

**Comparison of groups with
different forms of problematic
Internet use pro-actively recruited
in the setting of vocational
schools**

Anja Bischof, Gallus Bischof, Luisa Hauer, Lea
Braden & Hans-Jürgen Rumpf

University of Luebeck, Department of
Psychiatry and Psychotherapy

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"Try this—I just bought a hundred shares."

Conflict of interest: None.

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Overview

- Background – Internet addiction
- Setting – Vocational schools in Luebeck, Germany
- Study design
- Results
- Discussion



Internet addiction

- Various epidemiological studies since 1990
- Prevalence rates ranging from 1 to 14%, depending on population and measurement
- Since 2013: „Internet gaming disorder“ included in the DSM-5 as a „diagnosis for further research“

Previous studies:

- Prevalence: General population: 1%, younger age groups: up to 4%
- Internet addicted have significant clinical impairments:
 - High rates of Axis I comorbidity
 - High rates of Axis II comorbidity
 - Higher impulsivity scores
 - Higher impairment due to Internet use according to health, fitness, relationships, employability, job performance
- No substantial difference between addiction to Internet gaming and other forms of addicted Internet use

Study PAFIB

Prevalence and associated factors of Internet addiction among vocational school students (German: Berufsschueler)

- Time frame: May 2014 – September 2015
- Topic of one doctoral thesis (m.d.) and three Master theses (psychologists)
- **Screening: May to July 2014**
- Diagnostic interviews: June to October 2014
- 12-months-follow up
- Retest reliability check of diagnostic interview

Setting: two vocational schools in Luebeck, Northern Germany



- Public school
- Main focus: engineering
- 91% male students



- Public school
- Main focus: nutrition, health, welfare
- 85% female students

Both schools: Several opportunities for graduation:

- Dual system: job training in companies with accompanying school
- Transition system: Preparation for job training for students without graduation and/or apprenticeship
- Various possibilities to catch up graduation on different levels

 **No homogeneous group of students**

Recruitment

- Study presentation in class
- If consent of the students to participate (under age students: additional consent of parents): Screening completion in a separate teaching unit (45 minutes) without teacher.

N = 1209



Measurements in the screening

- Extent of Internet use
- Compulsive Internet Use Scale (CIUS)
- Questionnaire with 9 items based on DSM-5

An international consensus for assessing internet gaming disorder using the new DSM-5 approach

Nancy M. Petry¹, Florian Rehbein², Douglas A. Gentile³, Jeroen S. Lemmens⁴, Hans-Jürgen Rumpf⁵, Thomas Möble², Gallus Bischof⁵, Ran Tao⁶, Daniel S. S. Fung⁷, Guilherme Borges⁸, Marc Auriacombe⁹, Angels González Ibáñez^{1,10}, Philip Tam¹¹ & Charles P. O'Brien¹²

University of Connecticut School of Medicine, Farmington, CT, USA,¹ Criminological Research Institute of Lower Saxony, Hanover, Germany,² Iowa State University, Ames, IA, USA,³ University of Amsterdam, Amsterdam, the Netherlands,⁴ University of Lübeck, Lübeck, Germany,⁵ General Hospital of Beijing Military Region, Beijing, China,⁶ Institute of Mental Health, Singapore,⁷ National Institute of Psychiatry and Metropolitan Autonomous University, Mexico City, Mexico,⁸ Université de Bordeaux, Bordeaux, France,⁹ Hospital de Mataró Barcelona, Barcelona, Spain,¹⁰ Network for Internet Investigation and Research Australia, Sydney, NSW, Australia¹¹ and University of Pennsylvania, Philadelphia, PA, USA¹²

ABSTRACT

Aims For the first time, the *Diagnostic and Statistical Manual for Mental Disorders* (DSM-5) introduces non-substance addictions as psychiatric diagnoses. The aims of this paper are to (i) present the main controversies surrounding the decision to include internet gaming disorder, but not internet addiction more globally, as a non-substance addiction in the research appendix of the DSM-5, and (ii) discuss the meaning behind the DSM-5 criteria for internet gaming disorder. The paper also proposes a common method for assessing internet gaming disorder. Although the need for common diagnostic criteria is not debated, the existence of multiple instruments reflect the divergence of opinions in the field regarding how best to diagnose this condition. **Methods** We convened

Measurements in the screening

- Extent of Internet use
- Compulsive Internet Use Scale (CIUS)
- Questionnaire with 9 items based on DSM-5
- Alcohol Use Disorders Identification Test Consumption (Audit-C)
- Mental Health Inventory (MHI-5)
- Short questionnaires for
 - Physical activity
 - Fruit and vegetable consumption
 - Smoking and Cannabis consumption

