

Digitalna (ne-)sigurnost iz medicinske perspektive

Irena Rojnić Palavra

Sigurnost djece na internetu:
Od prevencije do reakcije

Pula, 28. travnja 2025.



FEB
2025

OVERVIEW OF INTERNET USE

ESSENTIAL INDICATORS OF INTERNET ADOPTION AND USE

GLOBAL OVERVIEW

INDIVIDUALS
USING THE
INTERNET



5.56
BILLION

INDIVIDUALS USING THE
INTERNET AS A PERCENTAGE
OF TOTAL POPULATION



67.9%
YOY: +1.6% (+109 BPS)

YEAR-ON-YEAR CHANGE IN
THE NUMBER OF INDIVIDUALS
USING THE INTERNET



+2.5%
+136 MILLION

PERCENTAGE OF THE
TOTAL FEMALE POPULATION
THAT USES THE INTERNET



65.7%
YOY: +3.7% (+232 BPS)

PERCENTAGE OF THE
TOTAL MALE POPULATION
THAT USES THE INTERNET



70.0%
YOY: +2.7% (+181 BPS)

AVERAGE DAILY TIME
SPENT USING THE INTERNET
BY EACH INTERNET USER



6H 38M
YOY: -0.4% (-2 MINS)

PERCENTAGE OF USERS
ACCESSING THE INTERNET
VIA MOBILE PHONES



96.3%
YOY: -0.2% (-20 BPS)

PERCENTAGE OF USERS
ACCESSING THE INTERNET
VIA LAPTOPS AND DESKTOPS



61.5%
YOY: -0.5% (-30 BPS)

PERCENTAGE OF THE
TOTAL URBAN POPULATION
THAT USES THE INTERNET



82.7%
YOY: +3.6% (+289 BPS)

PERCENTAGE OF THE
TOTAL RURAL POPULATION
THAT USES THE INTERNET



47.4%
YOY: +2.8% (+130 BPS)

SOURCES: KEPIOS ANALYSIS; ITU; GSMA INTELLIGENCE; EUROSTAT; GOOGLE'S ADVERTISING RESOURCES; CNNIC; KANTAR & IAMA; GOVERNMENT RESOURCES; UNITED NATIONS. TIME SPENT AND MOBILE SHARE DATA FROM **GW** (Q3 2024). **NOTES:** GENDER DATA ARE ONLY AVAILABLE FOR "FEMALE" AND "MALE". PERCENTAGE CHANGE FIGURES SHOW RELATIVE YEAR-ON-YEAR CHANGE. "BPS" FIGURES REPRESENT BASIS POINTS, AND SHOW ABSOLUTE YEAR-ON-YEAR CHANGE. **COMPARABILITY:** SOURCE AND BASE CHANGES. ALL FIGURES USE THE LATEST AVAILABLE DATA, BUT SOME SOURCES DO NOT PUBLISH REGULAR UPDATES, SO FIGURES MAY UNDER-REPRESENT ACTUAL USE. SEE [NOTES ON DATA](#).



Adiktivni potencijal (Što?)

- Videoigre (MMORPG i FPS)
- Društvene mreže
- Pornografski sadržaji

Prediktori razvoja ovisnosti (Tko?)

Prediktori:

- Dnevno vrijeme provedeno na internetu
- Igranje videoigara
- Korištenje društvenih mreža
- Tjeskoba/depresivnost

Izvor: Yatab Pal Singh Balhara et al., 2019.

Prediktori:

- Eskapizam
- Jasnoća samopoimanja (aktualni/idealni self)

Izvor: Šporčić B, Glavak-Tkalić R, 2018.

