Funded by the European Union
Safer internet plus

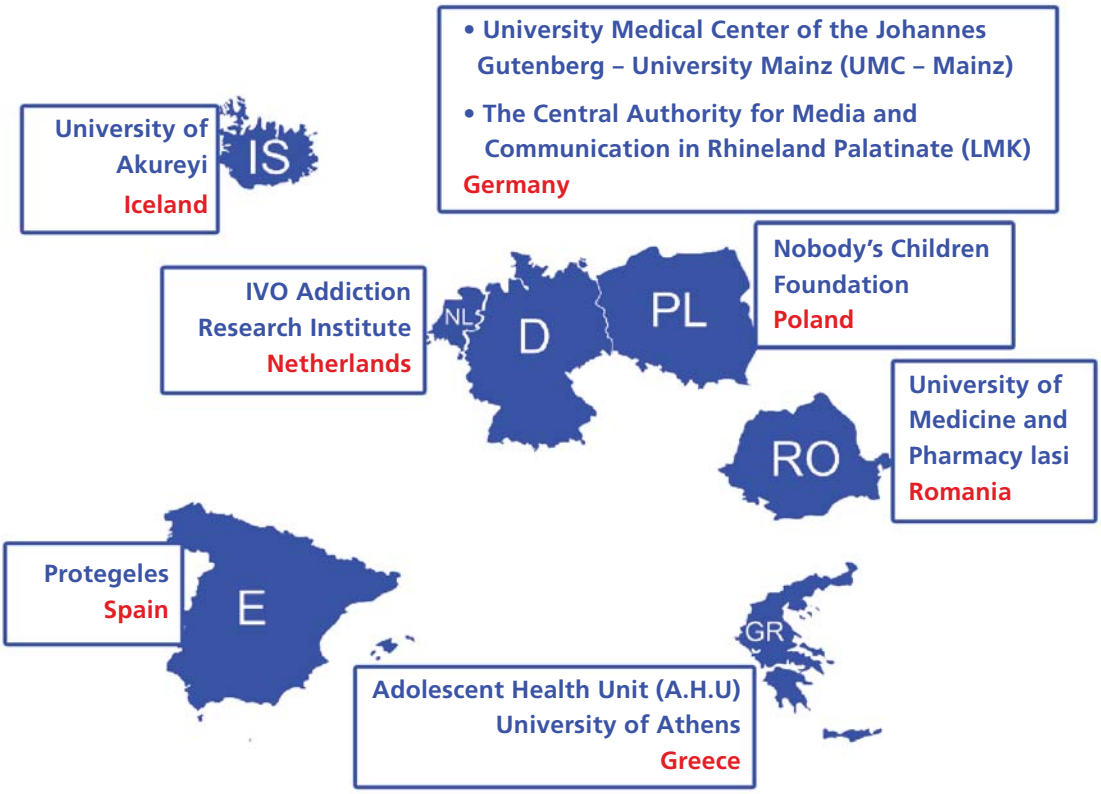
eu.net.adb.

Research on Internet Addictive Behaviours among European Adolescents

Editors: *Artemis Tsitsika, Eleni Tzavela, Foteini Mavromati and the EU NET ADB Consortium*

www.eunetadb.eu

The Consortium



Overall Coordinator
Quantitative Component Coordinator
Qualitative Component Co-coordinator: Greece

Institution: Adolescent Health Unit (A.H.U.)
Second Dpt of Pediatrics - University of Athens
"P. & A. Kyriakou" Children's Hospital

Chairman: **Univ.-Prof. Chryssa Tzoumaka-Bakoula**

Qualitative Component Coordinator: Germany

Institution: Outpatient Clinic for Computer Game and Internet Addictive Behaviour Mainz/ Clinic and Polyclinic for Psychosomatic Medicine and Psychotherapy at the University Medical Center of the Johannes Gutenberg-University Mainz

Chairman: **Univ.-Prof. Dr. Reinhard Urban**

Definition

Internet Addictive Behaviour (IAB) is defined as a behavioural pattern characterized by a loss of control over internet use. This behaviour potentially leads to isolation and neglect of social, academic and recreational activities or personal hygiene and health.

