

GAP E NUOVE TECNOLOGIE

 Consiglio Nazionale delle Ricerche
ISTITUTO DI NEUROSCIENZE 



Gioco d'Azzardo Patologico-GAP
dalla Neurobiologia Sperimentale alla Clinica
Bologna, giovedì 26 Gennaio 2017
Aula MURRI, Polo Murri, Policlinico di S. Orsola
Via Massarenti, 9



Iniziativa promossa
nell'ambito del progetto NeuroGAP
finanziato dal Dipartimento Politiche Antidroga
della Presidenza del Consiglio dei Ministri

Con il patrocinio di



Roberto Mollica

Sistema Socio Sanitario
 Regione
Lombardia
ATS Milano
Città Metropolitana



**Progetto NeuroGAP - Formazione
itinerante sulle basi neuroscientifiche
del gioco d'azzardo patologico**

Data pubblicazione 18 novembre 2016

Linked in

**Progetto Neurogap
Bologna, 26 gennaio 2017**

GENERAL FRAMEWORK

Il gioco d'azzardo sta suscitando attenzioni da più portatori di interesse a causa della sua penetrazione sociale particolarmente progressiva ed evidente in questi ultimi anni.

Gli interessi finanziari di natura economica, industriale e fiscale, sono noti e cospicui ma confliggono con l'ipotesi di generare danni da cui derivano costi sociali realistici ma di entità presunta e non definita, e quindi spesso poco misurabili.

I soggetti più giovani e minorenni, per i quali il gioco è vietato, risultano essere per contro i giocatori più assidui sia per numerosità che per frequenza di gioco. Questo deriva da una ancora incompleta maturità cerebrale che ne condiziona i processi decisionali logici a favore dell'adozione di comportamenti istintivi più inclini a prendere rischi.

In uno scenario dominato dalla assenza di elementi tra loro comparabili (benefici economico/finanziari sociali vs. costi sociali) è comunque preferibile e necessario assumere un atteggiamento conservativo e adottare soluzioni, anche tecnologicamente avanzate, a supporto della tutela dall'esplicitarsi di un danno socio-sanitario.