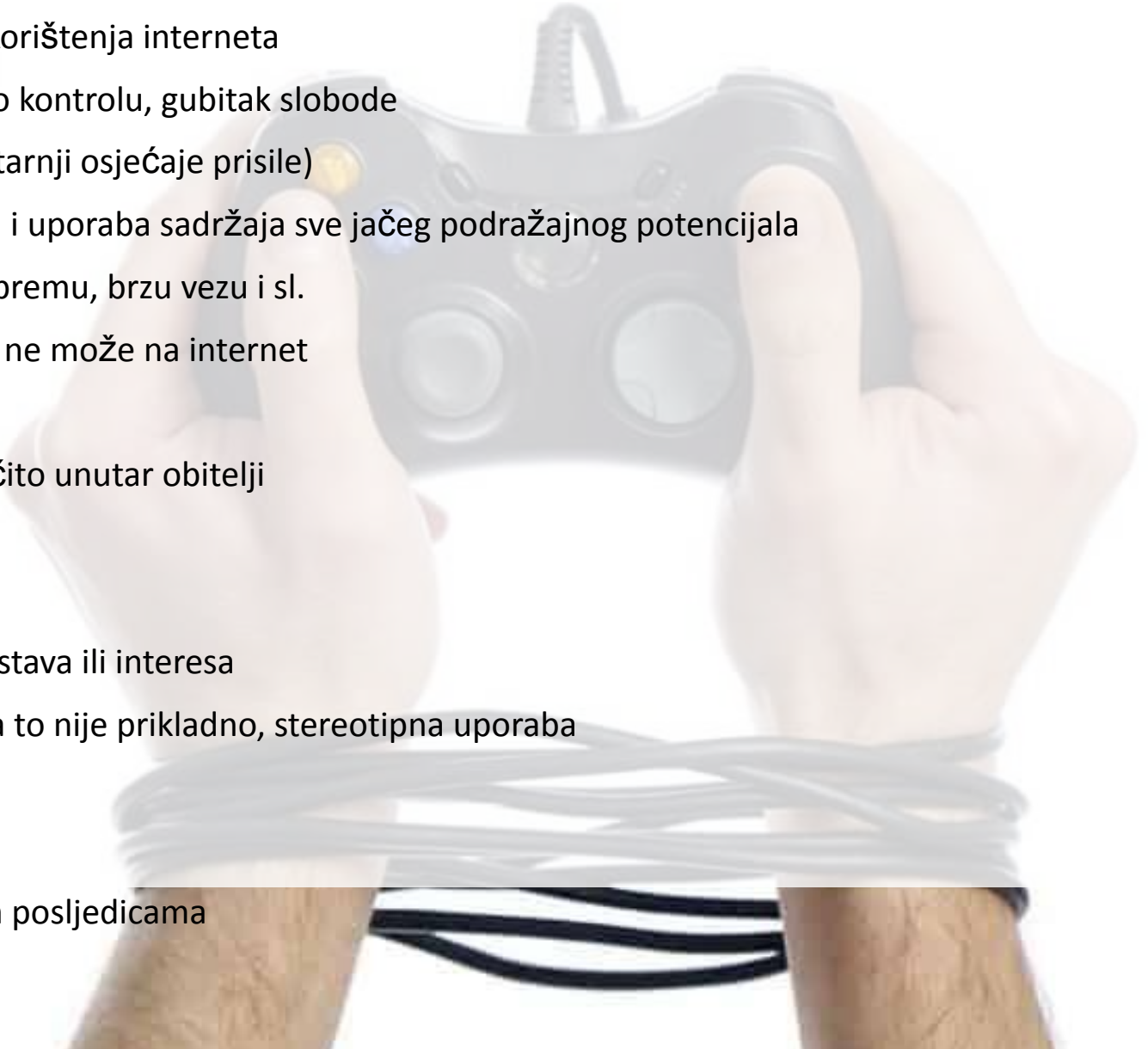
Gaming disorder

- DSM-V - Internet Gaming Disorder (appendix) 2013.
- MKB-11 - Gaming Disorder („addictive behaviours”) 2018./2019.
- Gubitak kontrole nad igranjem videoigara
- Prioritet dan igranju videoigara nad ostalim aktivnostima do razine da ono postaje važnije od drugih interesa i dnevnih obveza
- Nastavljanje ili pogoršavanje ponašanja vezanog uz igranje videoigara unatoč pojavi negativnih posljedica
- Ponašanje mora biti dovoljno ozbiljno te rezultirati oštećenjem u osobnom, obiteljskom, socijalnom, edukacijskom, radnom ili drugim vidovima funkcioniranja osobe u periodu od najmanje 12 mjeseci



Klinička slika

- Gubitak kontrole nad vremenom provedenim za internetom
 - Gubitak osjećaja za vrijeme tijekom korištenja interneta
 - Osjećaj da je „virtualni Život“ preuzeo kontrolu, gubitak slobode
 - Kompulzivna uporaba interneta (unutarnji osjećaje prisile)
 - Sve češće i dulje korištenje interneta i uporaba sadržaja sve jačeg podražajnog potencijala
 - Investiranje u videoigre, računalnu opremu, brzu vezu i sl.
 - Pojava Žudnje i nelagode kada osoba ne može na internet
 - Zakazivanje u školi/na poslu
 - Narušavanje socijalnih odnosa, naročito unutar obitelji
 - Socijalna izolacija, pasivizacija
 - Promjene raspoloženja i ponašanja
 - Zanemarivanje alternativnih zadovoljstava ili interesa
 - Uporaba interneta u situacijama kada to nije prikladno, stereotipna uporaba
-
- Subjektivni osjećaj benefita
 - Nastavak uporabe unatoč negativnim posljedicama
 - Neuspješna promjena ponašanja
 - Osjećaji krivnje i srama



Videoigre

- „Smire me”
- „Problemi nestaju”
- „Odgađam obaveze”
- „Mogu živjeti neki drugi život”
- „Tu se osjećam sigurno”
- „Osjetim adrenalin i ugodu”





„Tipičan” pacijent

- Introvertiran
- Socijalno disfunkcionalan (nema prijatelja, nije u vezi, ne izlazi, nema hobija, teško održava komunikaciju i odnose...)
- Niskog samopouzdanja/samopoštovanja
- Nezreo
- Iskustvo traume/emocionalnog gubitka
- Disfunkcionalnost obitelji
- Česti dodatni psihijatrijski komorbiditeti

„Netipičan” pacijent

- Mlad
 - Poznat
 - Bogat
 - ALI
 - Nesretan
 - Usamljen
 - Ovisan
-





Ovisnost

- Kronična
 - Sveprožimajuća
 - Recidivirajuća
 - Zalječiva
 - Bolest
 - Mozga (srca)
-
- O psihoaktivnim tvarima i ponašajne
 - Svjesna i nesvjesna komponenta
 - Samoliječenje



Epidemiologija

- 3.4% srednjoškolaca ovisno o internetu (Vejmelka et al., 2017.); 1.4% SŠ Split (Vejmelka et al., 2021.); 0.8% SŠ Zagreb (Mandić, 2021.)
- 6% svjetske populacije ovisno o internetu (ASAM, 2020.)

Videoigre

Društven
e mreže



FEB
2025

OVERVIEW OF SOCIAL MEDIA USE

HEADLINES FOR SOCIAL MEDIA ADOPTION AND USE (NOTE: USER IDENTITIES MAY NOT REPRESENT UNIQUE INDIVIDUALS)



GLOBAL OVERVIEW

NUMBER OF SOCIAL
MEDIA USER IDENTITIES



5.24
BILLION

QUARTER-ON-QUARTER CHANGE
IN SOCIAL MEDIA USER IDENTITIES



+0.5%
+24 MILLION

YEAR-ON-YEAR CHANGE IN
SOCIAL MEDIA USER IDENTITIES

we
are
social



+4.1%
+206 MILLION

AVERAGE DAILY TIME SPENT
USING SOCIAL MEDIA



2H 21M
YOY: -1.3% (-2 MINS)

AVERAGE NUMBER OF SOCIAL
PLATFORMS USED EACH MONTH

GWJ.