Aim of Study

Among European adolescents:

- Evaluate the prevalence and determinants of IAB
- Qualitatively assess the development of IAB
- Increase awareness among the wider public regarding IAB
- Enhance the knowledge base required for the development of prevention and intervention strategies relating to IAB

Methodology

a. Quantitative component

- **Questionnaire including:**
  1. **Internet use** *(Socio-demographic data, family, school achievement, internet usage characteristics, parental control)*
  2. **Internet Addiction Test** *(IAT; Young, 1998),*
  3. **Gaming** *(AICA-S; Wölfling, Müller & Beutel, 2010),*
  4. **Gambling** *(SOGS-RA; Winters, Stinchfield, & Fulkerson, 1993)* and
  5. **Psychosocial characteristics** *(YSR; Achenbach & Rescorla, 2001)*
- **Representative sample from each country – up to 2000 questionnaires / country (final sample of 13.300 questionnaires)**
- **Adolescents 14-17 years old**
- **Data collection: October 2011 – May 2012**

b. Qualitative component

- **Interviews of adolescents showing signs of IAB (IAT score > 30)**
- **Up to 20 interviews / country (124 final interviews)**
- **Full-stepwise approach of Grounded Theory** *(Strauss & Corbin, 1990)*
- **Adolescents 14-17 years old**
- **Data collection: June 2011 - June 2012**

RESULTS

I. Quantitative component

Authors
Tsitsika Artemis (Greece), Janikian Mari (Greece), Tzavela Eleni (Greece), Schoenmakers Tim (Netherlands), Ólafsson Kjartan (Iceland), Halapi Eva (Iceland), Tzavara Chara (Greece), Wójcik Szymon (Poland), Makaruk Katarzyna (Poland), Critselis Elena (Greece), Müller Kai W. (Germany), Dreier Michael (Germany), Holtz Sebastian (Germany), Wölfling Klaus (Germany), Iordache Andreea (Romania), Oliaga Ana (Spain), Chele Gabi (Romania), Macarie George (Romania), Richardson Clive (Greece)

1. Internet Addictive Behaviour (IAB)

DysFunctional Internet Behaviour (DIB) → **Internet Addictive Behaviour (IAB) (IAT score > 70)**

DysFunctional Internet Behaviour (DIB) → **At risk for IAB (IAT score >40)**

Addictive Behaviour

- **1.2%** of the total sample presents with IAB, while **12.7%** with at risk IAB **(13.9% DIB)**
- **Spain**, **Romania**, and **Poland** show higher prevalence of DIB, while Germany and Iceland the lowest in the study – *Figure 1*
- **Boys**, **older** adolescents and those whose parents have **lower educational level** are more likely to exhibit DIB – *Figure 2*
- The group of DIB has lower psychosocial well-being – *Table 1*

Gambling, social networking and ***gaming*** are strongly associated with DIB, while watching videos/movies was not related to DIB and doing homework/research was negatively associated with DIB, indicating that the more adolescents use the internet for homework/research the less signs of DIB they show – *Table 2*

Figure 1.
Percentage of adolescents at risk for IAB or with IAB, by country

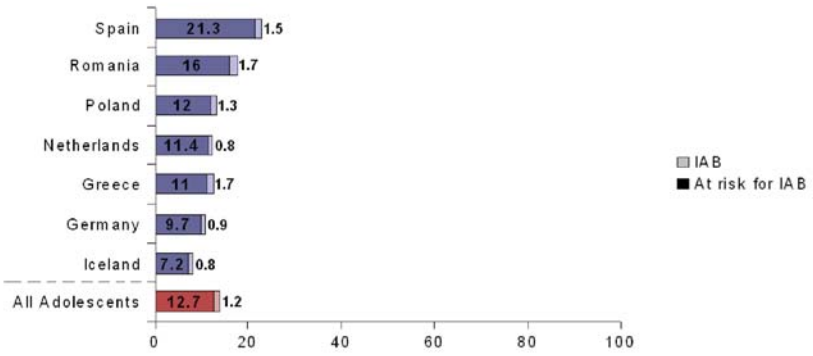


Figure 2.
Percentage of adolescents at risk for IAB and with IAB (dysfunctional internet behaviour - DIB), by gender, age and parental educational level.