Agenda



I dati del gioco
d'azzardo



La quarta rivoluzione
industriale



Soluzioni tecnologiche



Conclusioni

Agenda



I dati del gioco
d'azzardo



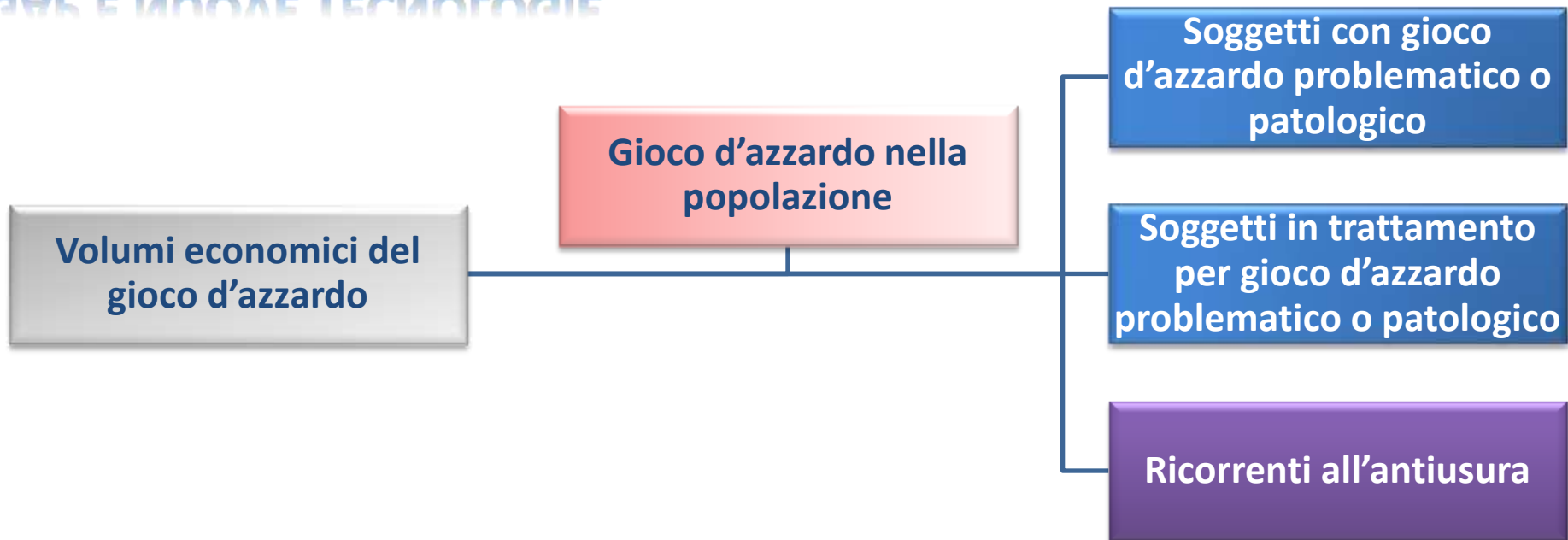
La quarta rivoluzione
industriale



Soluzioni tecnologiche



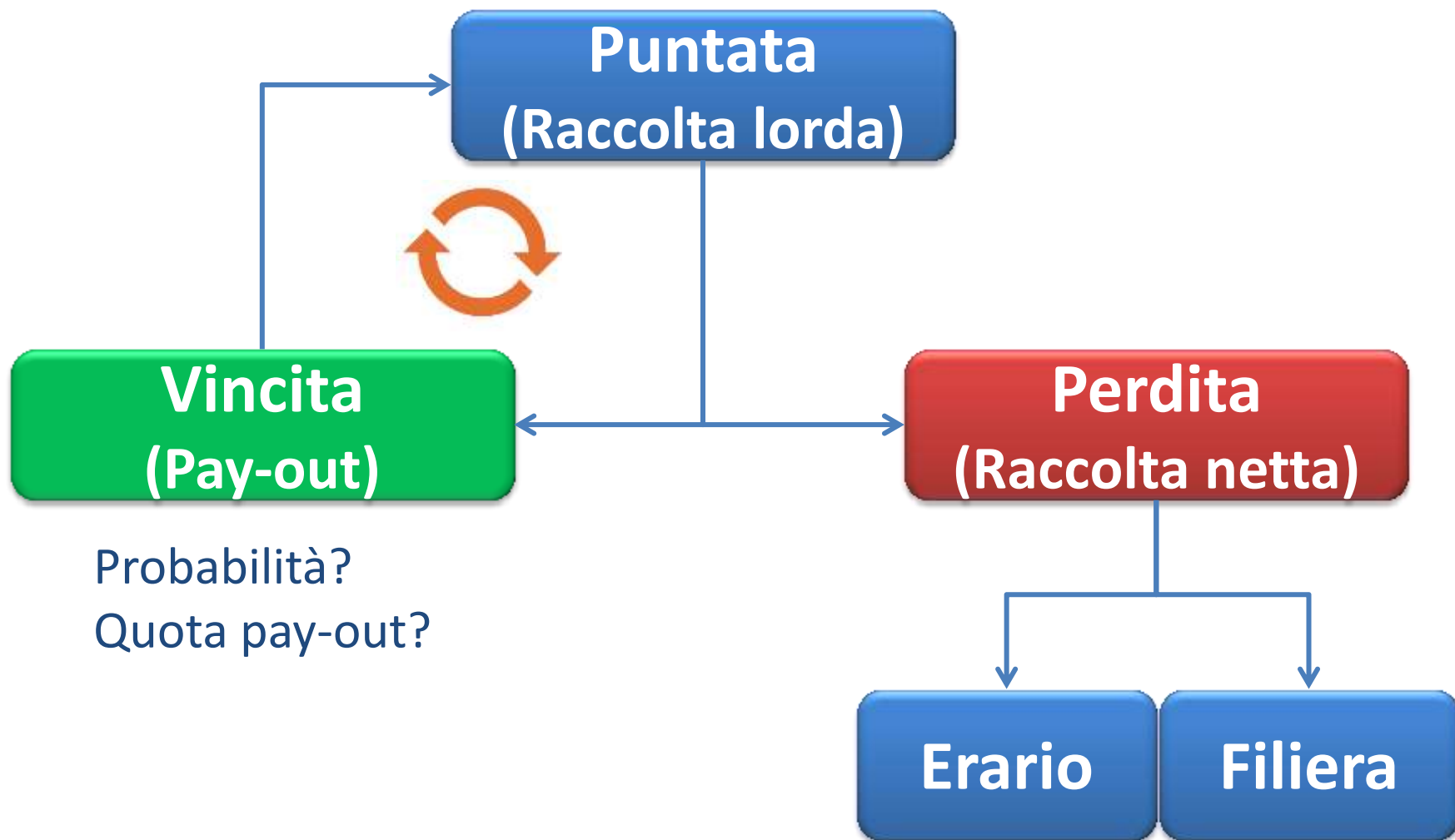
Conclusioni

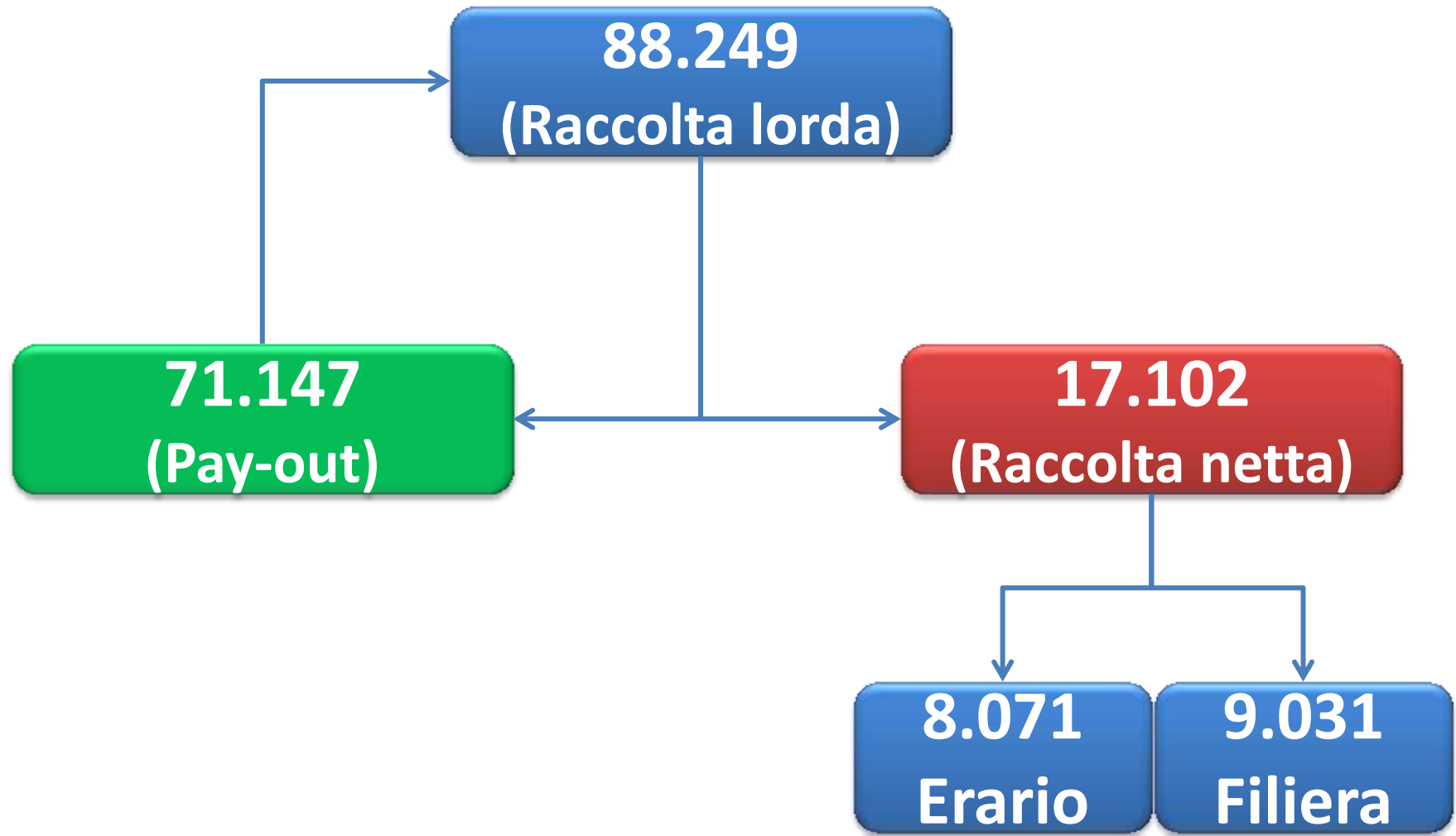


DATA IS POWER

HOW INFORMATION
IS DRIVING THE FUTURE









concorso TURISTA PER 10 ANNI		
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408	500	204.000,00
4284	100	428.400,00
112200	50	5.610.000,00
2350080	10	23.500.800,00
2937600	5	14.688.000,00
7822600	2	15.645.200,00
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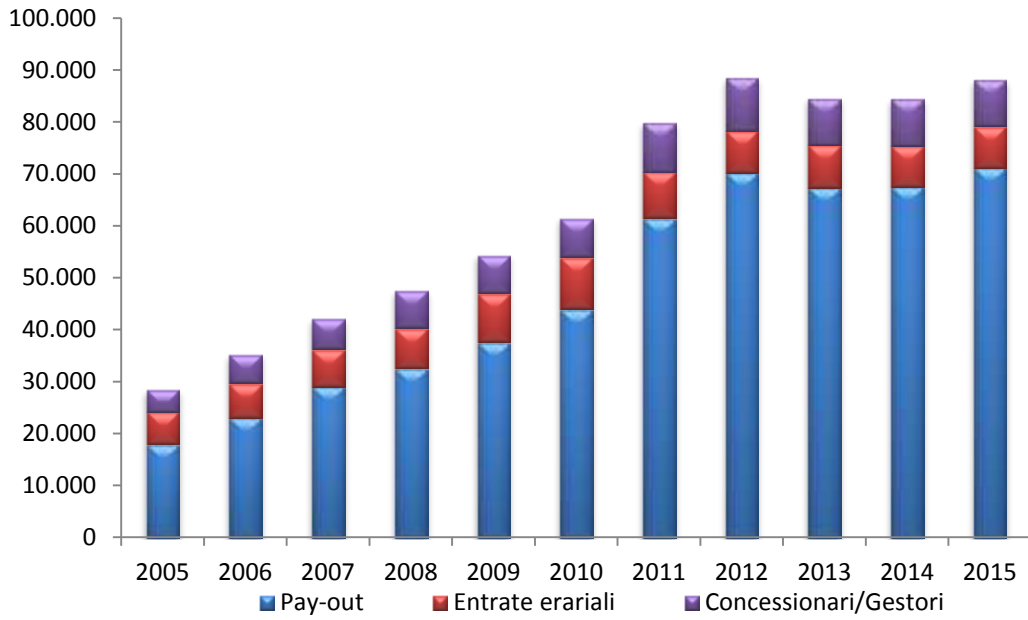
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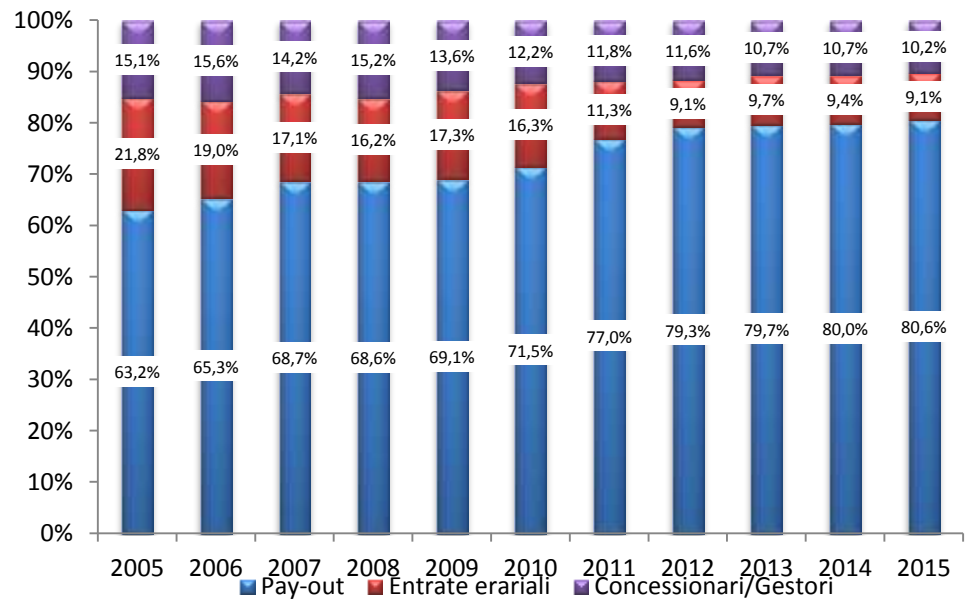


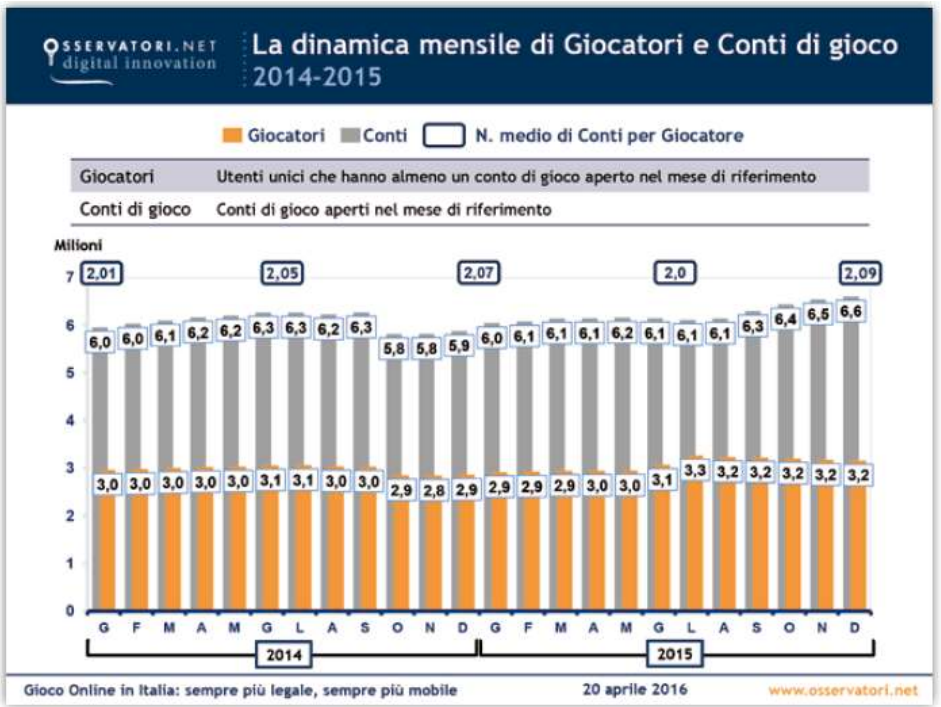
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888casino.it

**RICEVI 88
GIOCA TE GRATIS
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500€
BONUS DI BENVENUTO**

[Scarica Ora](#) [Gioca Online](#)



Il gioco con vincita è vietato ai minori di 18 anni e può causare dipendenza. Consulta probabilità di vincita su www.aams.gov.it

ENTRATE TRIBUTARIE GIOCHI SU DEL 13,8 PERCENTO NEL PRIMO TRIMESTRE 2016

Categoria principale: Gioco e Politica Creato Giovedì, 05 Maggio 2016 15:43 Data pubblicazione Scritto da Redazione

Monitoraggio attività anti frode



Il gioco nella popolazione
rilevazione tramite indagini
campionarie



Campioni rappresentativi di

- popolazione generale (18-64)
- popolazione studentesca (15-19)

Questionario standard

Stimano la prevalenza del consumo

- nella vita
- nell'ultimo anno
- nell'ultimo mese

Stimano la percentuale di soggetti

- giocatori sociali
- giocatori problematici
- giocatori patologici



Indagine demoscopica ISS (3.000 soggetti)

Quale dei seguenti è un gioco d'azzardo?