6.8
YOY: +2.3% (+0.2)

SOCIAL MEDIA
USER IDENTITIES vs.
TOTAL POPULATION



63.9%

SOCIAL MEDIA USER
IDENTITIES AGED 18+ vs.
POPULATION AGED 18+



86.6%

SOCIAL MEDIA USER
IDENTITIES vs. INDIVIDUALS
USING THE INTERNET



94.2%

FEMALE SOCIAL MEDIA USER
IDENTITIES vs. TOTAL SOCIAL
MEDIA USER IDENTITIES



45.4%

MALE SOCIAL MEDIA USER
IDENTITIES vs. TOTAL SOCIAL
MEDIA USER IDENTITIES

we
are
social



54.6%

SOURCES: KEPIOS ANALYSIS; COMPANY ADVERTISING RESOURCES; CNNIC; BETA RESEARCH CENTER; OECD; U.N.; GWI (Q3 2024). NOTE: AVERAGE NUMBER OF PLATFORMS INCLUDES DATA FOR YOUTUBE.

ADVISORY: SOCIAL MEDIA USER IDENTITIES MAY NOT REPRESENT UNIQUE INDIVIDUALS. COMPARISONS WITH POPULATION AND INTERNET USERS MAY EXCEED 100% DUE TO DUPLICATE AND FAKE ACCOUNTS, USER AGE MISSTATEMENTS, DIFFERENT REPORTING PERIODS, AND DIFFERENCES BETWEEN CENSUS COUNTS AND RESIDENT POPULATIONS. COMPARABILITY: SOURCE AND METHODOLOGY

we
are.

Meltwater

Društvene mreže

- „Volim lajkove”
- „Inače bih bio posve sam”
- „Lakše mi je pričati tako nego uživo”
- „Mogu odabrati kako ću se prezentirati”
- „Imam veći osjećaj kontrole nego uživo”
- „Istresem ljutnju bez posljedica”



FEB
2025

SHARE OF MOBILE TIME BY APP CATEGORY

TIME SPENT USING APPS IN EACH APP CATEGORY AS A PERCENTAGE OF TOTAL TIME SPENT USING **ANDROID PHONES** OVERALL



SHARE OF SMARTPHONE
TIME: SOCIAL MEDIA APPS



35.1%



SHARE OF SMARTPHONE
TIME: ENTERTAINMENT APPS



32.7%



SHARE OF SMARTPHONE
TIME: UTILITY & PRODUCTIVITY



13.6%



SHARE OF SMARTPHONE TIME:
MOBILE GAMES (ALL GENRES)