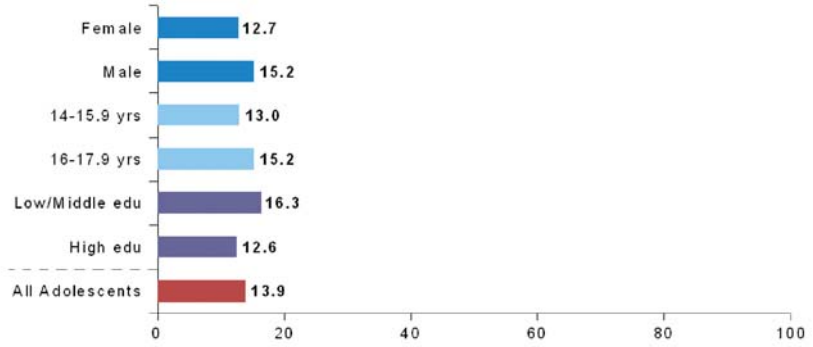


Table 1.
Psychosocial characteristics (YSR) for adolescents with functional internet behaviour – FIB vs dysfunctional internet behaviour - DIB (IAT)

		FIB (%)	DIB (%)	P
Social competence	Normal	93.4	76	<0,001
	Borderline / Clinical	6.6	24	
Thought problems	Normal	88.9	70.3	<0,001
	Borderline / Clinical	11.1	29.7	
Attention problems	Normal	91.5	70.8	<0,001
	Borderline / Clinical	8.5	29.2	
Aggressive behaviour	Normal	93.8	71.8	<0,001
	Borderline / Clinical	6.2	28.2	
Total problems	Normal	92.3	63.9	<0,001
	Borderline / Clinical	7.7	36.1	

Table 2.
Presented odds ratios (OR) for the effect of internet activities on having DIB

	OR	95% CI
Gambling	2.97	2.52-3.49
Social Networking (e.g. Facebook)	2.62	1.95-3.51
Gaming	2.58	2.26-2.95
Watching videos / movies	1.01	0.68-1.48
Doing homework / research	0.68	0.57-0.83

2. High risk behaviour

Grooming

- **63%** of total sample **communicate with strangers online**
- **9.3%** of those communicating with strangers online state that this **experience** was perceived as **harmful** for them (**5.4%** of total sample)
- **45.7%** of those communicating with strangers online have gone on to meet **face to face someone who they first met on the internet** (**28.4%** of total sample)
- Risk of grooming is higher in **Romania**, **Germany** and **Poland**, and lowest in Greece

Sexual Content

- **58.8%** of the total sample are exposed to sexual images
- **32.8%** of those exposed to sexual images state that this **experience** was **harmful** (**18.4%** of total sample)
- More **boys** than girls have been exposed to sexual images

Cyberbullying

- **21.9%** of total sample experience **bullying** online
- **53.5%** of those bullied state that this experience was harmful (**11.2%** of total sample)
- More **girls** than boys experience bullying
- **Romania** and **Greece** have the higher percentages, while Iceland and Spain the lower.

Risk vs harm

Although a significant number of adolescents may be exposed to internet risks, a much lower number experiences harm

Key point

Educate young people to deal with risks, so that they do not experience harm

3. Internet activities

Social Networking

- **92%** of total sample are members of at least one Social Networking Site (SNS)
- **39.4%** of adolescents spend **at least 2 hours** on SNS on a normal school day
- Using SNS **more than 2 hours daily** is associated with DIB
- More **girls** than boys use SNS
- Having more than **500 online friends** is associated with DIB

Gambling

- **5.9%** of total sample gamble online, while **10.6%** gamble in real life
- **Romania** and **Greece** have the higher gambling percentages (online and in real life)
- Adolescents who gamble have **3 times higher** risk of exhibiting DIB

Gaming

- **61.8%** of total sample are gamers
- Adolescents who play games have 2 times higher risk of exhibiting DIB
- Gaming more than 2.6 hours / day is associated with DIB
- **Boys are** more likely to abuse or be addicted to gaming

II. Qualitative component

Authors
Dreier Michael (Germany), Tzavela Eleni (Greece), Wölfling Klaus (Germany), Mavromati Foteini (Greece), Duven Eva (Germany), Karakitsou Chryssoula (Greece), Macarie George (Romania), Veldhuis Lidy (The Netherlands), Wójcik Szymon (Poland), Halapi Eva (Iceland), Sigursteinsdottir Hjordis (Iceland), Oliaga Ana (Spain), Tsitsika Artemis (Greece)

