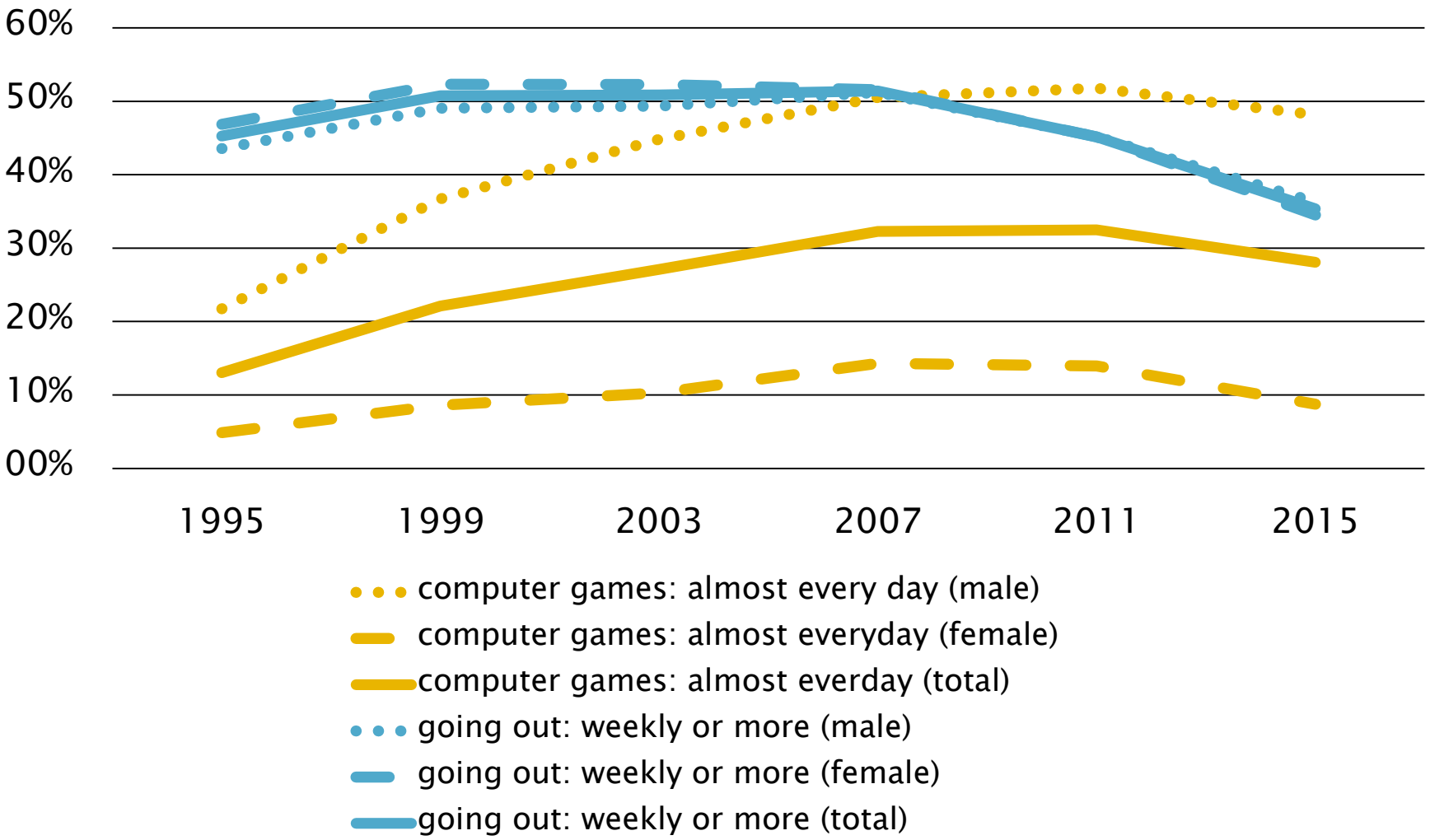
3. assess associations between gaming indicators and substance use (alcohol, nicotine, cannabis, and gambling respectively)