9.7%



SHARE OF SMARTPHONE
TIME: BUSINESS APPS



1.6%

SHARE OF SMARTPHONE
TIME: SHOPPING APPS



1.5%



SHARE OF SMARTPHONE
TIME: FINANCE APPS



1.0%



SHARE OF SMARTPHONE TIME:
NEWS & MAGAZINE APPS



0.3%



SHARE OF SMARTPHONE
TIME: ALL OTHER APPS



4.4%



SHARE OF SMARTPHONE TIME:
BROWSERS & SEARCH ENGINES*

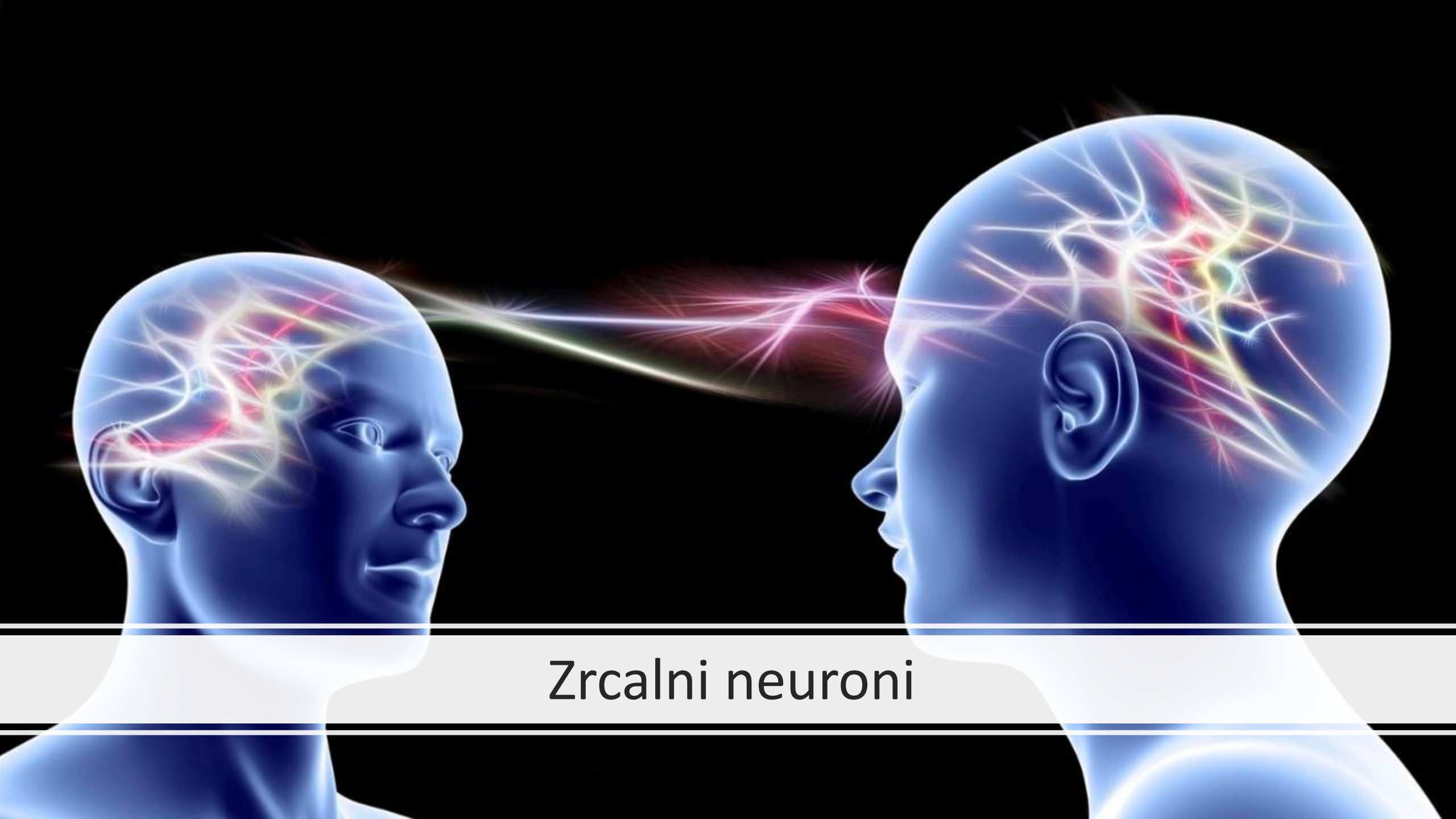


5.8%

Mati sveta interneta

- Na internetu postoje izvori svih mogućih razina osjećaja... Ljudi mogu živjeti kroz internet sve moguće razine i stresa, i smirivanja, i uzbuđivanja, i drugih osjećaja... Na taj način internet postaje velika majka koja te može zagrliti, ponuditi ti sve, od najranijih utjeha do pornografije, nasilja, umirivanja, pameti, mudrosti... I kako onda ne bi bio ovisan o tome. H. Handl
- OMNIPOTENTNI, UNIVERZALNI, KONTEJNIRAJUĆI OBJEKT
- OKOLIŠNA MAJKA (INTERNETSKI ALGORITMI)