Sì

Poker 81

Videopoker 79

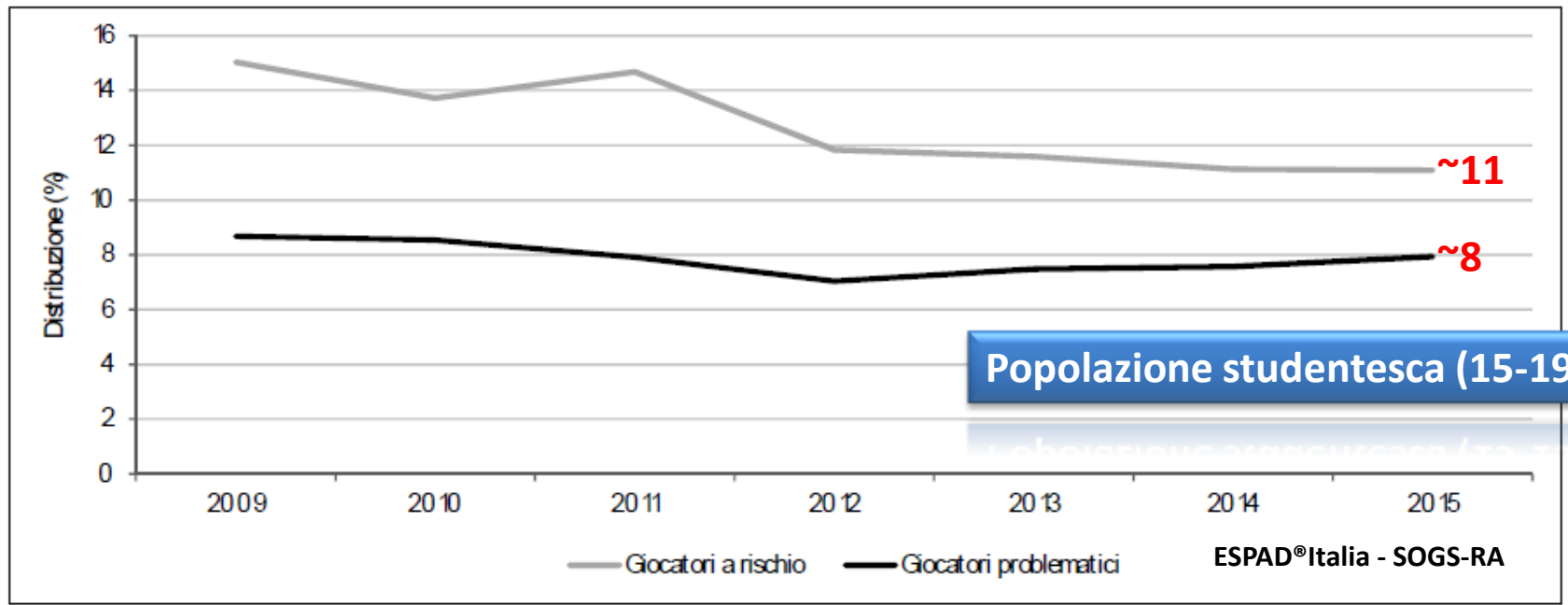
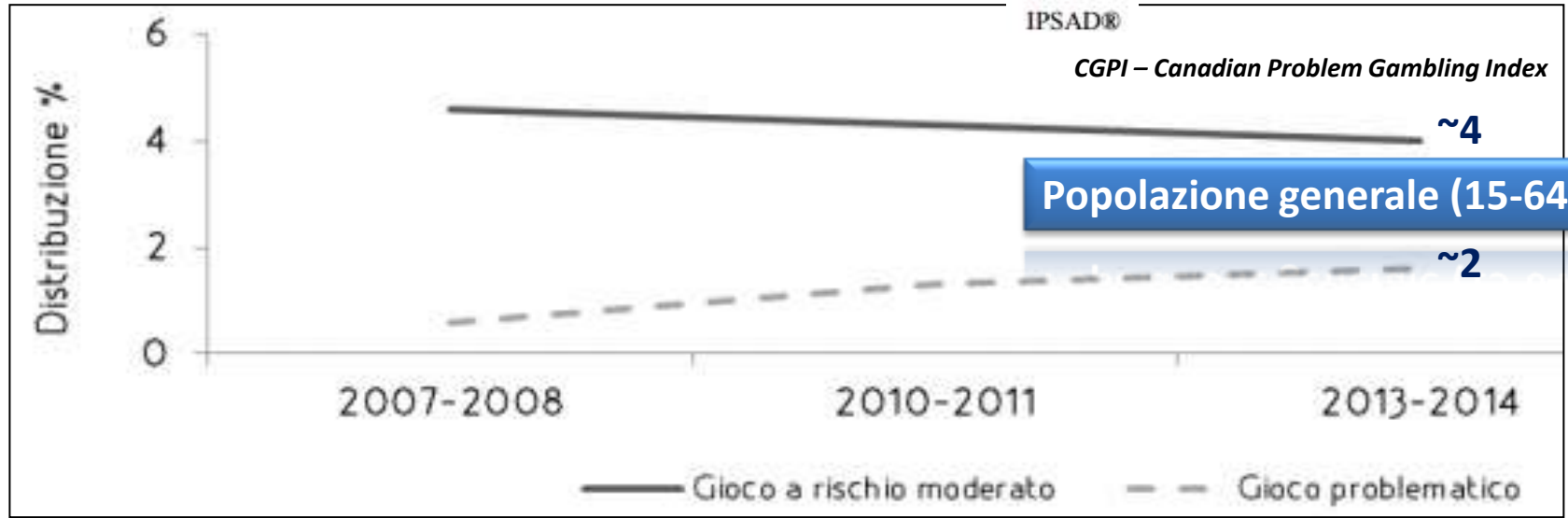


No

Gratta e Vinci 56

Lotto 54

Win for life 51



IL GIOCO E' VIETATO
AI MINORI DI 18 ANNI



Popolazione studentesca 15-19 anni

a) Gioco a rischio



b) Gioco problematico

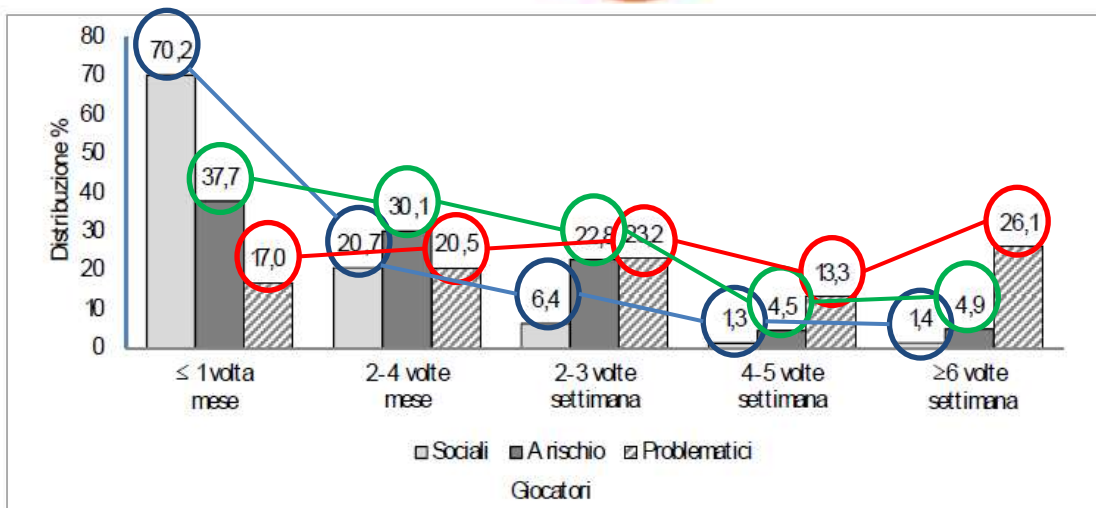


Distribuzione percentuale degli studenti italiani che hanno giocato d'azzardo nell'ultimo anno e che hanno un profilo di gioco definibile a rischio e problematico. ESPAD®Italia 2015

IL GIOCO E' VIETATO
AI MINORI DI 18 ANNI



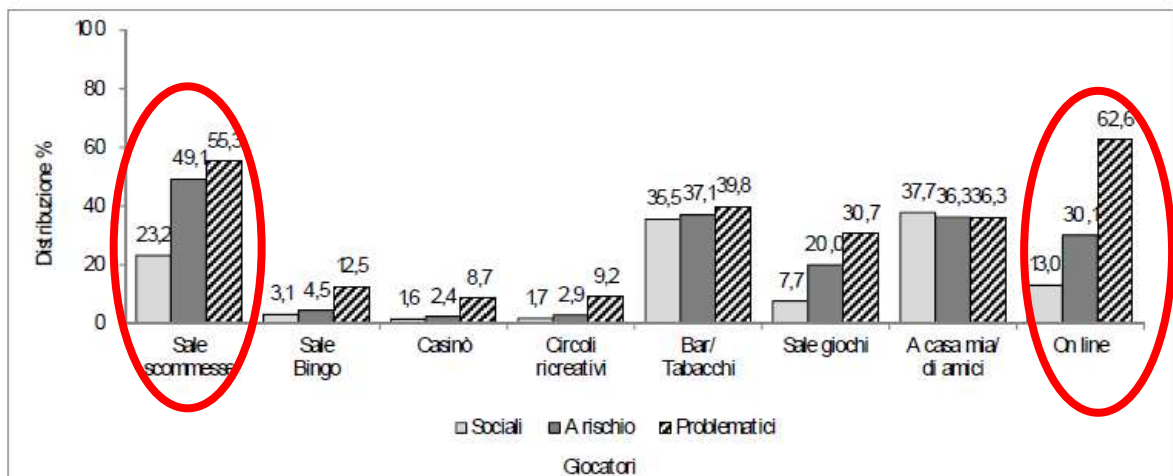
Popolazione studentesca 15-19 anni



Frequenza di gioco

Problematici
A rischio
Sociali

Contesti di gioco

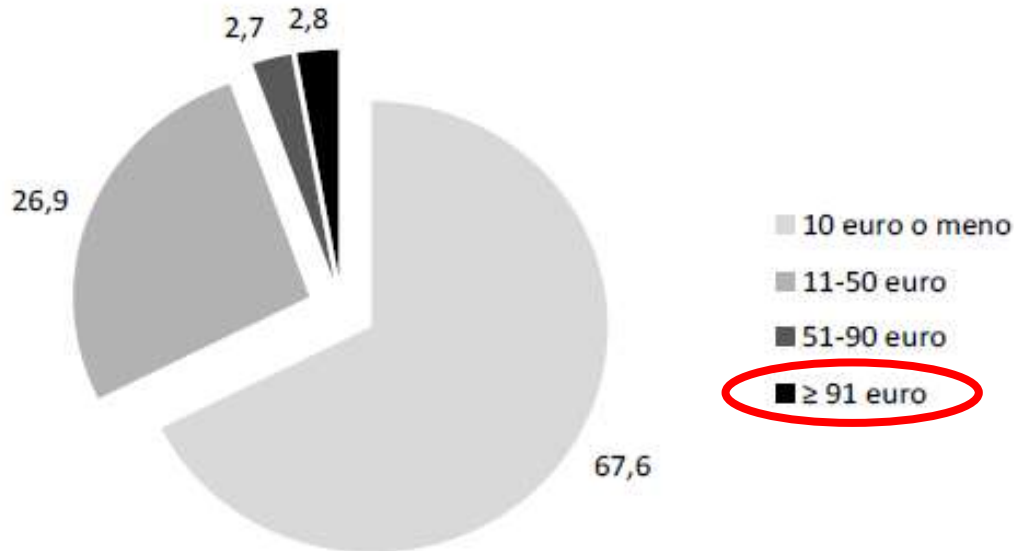


IL GIOCO E' VIETATO
AI MINORI DI 18 ANNI

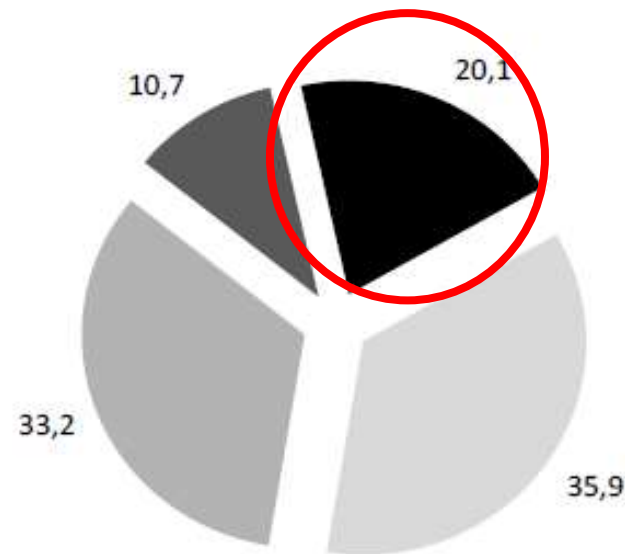


Popolazione studentesca 15-19 anni

a) Giocatori a rischio



b) Giocatori problematico



Spesa sostenuta nell'ultimo mese dagli studenti che hanno giocato d'azzardo durante l'anno secondo il profilo di gioco. ESPAD®Italia 2015