4. try to explore possible explanation for cross-country variations

measures

- trend data for leisure activities (1995 – 2015)
  - available for 13 countries
  - “going out with friends” at least weekly; “playing computer games” almost every day (C03a, CO3d)
  - recoded into dichotomous variables (yes/no)
- Game time and perceived gaming problems
  - average game per day based on number of days and hours per day (C39b, C40b)
  - Self-perceived problem score according to Holstein et al 2014 (C42a – C42c)
  - recoded into dichotomous variables (>1h/<1h; 2pt+/<2pt), plus combined indicator plus standardized mean problem score
- substance use and gambling (2015)
  - alcohol use, 5 drinks, drunkenness, smoking (all of them last month), cannabis use (lifetime) and gambling (12 months) (C07, C10c, C14, C15, C22a, C43)
  - recoded into dichotomous variables (yes/no)

results 1: trend data for leisure activities (1995 – 2015)



results 2: gaming indicators across Europe

	prevalence (ESPAD aver.)	prevalence (country min)	prevalence (country max)	gender ratio (ESPAD aver.)
perceived problem score (2 points or more)	20.3 %	13 % (GER)	31.8 % (LVA)	3.1
average game time 1h or more per day	21.0 %	13 % (ALB)	38.4 % (DK)	6.7
combined problem gaming problem indicator (CPGP)	8.5 %	4.8 % (UKR)	13.6 % (LVA)	8.9
standardized mean perceived problem score	1.0	0.6 (DK)	1,4 (ALB)	-

results 2: gaming indicators across Europe

Figure 1:
Heat maps based on the prevalence of *perceived problem score* (2 or 3 points) (left), *average game time* of more than 1 h per day (middle), and *CPGI* for all ESPAD 2015 countries

ESPAD 2015 database; Georgia not depicted

results 3: association with substance use

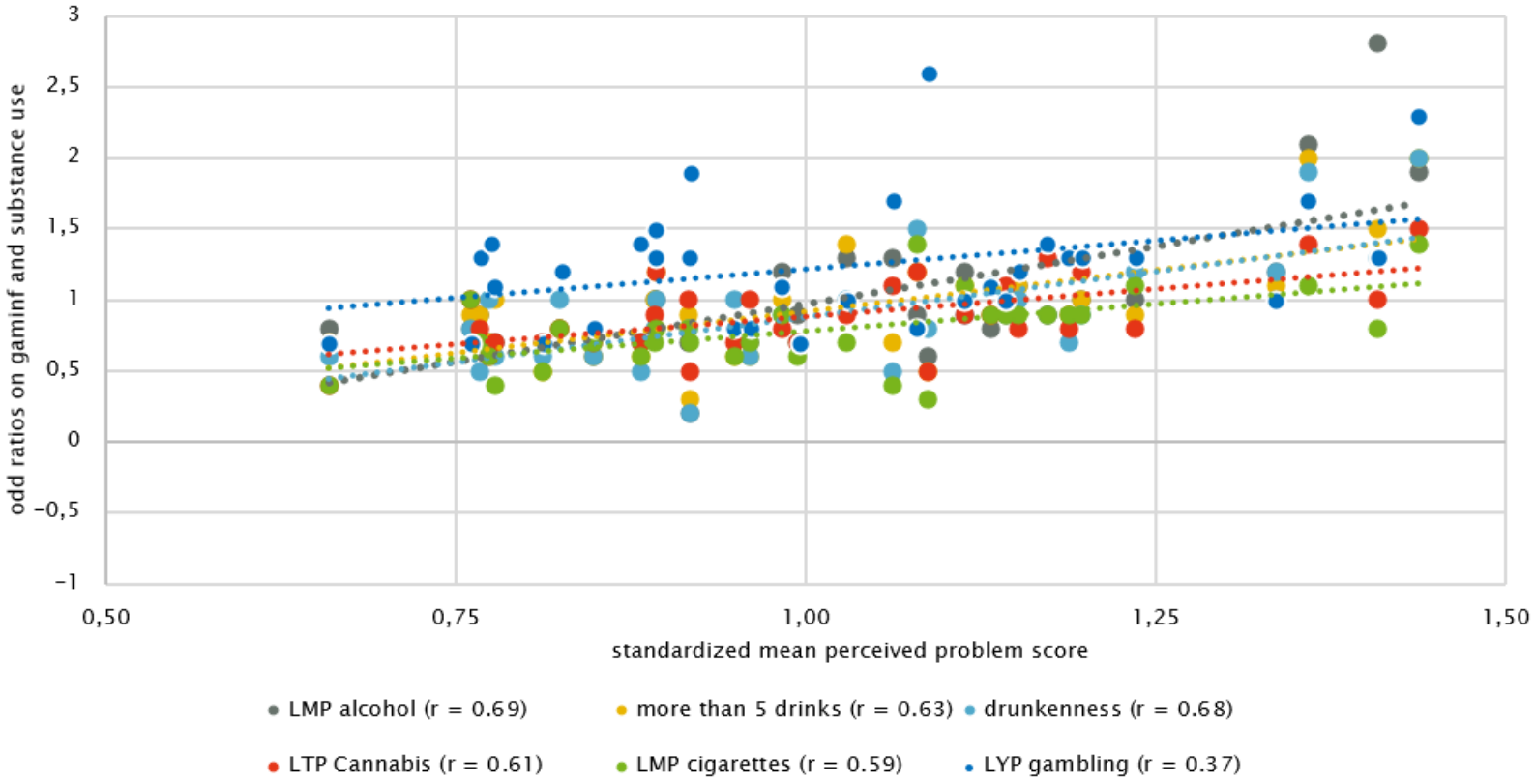
	Odd ratio (ESPAD aver.)	Odd ratio (country min)	Odd ratio (country max)
CPGP + last month alcohol	0,9	2.8 (GEO)	0.6 (AT)
CPGP + 5 drinks	0,9	2.0 (FYR o. M)	0.5 (FIN)
CPGP + being drunken	0,9	2.0 (ALB)	0.5 (NL)
CPGP + LTP cannabis	0,9	1.5 (ALB)	0.4 (DK)
CPGP + LMP Smoking	0,8	1.4 (ALB)	0.3 (LVA)
CPGP + LYP Gambling	1,1	2.6 (LVA)	0.7 (DK)