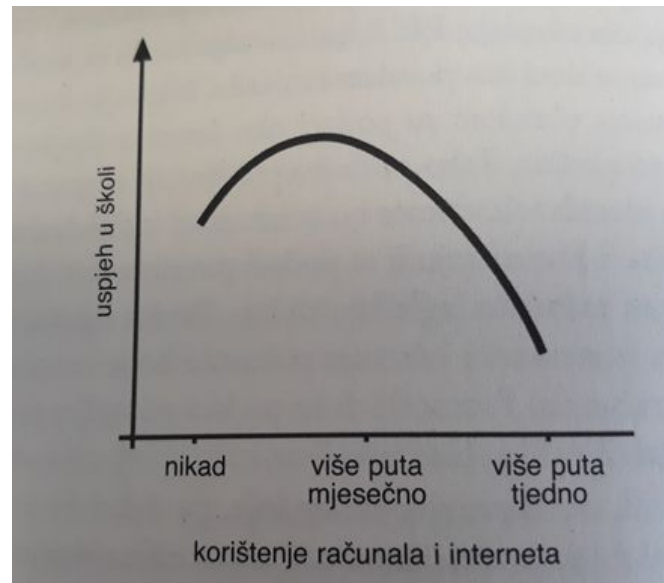
Zrcalni neuroni



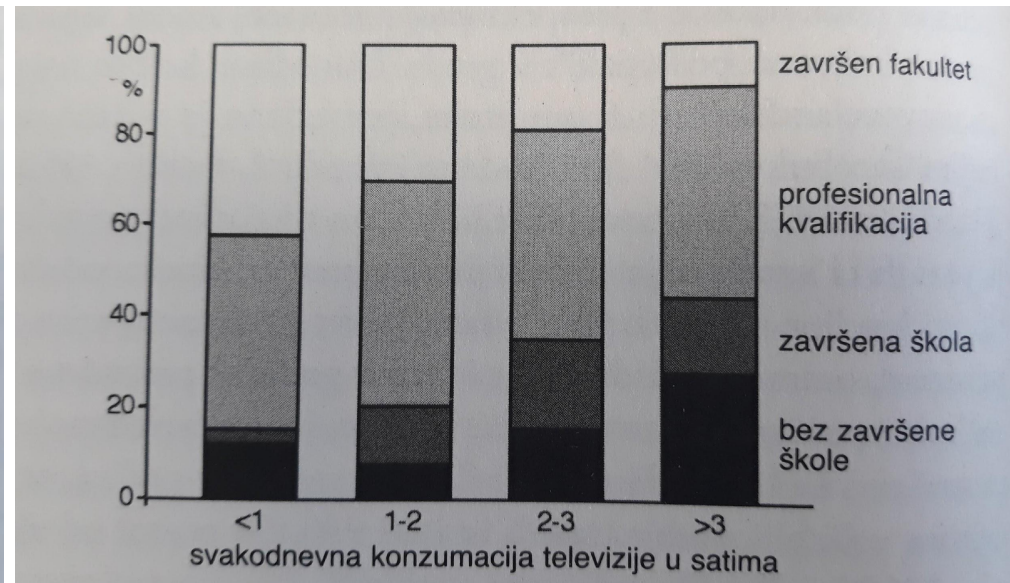


**INTERNET JE VIŠE
PSIHOLOŠKI i
sociološki, DOLI
TEHNOLOŠKI
FENOMEN.**

Učenje i akademski uspjeh

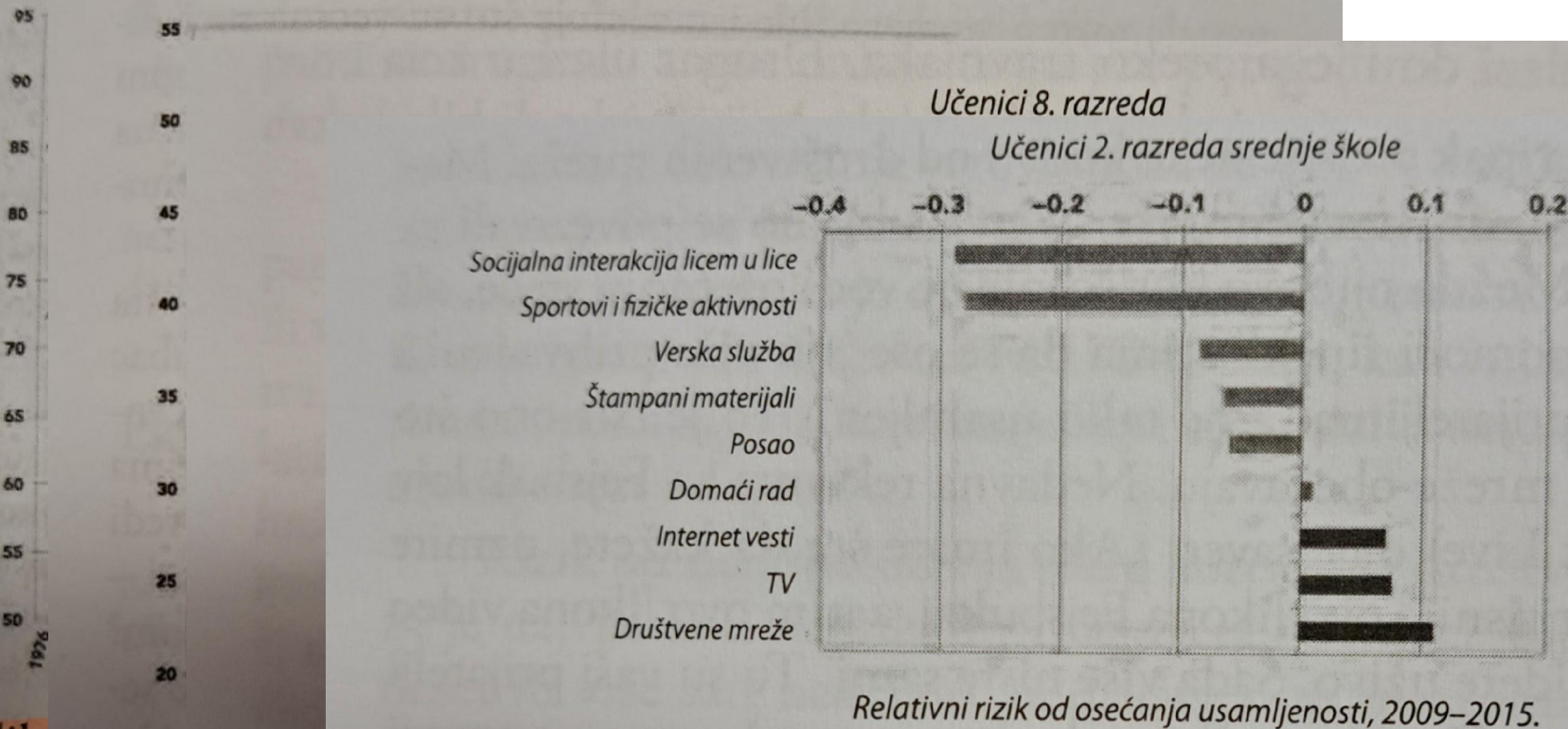


Fuchs et Wössmann, 2004.



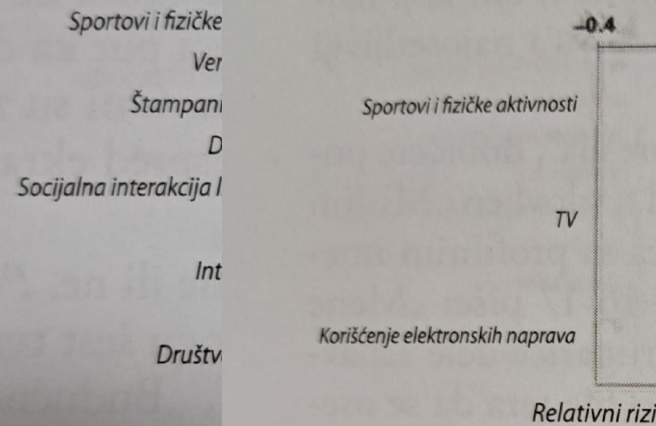
Hancox et al., 2005.

iGen: Why Today's Super-Connected Kids Are Growing Up Less Rebellious, More Tolerant, Less Happy - and Completely Unprepared for Adulthood, Jean M. Twenge, 2017. 1/2