Navigating adolescent pathways: A grounded theory study on adolescents' internet use and addictive behaviours

1. Role of internet in adolescence

- Adolescents are **especially attracted** to the internet because of their developmental characteristics (**teen thirst** and **curiosity**) for:

  - getting answers on a wide range of questions
  - attaining fast and most current information
  - keeping in touch with existing and new contacts
  - having fun

- The internet eases (facilitates) everyday life in adolescence, however some teenagers need to **feel boosted** (empowerment)
- Empowerment comes through **positive online encounters** (being liked, gaining excellence in games, feeling equal and filling empty time)
- Empowerment may fill a void, when it comes to adolescents **with deficient offline social skills**

Easiness vs Empowerment

Adolescents with under developed offline skills may:
- experience a high degree of empowerment through internet and thus,
- are more vulnerable to the development of Dysfunctional Internet Behaviour (DIB)

2. Strategies

- **Adolescents, following their personal online journeys of exploration (digital pathways) develop various strategies, in order to handle the phenomenon of being "always online":**

- Adaptive strategies
(effort to balance online and offline engagements):

- self-monitoring
- prioritizing
- exploring offline alternatives

- Maladaptive strategies
(effort to maintain increased online engagement):

- bypassing parental control
- normalisation
- legitimizing use

The properties that determine the strategies are:

- self regulation
- readiness for change (motivation in changing behaviours that cause objective difficulties**)**

3. Processes leading to digital outcomes

- Adolescent developmental "thirst" and internet being so fascinating for youth, is a combination frequently predisposing to a period of **intense online engagement** (**"Always Online and Checking Out"** mode)

- Self regulation and readiness for change, result to the strategies used to deal with the **"Always Online and Checking Out"** mode

Process outline:
As a result of adaptive and maladaptive strategies used, in order to deal with the **"always online" mode**, participants progressed on their **current online position** (types of internet users at risk of having / had DIB – **digital outcomes**)

4. Digital Outcomes (types of internet users at risk for having / had DIB) or the "Model of Four"

A. "Stuck Online"

"Well I used to go out more. Being outside, going swimming, or stuff like that. I haven't being swimming for about 2 years. I haven't been out with my friend in the evening for over 4 months now, such things you neglect." [Boy, 16 Years]

- excessive internet use
- neglect of main areas of daily routine (school, friends, duties)
- specific online activities
- negative effects of overuse (sleep disturbance, distress if unable to go online)
- difficulty to reduce, even if acknowledging negative impact

This type may have thirst for life and offline experiences, however due to deficient social skills he/she feels disappointed, bullied or excluded and thus "trapped" online.

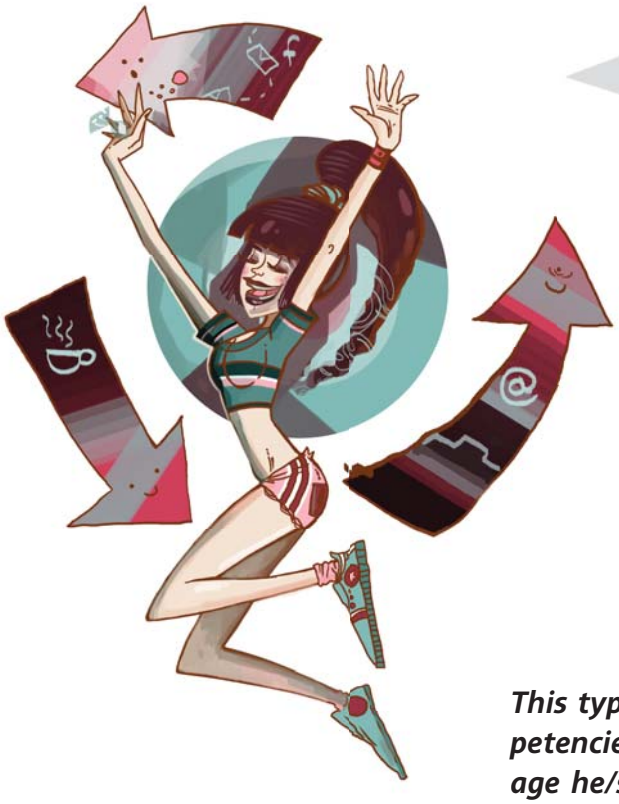
B. "Juggling it all"

"Because I am busy and next to that I spend a lot of time on the internet. Then it's hard to manage everything. But I get everything done."
[Girl, 15 Years]

- balancing to everyday activities and internet use
- online and offline presence
- stress within a busy schedule

This type may have thirst for life and offline experiences, and also a good level of social competence. Online activities may have a strong connection to offline activities (e.g. an adolescent with a lot of friends may highly engage on Facebook etc.).