Inclusion in the study, if:

- at least 21 points in the CIUS (sensitive)
- or
- at least 9 points in the Consensus Questionnaire
-
- Division in three groups:
 - Online gamers (WoW, Egoshooter, etc.)
 - Social Networkers (Facebook, WhatsApp, etc.)
 - Others (Pornography, Gambling, Shopping)

Results

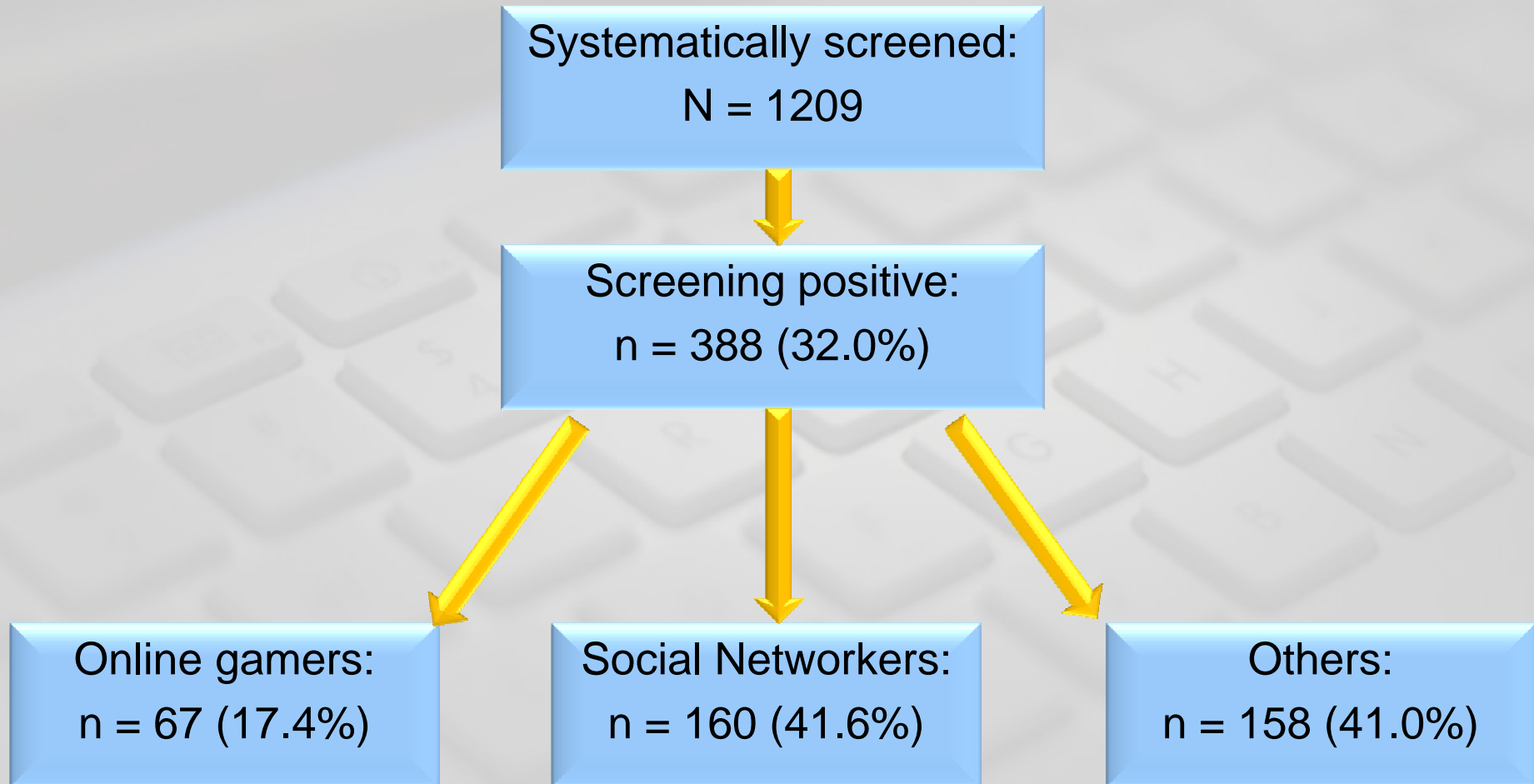
Systematically screened:
N = 1209

Screening positive:
n = 388 (32.0%)

Online gamers:
n = 67 (17.4%)

Social Networkers:
n = 160 (41.6%)

Others:
n = 158 (41.0%)