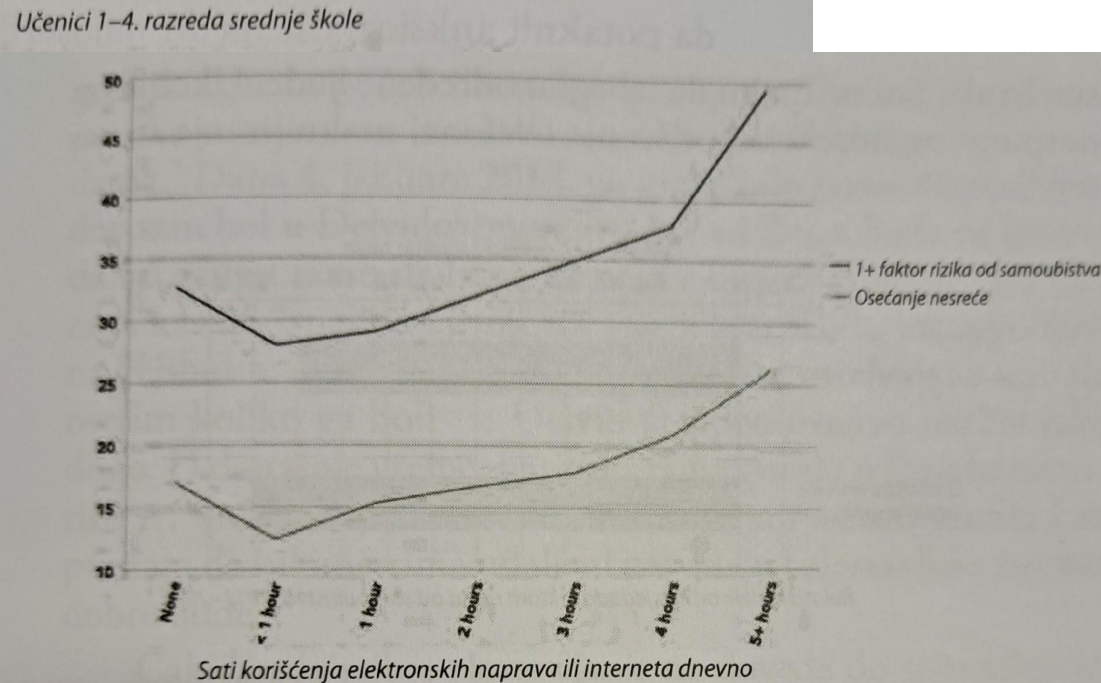
Slika 3.7. Relativni rizik od osećanja usamljenosti na osnovu vremena provedenog u aktivnostima vezanim za ekran (crni stubići) i u onim koje nisu vezane za ekran (sivi stubići) za učenike 2. razreda srednje škole. Praćenje budućnosti, 2009–2015.

iGen: Why Today's Super-Connected Kids Are Growing Up Less Rebellious, More Tolerant, Less Happy - and Completely Unprepared for Adulthood, Jean M. Twenge, 2017. 2/2



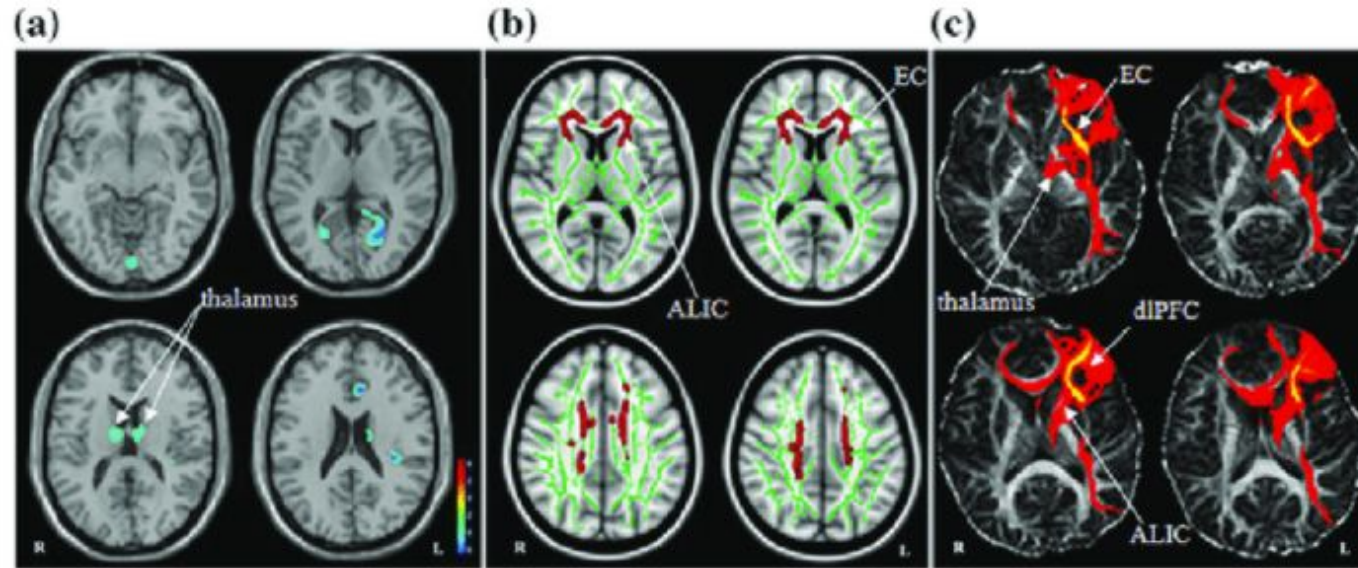
Slika 3.8. Relativni rizik samoubistva na osnovu vremena provedenog na ekranu (crni stubići) i ostalim faktorima koje nisu u pitanju, učenici od 1. do 4. razreda srednje škole, 2009–2015. (Elektronske naprave i video igre.)

Slika 3.9. Relativni rizik samoubistva na osnovu vremena provedenog na ekranu (crni stubići) i ostalim faktorima koje nisu u pitanju, učenici od 1. do 4. razreda srednje škole, 2009–2015. (Elektronske naprave i video igre.)



Slika 3.10. Procenat sa bar jednim faktorom rizika od samoubistva i procenat sa osećajem nesreće po satima provedenim na elektronskim napravama ili na internetu (krivulja izlaganja i reagovanja), učenici srednje škole (Sistem za praćenje rizičnog ponašanja mladih) i učenici 8. razreda osnovne i 2. i 4. srednje škole (Praćenje budućnosti) 2013–2015.