C. "Coming full cycle"



"I started visiting social networks like Facebook, saying "ah, here there are many people, I meet new people, that's nice", staying [online] for more and more time, making comments, uploading stuff and creating a new life in there. Like a virtual reality. Um…I think that happened. After a while though, you come ***full cycle****, you start saying «what am I doing now?", you get tired of it, you shut it down, you go out and you start cutting down on the time you spend on it. Just like that; it comes full cycle." [Girl, 17 years]*

- excessive online pattern
- progressive and adaptive change and self-correction
- self-correction may come through:
    a. saturation ("Got sick of it")
    b. acknowledging negative consequences (physical problems, aches, academic downfall, parental conflicts etc.)
    c. motivation (romantic relationship, etc.)

This type shows thirst for life, offline experiences and social competencies, however due to the developmental characteristics of the age he/she experiences a cycle of intense internet use and breaks through self correction.

D. "Killing boredom"

"Well, I really don't care. I just kill time. I feel so bored…" [Boy, 17 years]

- offline environment is perceived as "boring"
- lacking alternative activities of interest
- online engagement provides a comfortable time filler
- an automatized reaction to boredom

This type lacks thirst for life and offline experiences, and may have limited social skills.

The **"Model of Four"** may consist as a tool for categorizing users with DIB and having an initial prognosis.

- Types **"A"** and **"D"** seem to have poorer prognosis and co-morbidity (anxiety, depression, attention disorders etc.). In these cases, DIB may be the "tip of the iceberg" – the expression of an underlying psychosocial difficulty that mainly needs the intervention
- Types **"A"** and **"D"** most probably will not self-correct and may need professional help
- Types **"B"** and **"C"** seem to be functional users and loss of control is mainly connected with developmental adolescents patterns
- Types **"B"** and **"C"** most probably will self-correct and may not need any intervention at all. Type **"C"** however, may loose quite a significant time interval during the "cycle" and some kind of help may be needed

Overall Coordinator
Quantitative Component Coordinator
Qualitative Component Co-coordinator: Greece

Tsitsika Artemis, Tzavela Eleni, Janikian Mari, Mavromati Foteini, Critselis Elena, Tzavara Hara

Qualitative Component Coordinator: Germany

Dreier Michael, Duven Eva, Müller Kai W., Beutel Manfred E., Wölfling Klaus

Germany
The Central Authority for Media and Communication in Rhineland Palatinate (LMK)
Behrens Peter, Holtz Sebastian, Tatsch Isabell

Iceland
University of Akureyri (UNAK),
Olafsson Kjartan, Halapi Eva, Sigursteinsdottir Hjordis

Spain
Protegeles
Oliaga Ana

Netherlands
IVO Addiction Research Institute
Schoenmakers Tim, Veldhuis Lydian

Romania
University of Medicine and Pharmacy "Gr. T. Popa" Iasi
Macarie George Florian, Chele Gabriela, Iordache Andreea, Stefanescu Cristinel

Poland
Nobody's Children Foundation,
Makaruk Katarzyna, Wojcik Szymon, Wlodarczyk Joanna, Wlodarczyk Zofia, Wildner Ewelina

eu.net.adb.

www.eunetadb.eu

Contact details

Artemis Tsitsika and Eleni Tzavela
EU NET ADB Overall Coordination
Adolescent Health Unit (A.H.U.)
Second Dpt of Pediatrics – University of Athens
"P. & A. Kyriakou" Children's Hospital
24th Mesogeion Avenue, Athens, GR 11527, Greece
Tel. ++210 7710824
www.eunetadb.eu
info@youth-health.gr

Funded by the European Union
Safer internet plus