IL GIOCO E' VIETATO
AI MINORI DI 18 ANNI



Popolazione studentesca 15-19 anni

Non giocatore (=1)

Giocatore sociale

Giocatore a rischio

Giocatore problematico

Essere un forte fumatore quotidiano (≥ 10 sig/die)	1.41	n.s.	3.02
Aver usato droghe sconosciute	1.43	n.s.	10.38
Aver usato almeno una sostanza illegale nell'anno (esclusa cannabis)	n.s.	1.87	6.54
Aver rubato qualcosa del valore di >10 euro	1.94	2.18	5.66
Aver venduto oggetti rubati	1.40	2.28	10.7
Aver perso 3 o più giorni di scuola senza motivo	1.19	1.68	3.33
Trascorrere più di 2 ore in un giorno infrasettimanale a fare giochi di abilità on line	n.s.	n.s.	8.86
Avere amici che giocano d'azzardo	2.63	2.21.	2.46
Ritenere che chi gioca d'azzardo ≥ 1 volte/settimana ha un grado di rischio moderato/elevato di danneggiarsi	n.s.	0.73	0.35

Associazione delle caratteristiche degli studenti con profilo di giocatore sociale (vs. non giocatore), a rischio e problematico (vs. giocatore sociale) - OR adjusted. ESPAD®Italia 2015

IL GIOCO E' VIETATO
AI MINORI DI 18 ANNI



Popolazione studentesca 15-19 anni

GIOCO PROBLEMATICO

- NORD 8,1%
- CENTRO 9,8%
- SUD 13,0%

GIOCO PROBLEMATICO

- FISICO 24%
- ON-LINE 31%



SPESA SETTIMANALE

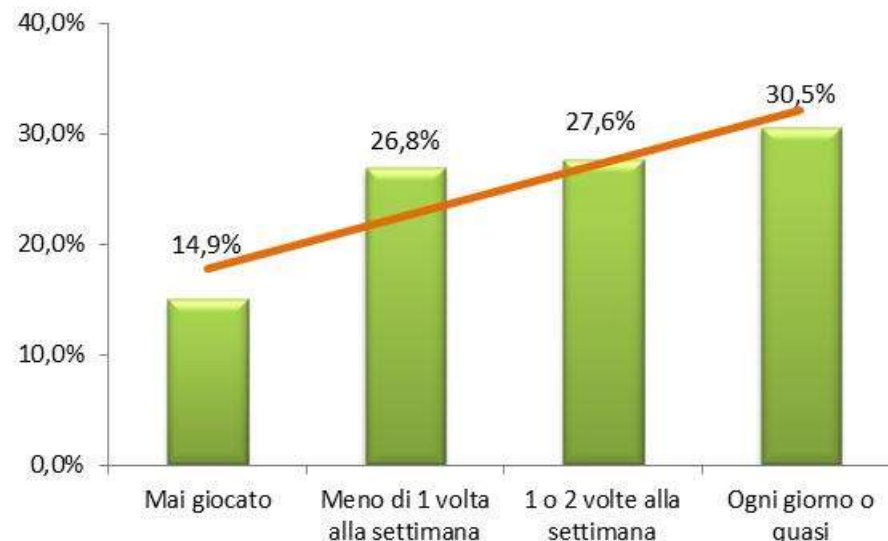
- MEDIA 24€
- PROBLEMATICI 31€

Giovani e gioco d'azzardo – Young Millenials Monitor (Nomisma) 23.01.2017



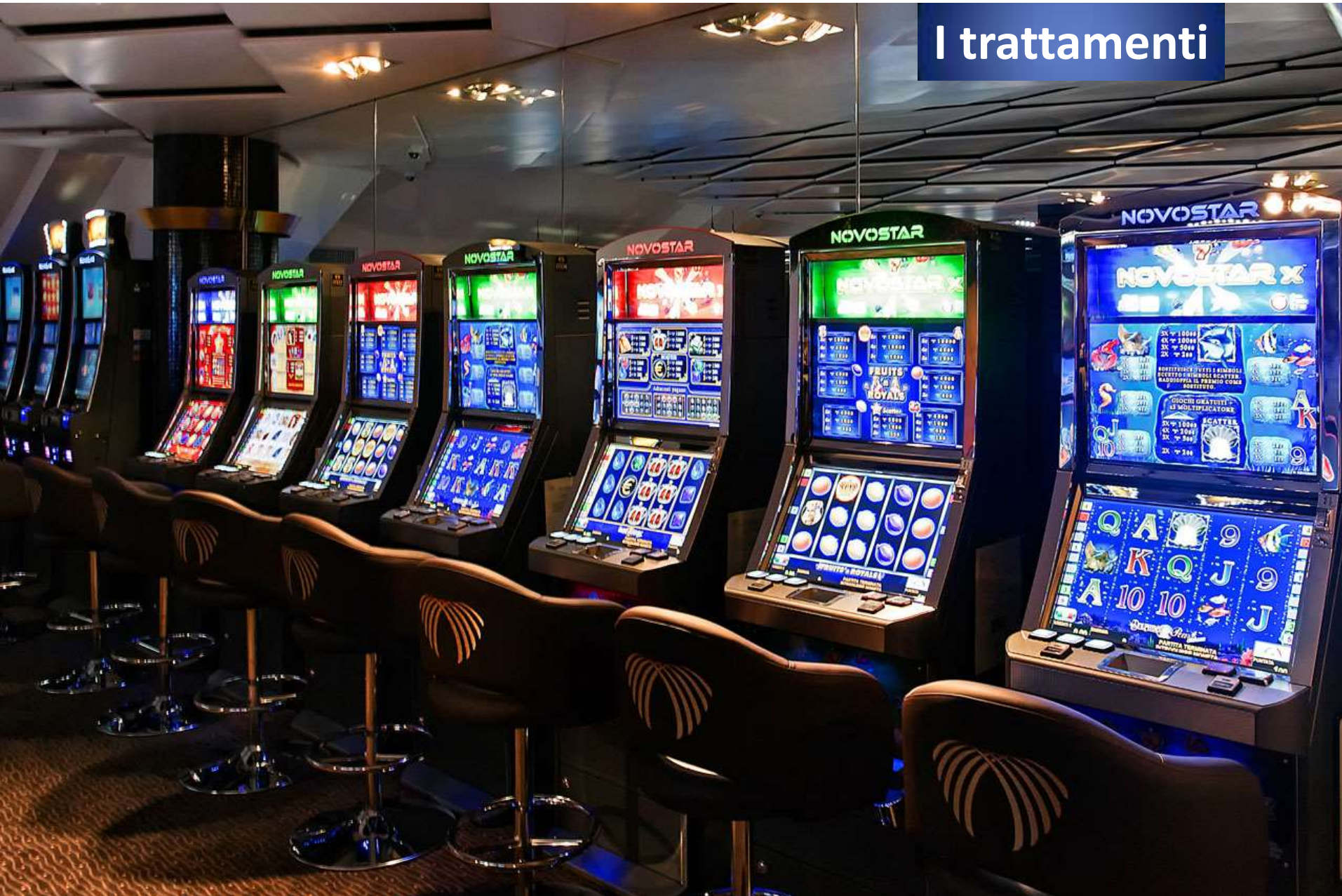
Popolazione Generale 18-64 anni (GPS-DPA 2012)

Forte associazione con altre forme di disturbi da dipendenza



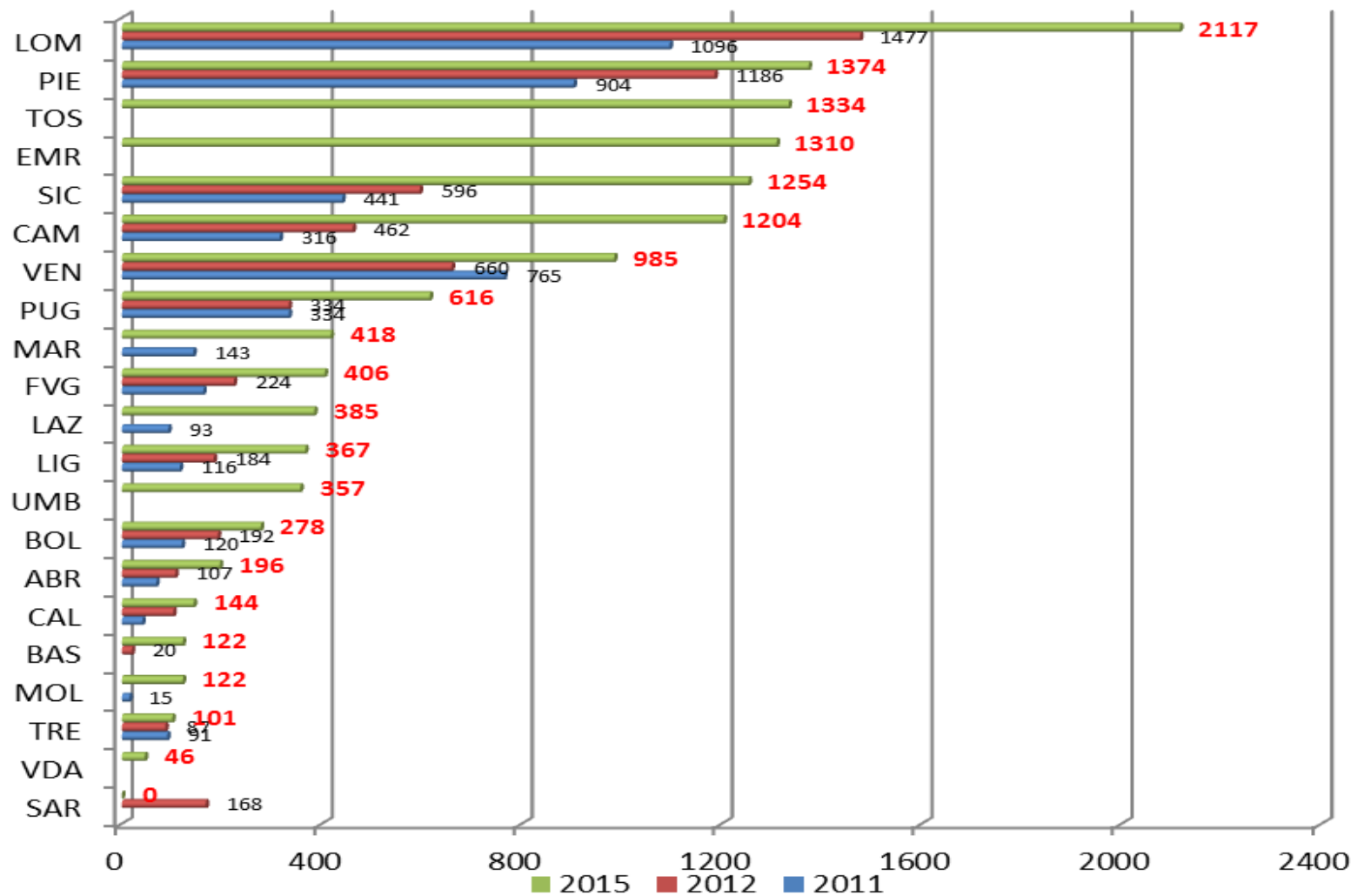
Popolazione Studentesca 15-19 anni (SPS-DPA 2013)