Digitalna demencija, individualna i kolektivna



3 Structural abnormalities associated with Internet addiction disorder (IAD) as revealed by voxel-based morphometry (VBM) and tract-based spatial statistics (TBSS). The data shown in this figure are from the same cohort of subjects reported in the papers by Zhou et al. (2011) and Lin et al. (2012), but analyzed in different ways. Panel a shows the brain regions with significantly ($p < 0.001$, uncorrected; voxel size > 200) decreased gray matter density (GMD) in IAD subjects, as compared to normal controls. In addition to the regions reported in the original VBM paper (Zhou et al. 2011), decreased GMD was found in the left ($-14, -9, 19$; 822 voxels) and right ($10, -7, 14$; 962 voxels) anterior thalamus. Please note that a different statistical threshold ($p < 0.05$, with FDR correction) was used in the original paper (Zhou et al. 2011). Panel b shows the white matter (WM) tracts with abnormal microstructural integrity in IAD subjects. This figure is adapted from 1 of the original DTI paper (Lin et al. 2012). Panel c shows the results of probabilistic tractography using the segment of external capsule (EC) showing IAD-related FA reduction as the seed. Interestingly, the IAD-related atrophic brain regions revealed by VBM are interconnected via WM tracts showing compromised microstructural integrity. For example, the atrophic thalamus and insula are interconnected to dorsolateral prefrontal cortex (dlPFC) via EC and anterior limb of the internal capsule (ALIC)

Lin, Fuchun & Lei, Hao. (2017). Structural Brain Imaging and Internet Addiction.
10.1007/978-3-319-46276-9_3.

Bez osjećajnosti, agresija, zlostavljanje



Emotivna objava Lane Jurčević: "Otvorila sam TikTok i ostala u šoku što su mi pisala djeca od 9 godina"

Dječak iz Zagreba objesio se zbog planetarno popularne igrice: 'Rekao mi je da postaje čudna i pomalo zastrašujuća'

DRUŠTVENI MREŽI

Zbog cyberbullyinga izgubila je kćer, a sad želi spriječiti da se to dogodi nekome drugome