Screening positives: characteristics

	Screening negative (n=821)	Screening positive (n=388)	p
Female sex, n (%)	370 (45.34)	195 (50.39)	.108
Age, M (SD)	20.17 (3.67)	19.56 (3.02)	.003
Sum score CIUS, M (SD)	10.17 (5.28)	25.73 (7.18)	<.001
Sum score Cons variables, M (SD)	2.72 (2.34)	11.94 (5.93)	<.001
Average daily Internet use, M (SD)	4.78 (3.61)	7.37 (4.35)	<.001
Average daily Internet use on weekends, M (SD)	6.16 (4.28)	10.21 (5.58)	<.001

Screening positives: Health data

	Screening negative (n=821)	Screening positive (n=388)	p
Subjective status of health, M (SD)	2.31 (0.88)	2.60 (0.87)	<.001
BMI, M (SD)	23.35 (3.90)	23.78 (4.59)	.156
Consumption of fruits, M (SD)	1.34 (1.23)	1.26 (1.34)	.038
Consumption of vegetables, M (SD)	1.26 (1.19)	1.18 (1.16)	.218
„Five a day“, n (%)	103 (12.64)	43 (11.14)	.508
Smokers, n (%)	282 (35.29)	134 (35.17)	1.000
Alcohol consumption AUDIT-C, M (SD)	3.09 (2.66)	3.25 (2.84)	.588
Marihuana smokers, n (%)	137 (16.77)	73 (18.86)	.372
Illegal drug consumption, n (%)	51 (6.26)	35 (9.07)	.093
MHI-5, M (SD)	14.38 (2.95)	12.11 (3.65)	<.001

Group comparison: characteristics of screening positives

	Gamers (n=67)	Social Networkers (n=160)	Others (n=158)	p	p adj. for sex
Female sex, n (%)	6 (9.0)	121 (76.1)	66 (41.8)	<.001^a	-
Age, M (SD)	19.5 (2.9)	19.4 (2.8)	19.7 (3.3)	.627	.728
Sum score CIUS, M (SD)	25.3 (7.5)	26.4 (7.3)	25.3 (7.0)	.322	.729
Sum score Cons variables, M (SD)	12.7 (5.7)	11.7 (6.4)	11.9 (5.6)	.494	.798
Average daily Internet use, M (SD)	7.6 (2.9)	7.7 (4.8)	7.0 (4.4)	.368	.366
Average daily Internet use on weekends, M (SD)	12.0 (4.8)	10.0 (5.5)	9.6 (5.8)	.009^b	.005^b

^aSN>G, O. ^bG>SN,O.

Group comparison: health data of screening positives

	Gamers (n=67)	Social Networkers (n=160)	Others (n=158)	p	p adj. for sex
Subjective status of health, M (SD)	2.5 (0.8)	2.7 (0.8)	2.6 (0.9)	.319	.871
BMI, M (SD)	24.9 (4.7)	23.5 (5.1)	23.6 (4.0)	.110	.326
Consumption of fruits, M (SD)	1.0 (1.2)	1.4 (1.3)	1.3 (1.5)	.215	.443
Consumption of vegetables, M (SD)	0.9 (0.9)	1.2 (0.9)	1.3 (1.4)	.126	.150
„Five a day“, n (%)	6 (9.1)	18 (11.3)	18 (11.5)	.865	.750
Smokers, n (%)	24 (35.8)	60 (38.2)	49 (31.8)	.494	.269
Alcohol consumption AUDIT-C, M (SD)	3.8 (3.1)	3.3 (2.6)	3.0 (2.9)	.144	.006^a
Marihuana smokers, n (%)	18 (26.9)	26 (16.3)	29 (18.5)	.173	.438
Illegal drug consumption, n (%)	4 (6.0)	16 (10.1)	15 (9.6)	.605	.209
MHI-5, M (SD)	14.0 (3.2)	11.2 (3.7)	12.2 (3.4)	<.001^b	.009^b

^aSN>O; ^bG>SN, O.

Discussion

- Problematic internet use is an emerging disorders especially in younger age cohorts
- Previous epidemiological study PINTA: Recommended cutoff of 30 CIUS points
>> Prevalence of 8.2% compared to 1%
- Students of vocational schools as a vulnerable population
- Additionally: Health promotion activities necessary (Smoking, nutrition, drugs)

Discussion

- No significant differences between different Internet applications, except:
 - Sex differences (gamers, social networkers)
 - Alcohol consumption (social networkers)
 - Mental health (Gamers perform better)
- Integration of other applications in Screenings/Diagnostic Measures/DSM-5 seems to be necessary



Thank you for your attention!

anja.bischof@uksh.de