I trattamenti



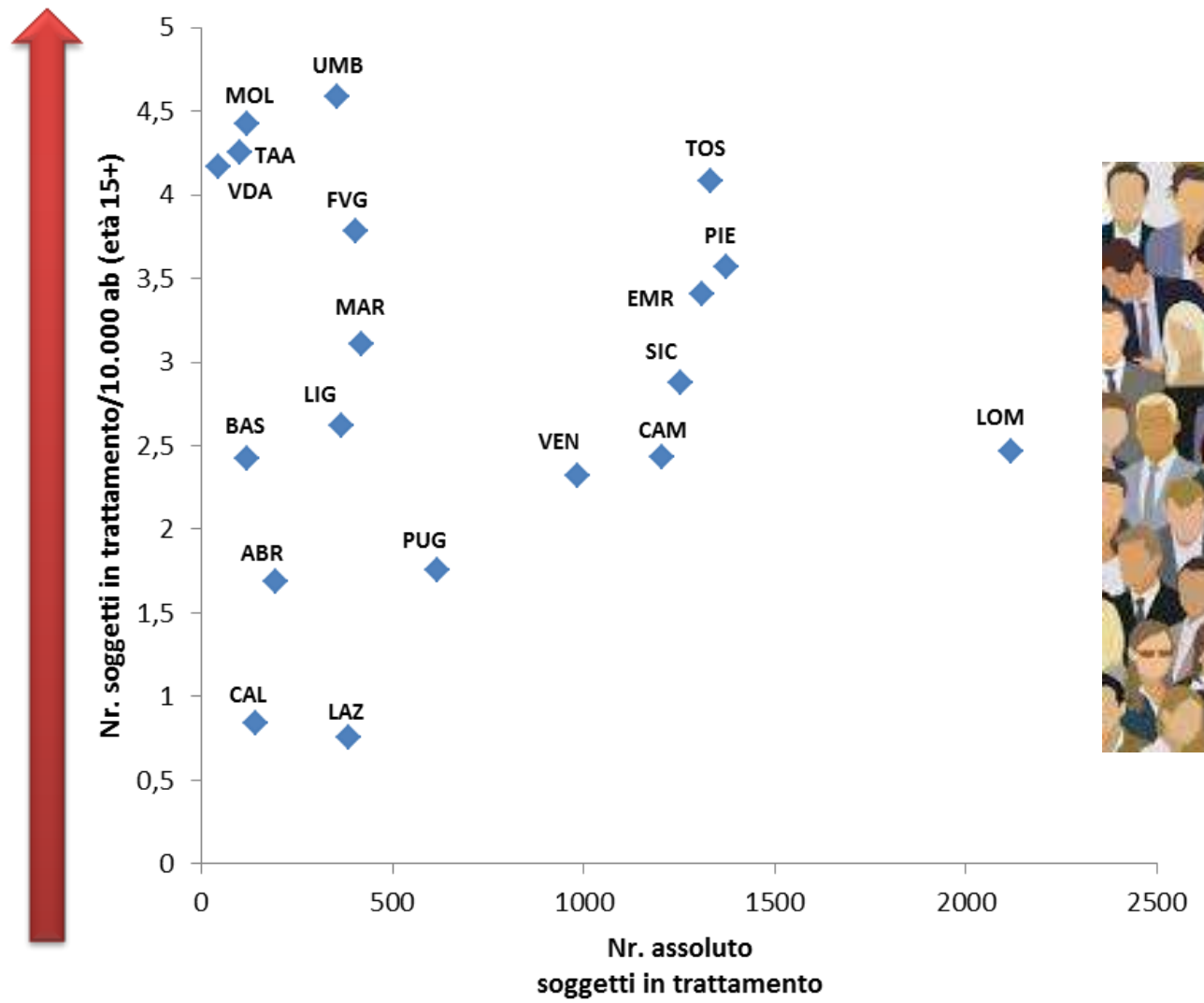


Soggetti in trattamento per gioco patologico



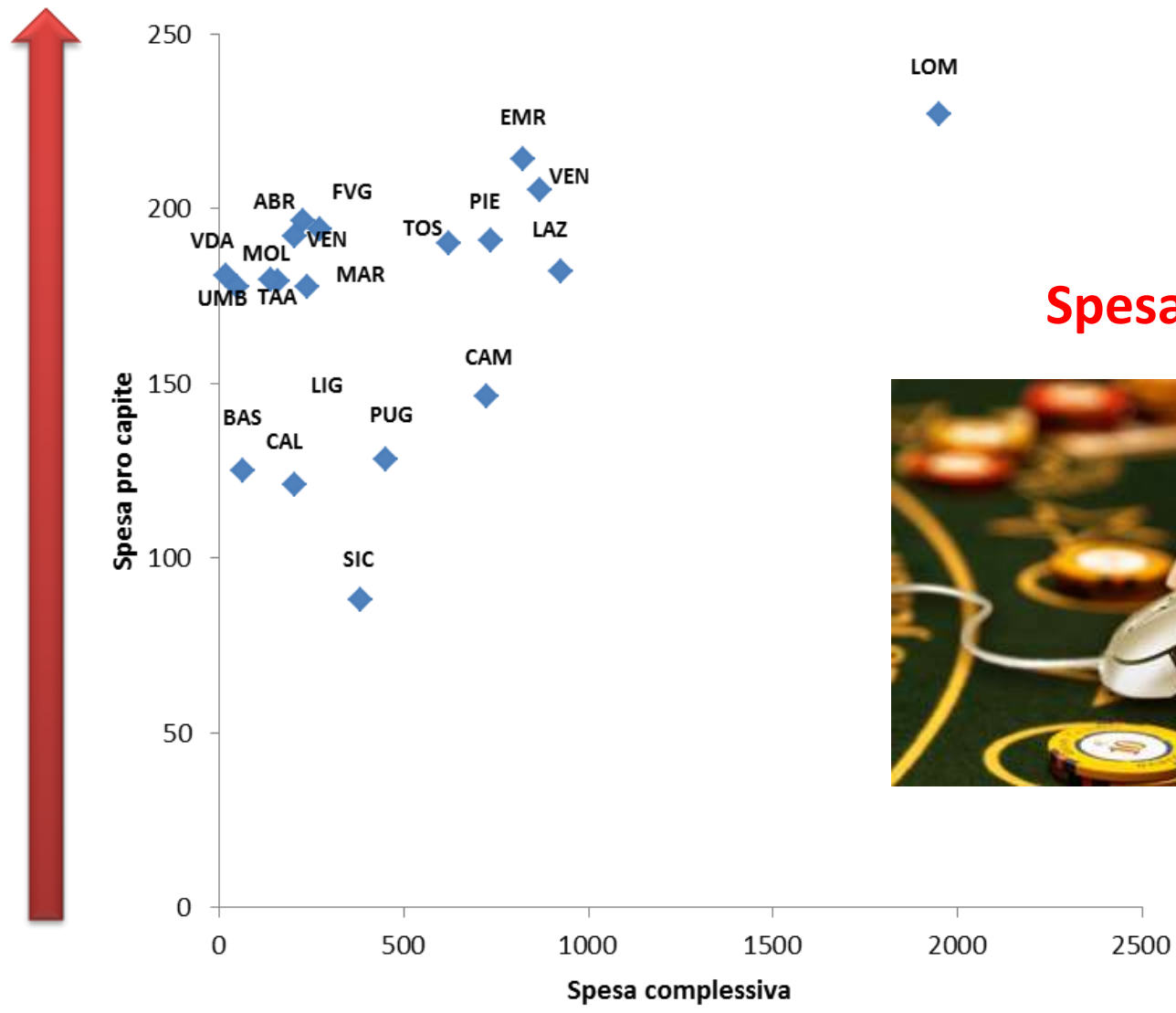


Nr. Soggetti in trattamento vs. popolazione di riferimento





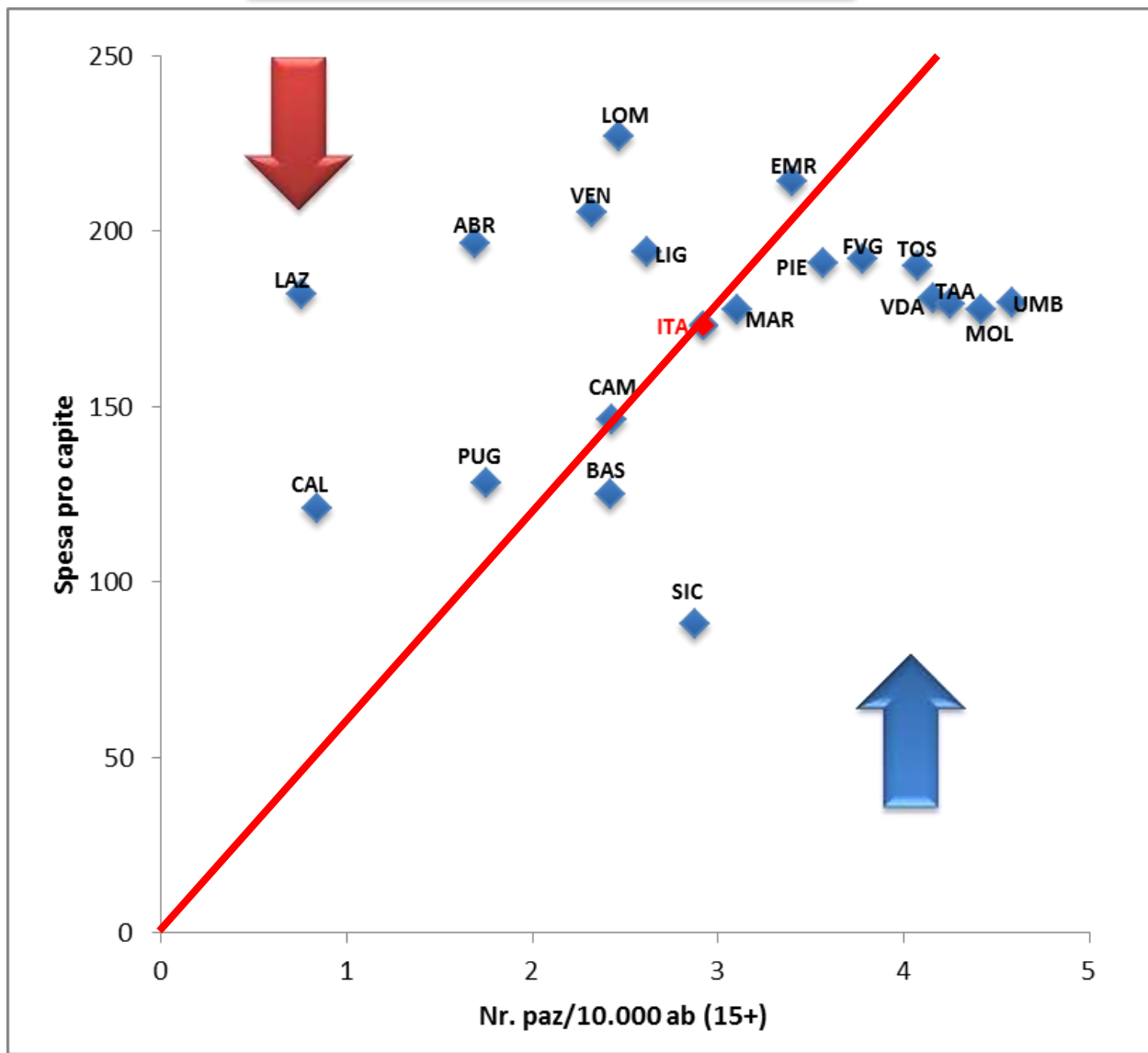
Spesa complessiva vs. spesa pro capite



Spesa ~ Problematicità?



Indice indiretto di efficienza





Social costs?
Which balance?

Good decision come from
experience and experience
comes from bad decisions.

- Unknown

Interessi di mercato e
finanza pubblica



FILIERA
~10 mld €

ERARIO
~8 mld €

Prevenzione, cura,
riabilitazione,
criminalità, usura,
polidipendenza



COSTI SOCIALI

- Diretti
- Indiretti
- Tangibili
- Intangibili

Dati incerti o assenti
su stime di:

- Numero giocatori
- Impatto patologia
- Danno sociale

Agenda



I dati del gioco
d'azzardo



La quarta rivoluzione
industriale



Soluzioni tecnologiche

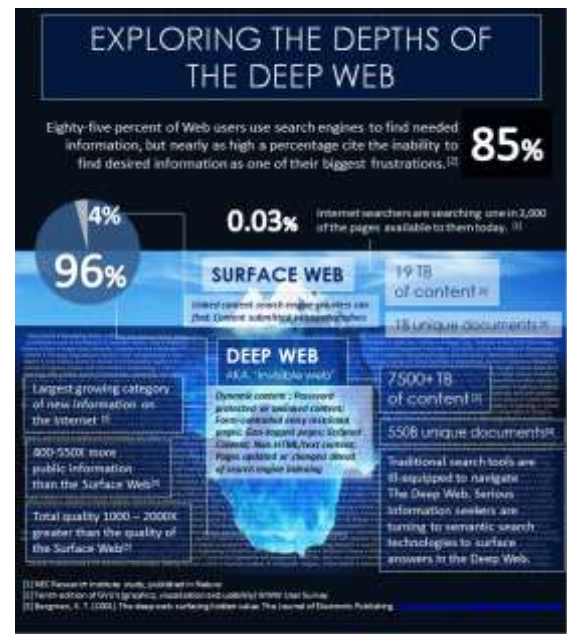


Conclusioni

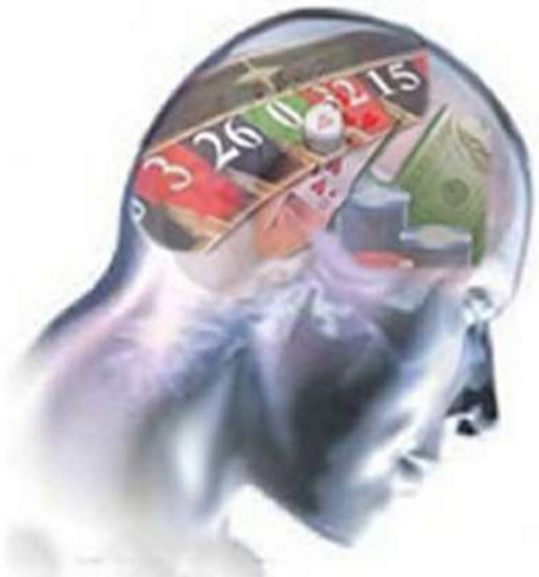
GAP E NUOVE TECNOLOGIE



Threats or opportunities?



<http://www.inventionmachine.com/DeepWeb> InventionMachine

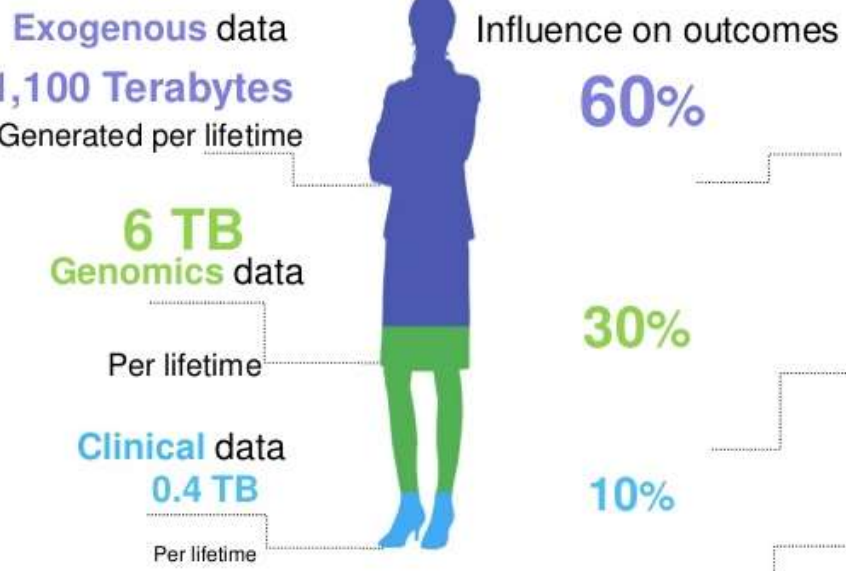
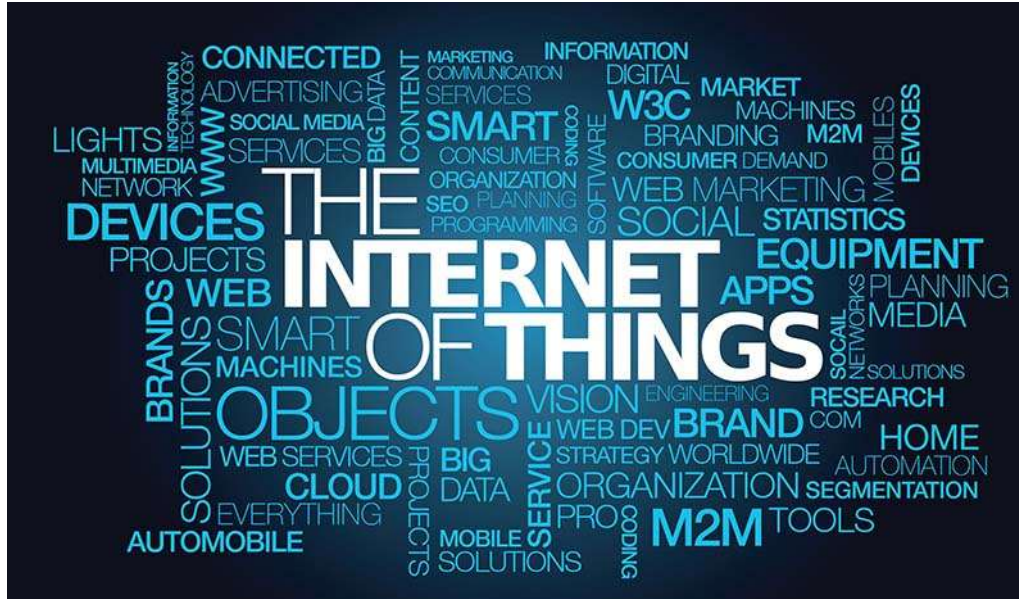