Prevare i iskorištavanj a





Izazovi



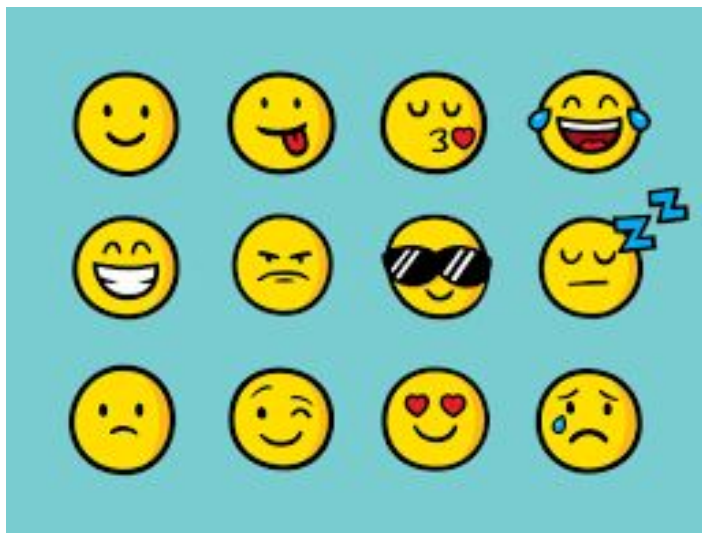
Vrijednosti i imperativi

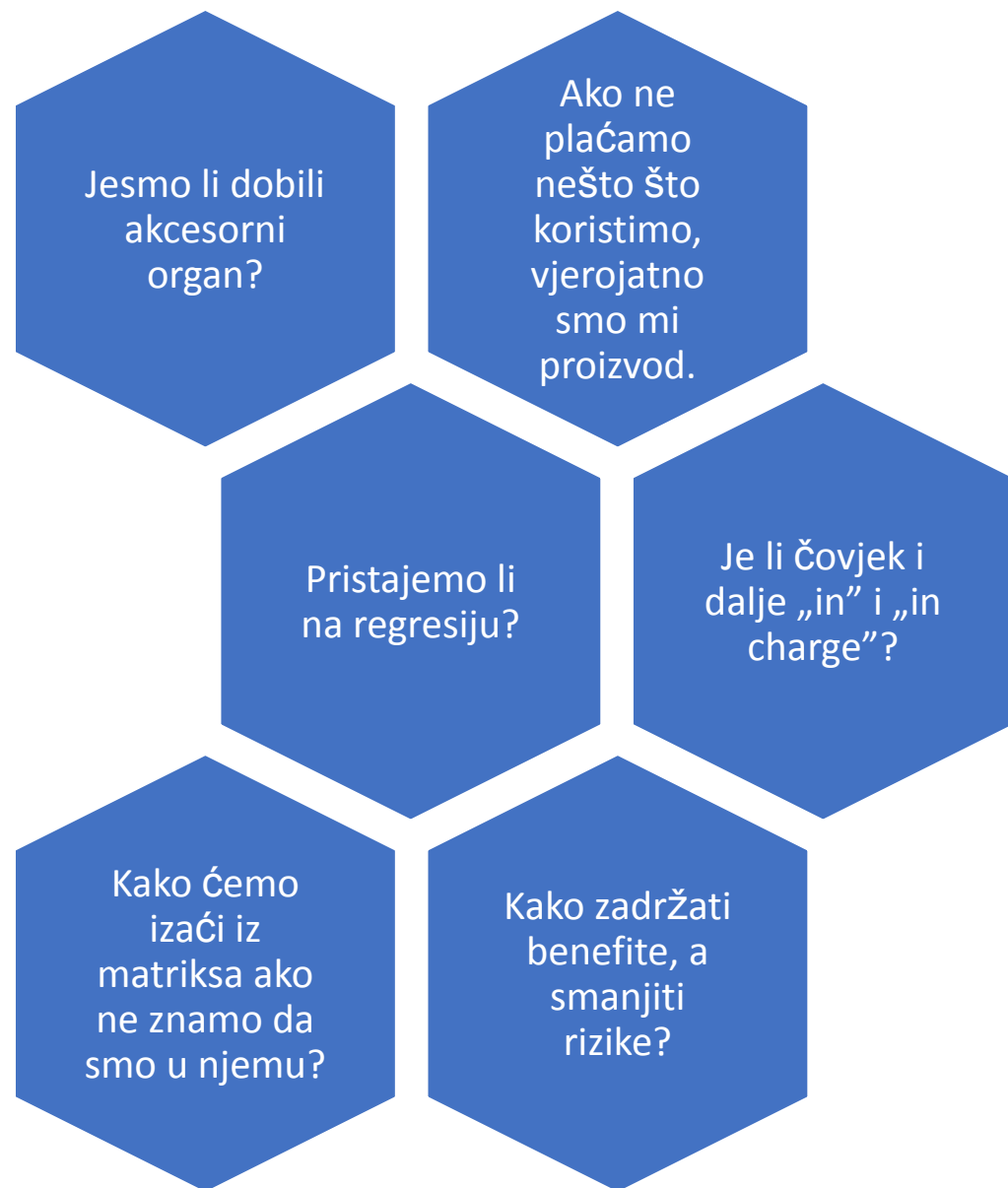


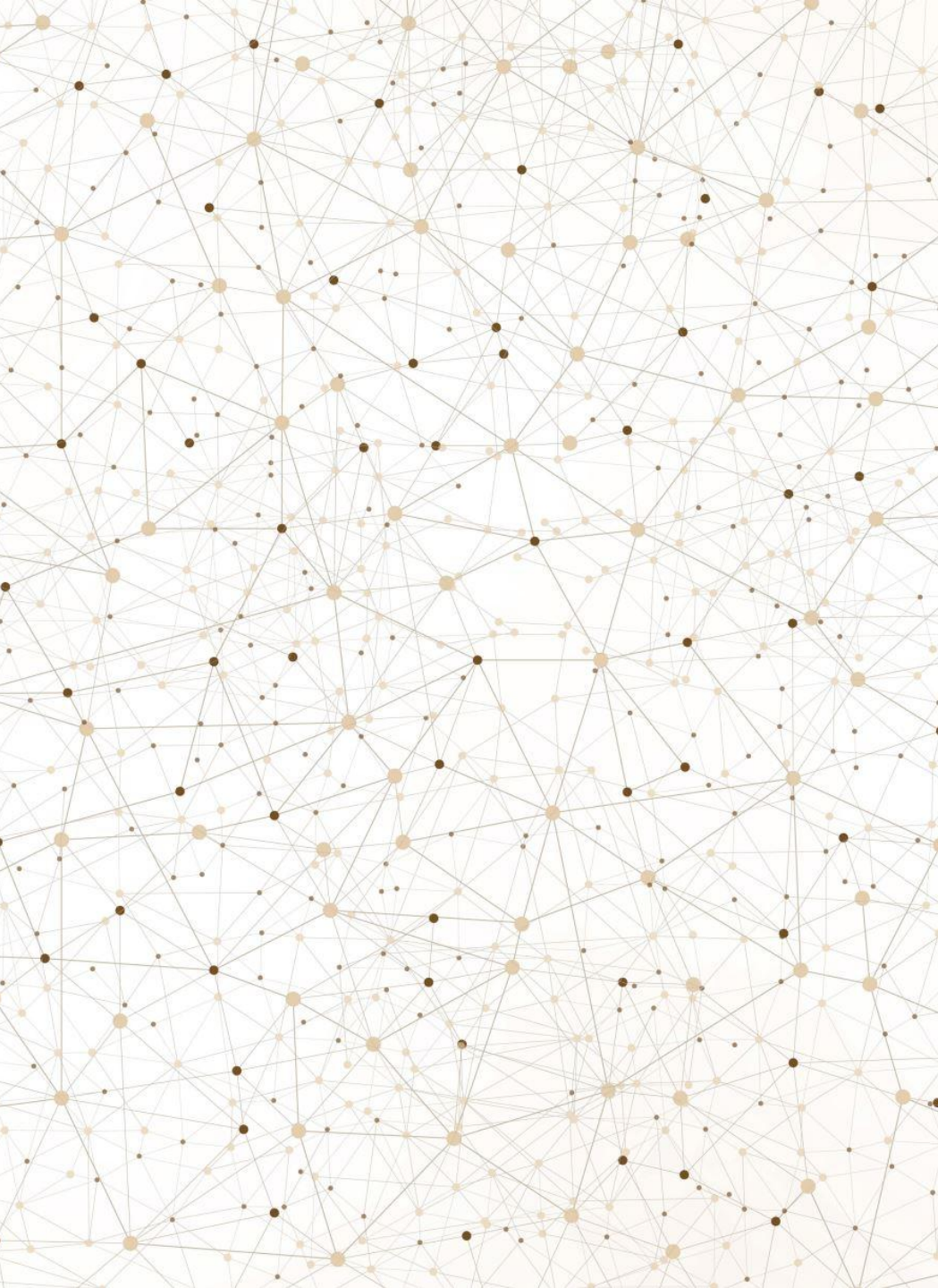
BEFORE



Znanje i komunikacija







Klinika za
psihijatriju
Sveti Ivan
Zagreb

Hvala na pozornosti!

irena.rojnic@pbsvi.hr

irojnicpalavra@gmail.com