results 4: correlations of country level variables

	mean perceived problem score	Gross Domestic Product per capita
odd ratios for CPGI + last month alcohol	r = 0,69	r = -0,57
odd ratios for CPGI + 5 drinks	r = 0,63	r = -0,55
odd ratios for CPGIS + being drunken	r = 0,68	r = -0,64
odd ratios for CPGI + LTP cannabis	r = 0,61	r = -0,45
odd ratios for CPGI + LMP Smoking	r = 0,59	r = -0,42
odd ratios for CPGI + LYP Gambling	r = 0,37	r = -0,44

results 4: correlations of country level variables

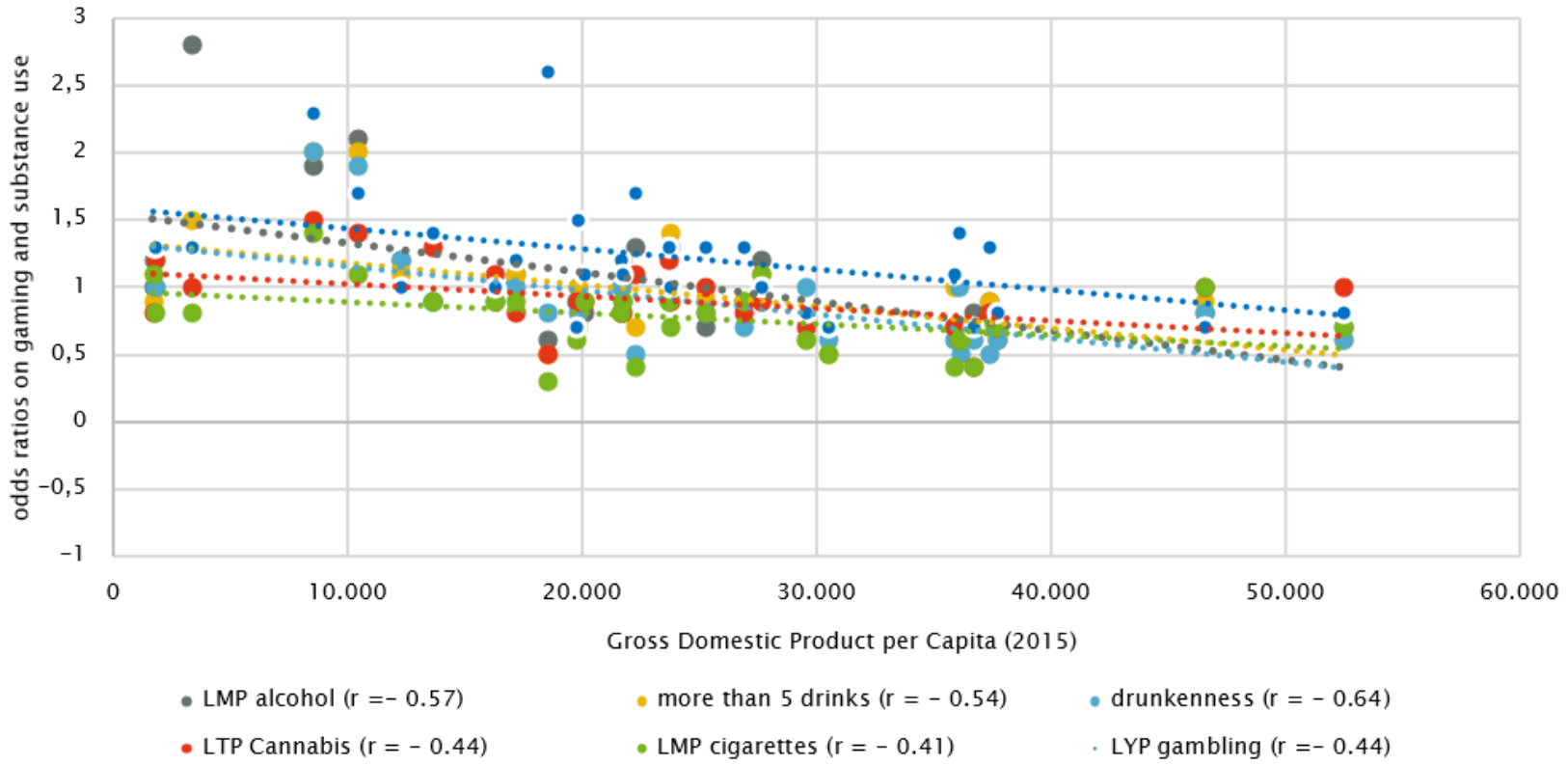
Figure 2:
correlation of odd ratios for gaming and substance use (including gambling) and "standardized mean perceived problem score" on country level



Source: ESPAD 2015 database

results 4: correlations of country level variables

Figure 3:
correlation of odd ratios for gaming and substance use (including gambling) and gross domestic product (GDP) per capita on country level



sources: ESPAD 2015 database; EU Commission and World bank; Gross Domestic per Capita adjusted for purchasing power

discussion

- computer gaming has risen in the past, but not in the most recent data collections
- game time and perceived problems are very unevenly distributed across European countries and negatively correlated on population level
- male score higher on any indicator, but gender ratio for the perceived problem score is much lower than the gender ratio for game time
- inconsistent pattern of associations between gaming and substance use: negative association in countries with high GDP, positive association in countries with low
- gamers and gaming in ESPAD countries do not constitute a homogenous population when it comes to substance use, but depends on cultural and economic variables

limitations

- focus on differences between countries, but not within countries
- measure of behavioral variables without clinical relevance
- no distinction possible between low prevalence and late onset
- simple descriptive measures to display country differences
- …… (?)

Gesundheit Österreich GmbH

thank you your attention!

Julian Strizek

Stubenring 6

1010 Vienna, Austria

T: +43 1 515 61-148

F: +43 1 513 84 72

E: julian.strizek@goeg.at

www.goeg.at