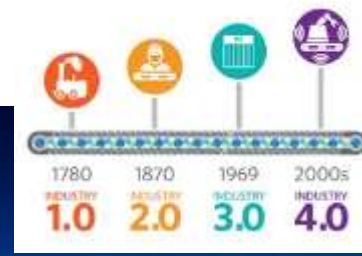
GAP E NUOVE TECNOLOGIE

Nuovo contesto



High impact of technologies on real life



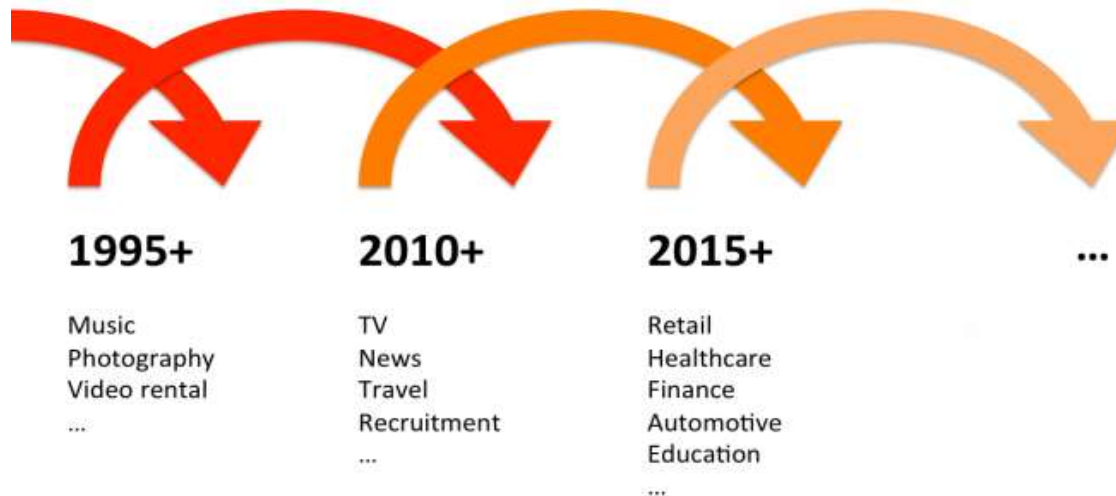


DIGITALIZATION MEANS LESS

**PLACELESS
TIMELESS
SIZELESS
RESOURCELESS
STRUCTURELESS**

Disruption

Waves of **Digital Disruption**



DearMedia,
Digital Strategies and Innovation

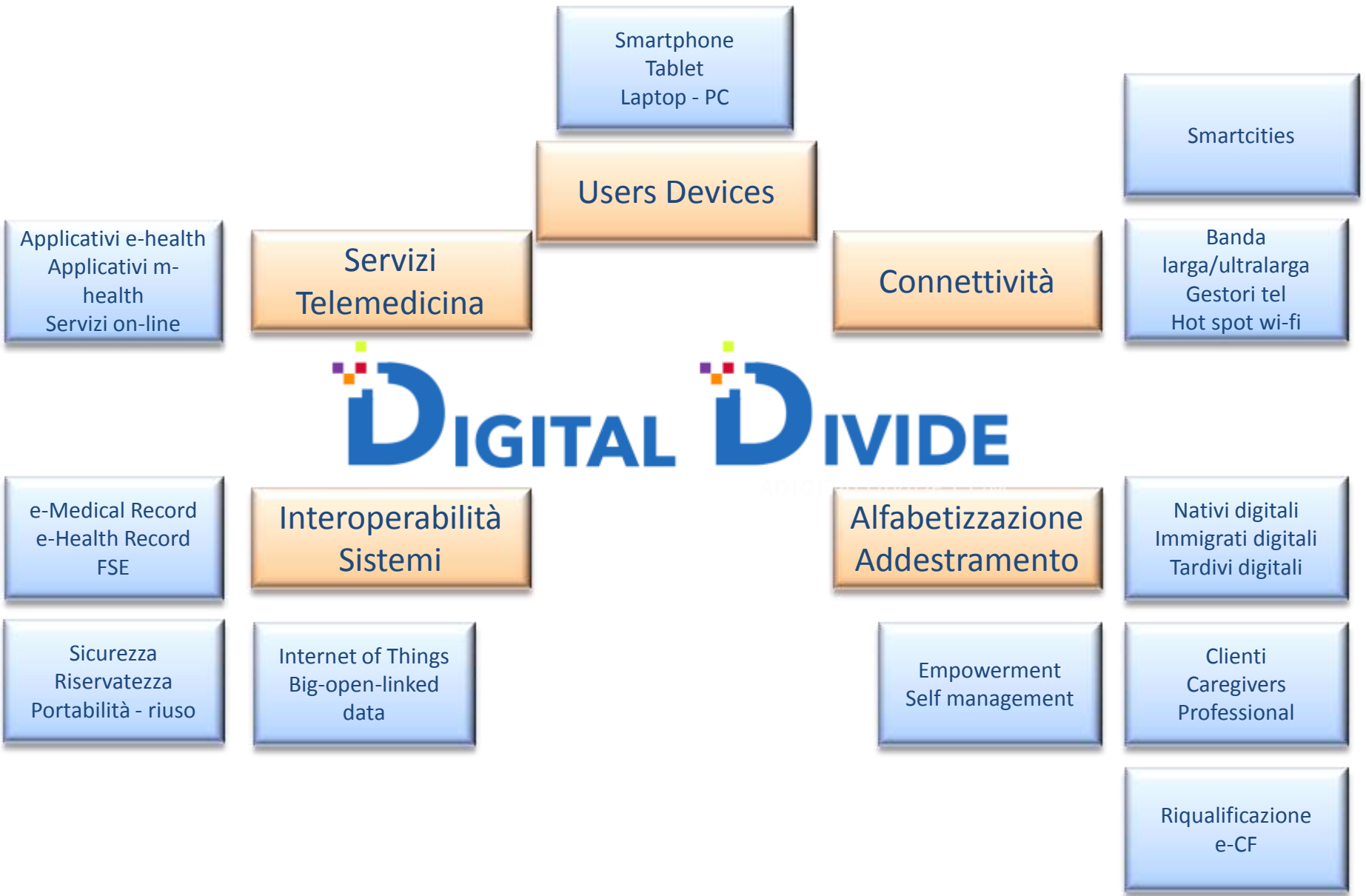


DIGITAL disruption



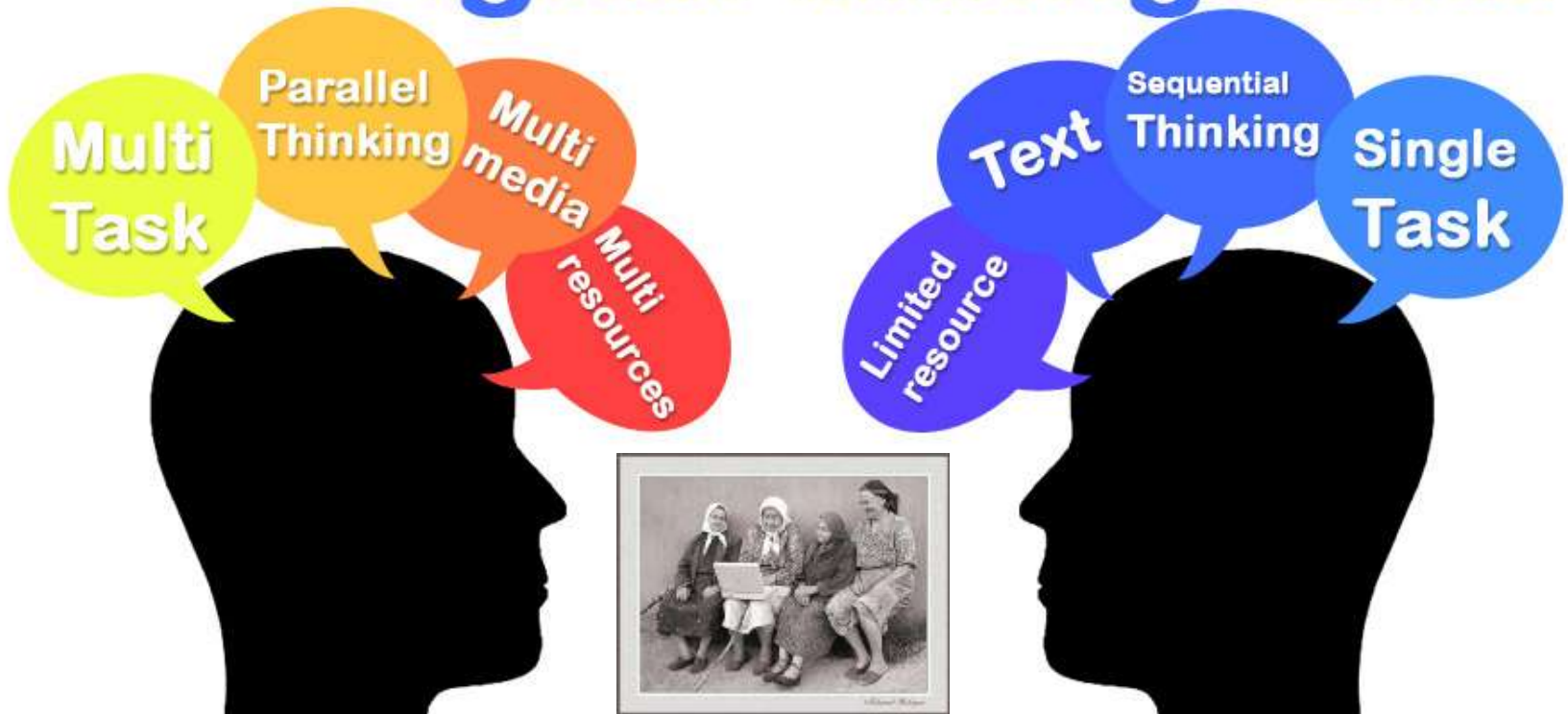
DIGITAL DIVIDE

GAP E NUOVE TECNOLOGIE



Digital Native

Digital Immigrants



<http://thesocialmedia.wordpress.com/> <http://thesocialmediatraine.wordpress.com/> <http://thesocialmediatraine.wordpress.com/>

Pupils are digital and they will need different approaches

Targeting

New

Patient Engagement





IL GIOCO È VIETATO AI MINORI DI 18 ANNI.
GIOCARRE TROPPO PUÒ CAUSARE DIPENDENZA

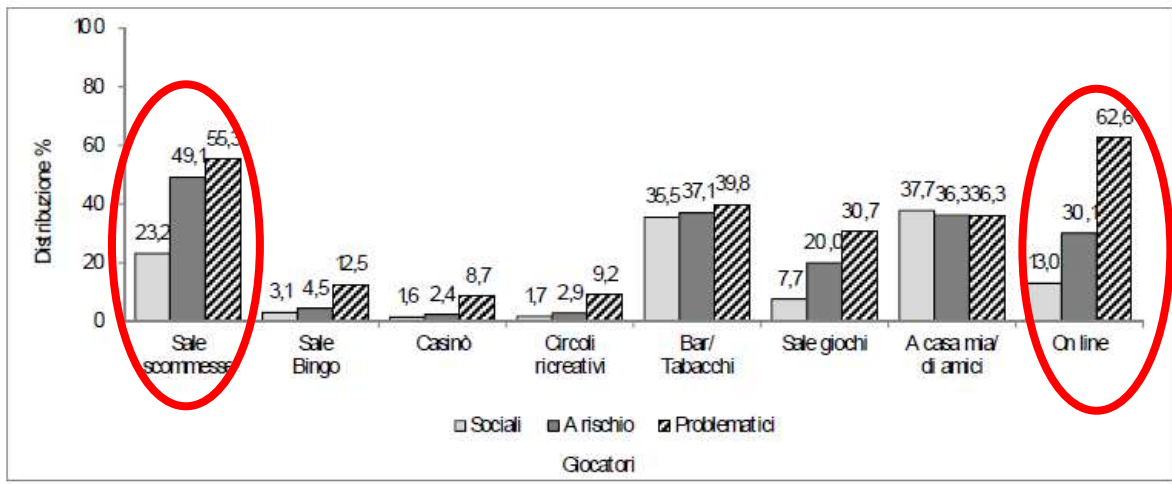
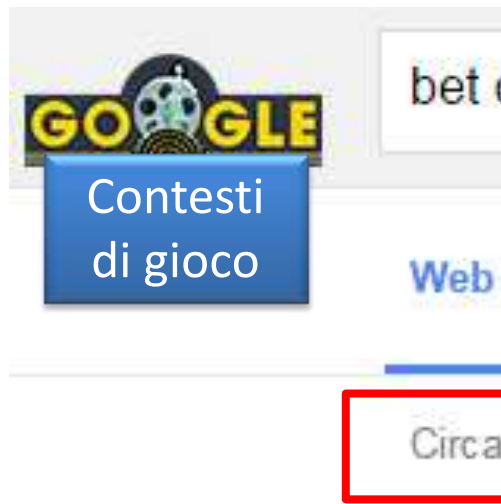


Gioca responsabilmente e' come dire:

- annega con cautela
- sparati con prudenza!!!
- buttati dalla finestra ma copriti che fa freddo!!!



Nuovo scenario



Per contrastare il gioco d'azzardo di massa, per informare su leggi e normative, per promuovere la cultura del buon gioco

scarica il manifesto
aderisci

[\[Home\]](#)
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[\[Il manifesto\]](#)
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Normative su limitazioni in luoghi fisici. E la rete?

Agenda



I dati del gioco
d'azzardo



La quarta rivoluzione
industriale



Soluzioni tecnologiche



Conclusioni

TREATMENT
AS
USUAL



TECHNO
CARE
SOLUTIONS

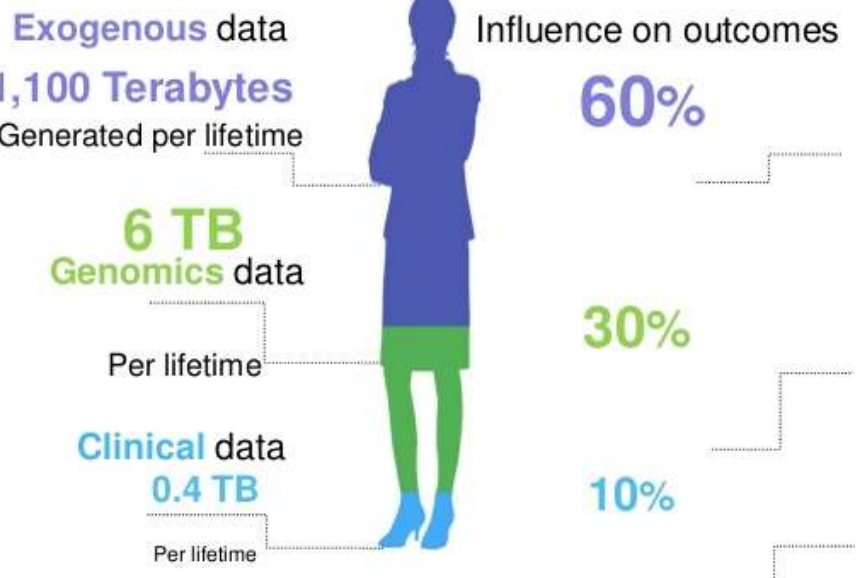
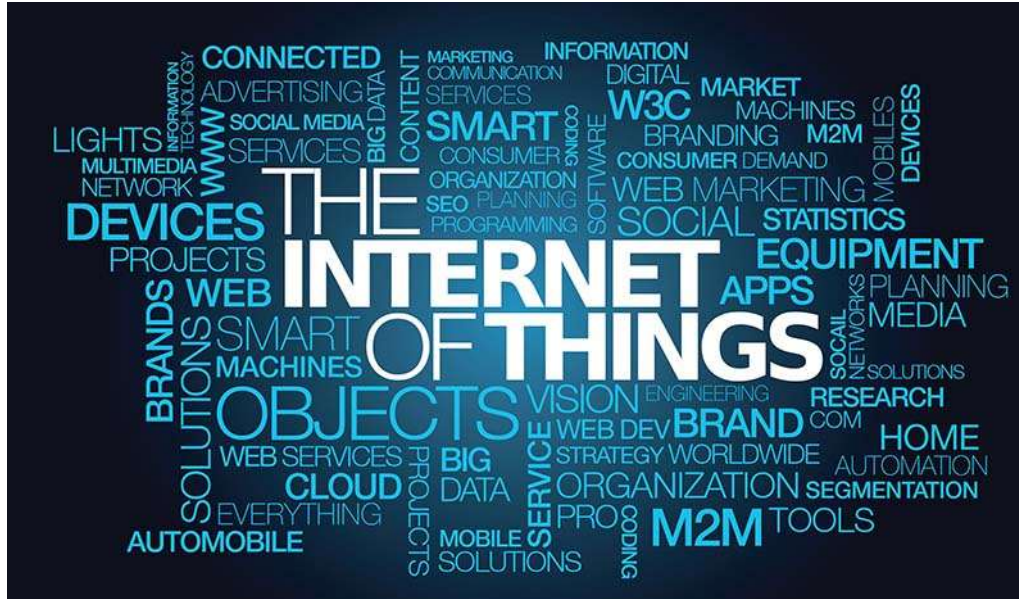


GAP E NUOVE TECNOLOGIE

Nuovo contesto



High impact of technologies on real life



Source: "The Relative Contribution of Multiple Determinants to Health Outcomes", Lauren McGovern et al., Health Affairs, 33, no.2 (2014)

“Unlike the genome, the exposome is a highly variable and dynamic entity that evolves throughout the lifetime of the individual...”

-- Christopher Paul Wild



Together these lead to whether disease occurs or health is promoted...

Kevin Patrick, UCSD, NCI U01 CA130771



EPIGENETICS

How the experiences of previous generations can affect who we are

REVIEW

The exposome: from concept to utility

Christopher Paul Wild

Table 1 Some examples of approaches and tools to measure the exposome

Approach	Tools
Biomarkers (omics)	
General	Genomics, transcriptomics, proteomics, metabolomics, epigenomics
Targeted	Adductomics, lipidomics, immunomics
Sensor technologies (including mobile phones)	Environmental pollutants, physical activity, stress, circadian rhythms, location [global positioning systems (GPS)]
Imaging (including mobile phones, video cameras)	Diet, environment, social interactions
Portable computerized devices (including palmtop computers)	Behaviour and experiences (ecological momentary assessment), stress, diet, physical activity
Improved conventional measurements (combined with environmental measures)	Job-exposure matrices; dietary recall (e.g. EPIC-Soft)

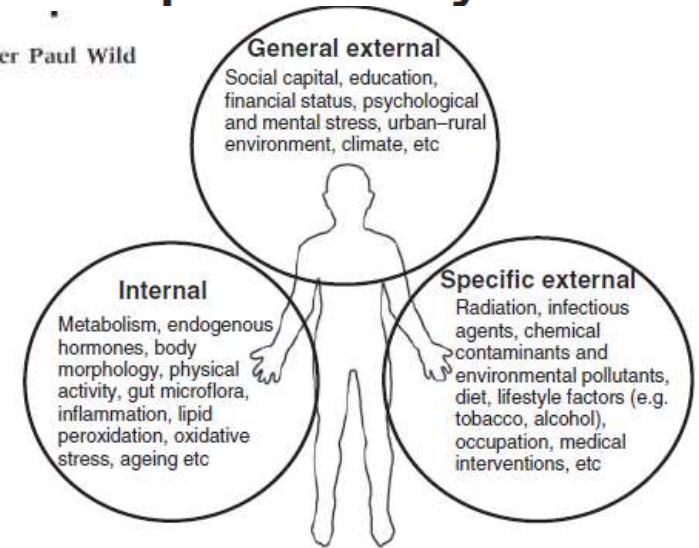


Figure 1 Three different domains of the exposome are presented diagrammatically with non-exhaustive examples for each of these domains



The Relative Contribution of Multiple Determinants to Health Outcomes.
Researchers continue to study the many interconnected factors that affect people's health.

5 major categories

The literature highlights five major categories of health determinants: genetics, behavior, social circumstances, environmental and physical influences, and medical care.



...adattare e personalizzare gli interventi per tutti i pazienti con l'uso di telefoni, email, messaggistica, mobile apps e device wireless per misurazioni di parametri biologici...

...la tecnologia per raccogliere e integrare le informazioni riferite dai pazienti e le loro attività...

Population Health Management

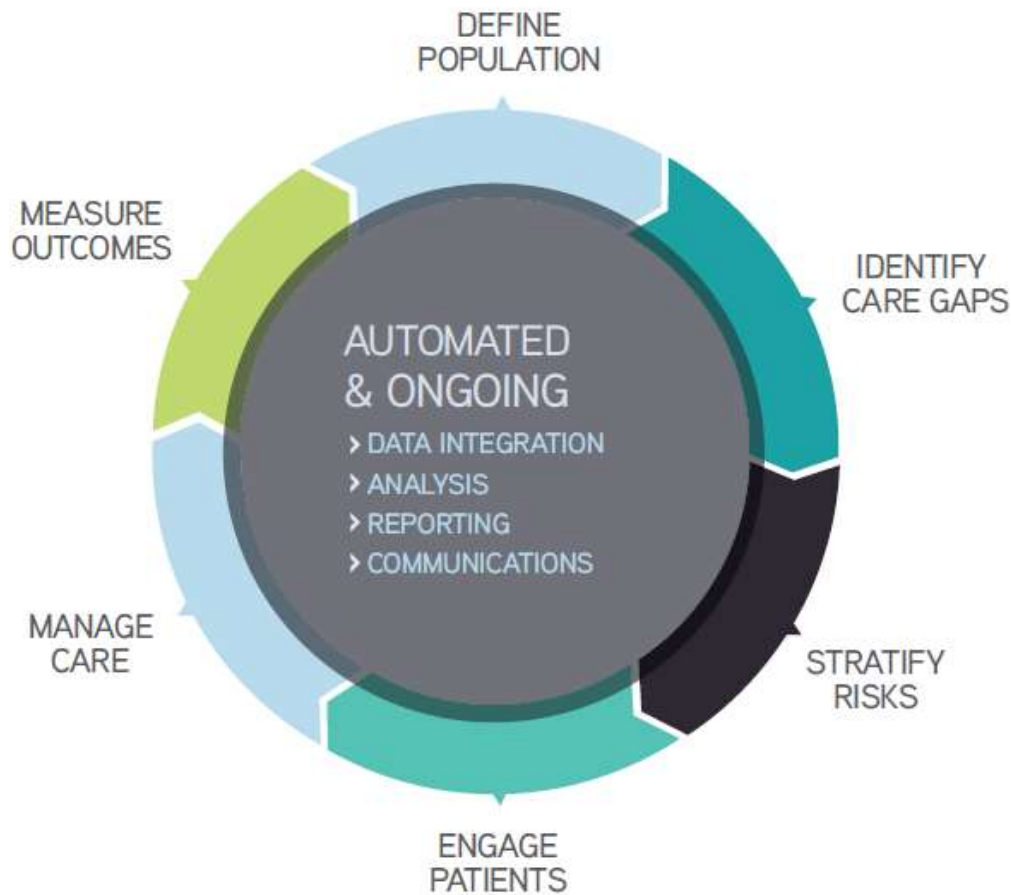
Transitions from fee for service to fee for value.

A Roadmap for Provider-Based Automation In a New Era of Healthcare



Population Health Management

Automation makes population health management feasible, scalable and sustainable.





U.S. Department of Health & Human Services

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Home > Research & Training > Precision Medicine Initiative

PRECISION MEDICINE INITIATIVE COHORT PROGRAM



Soluzioni innovative



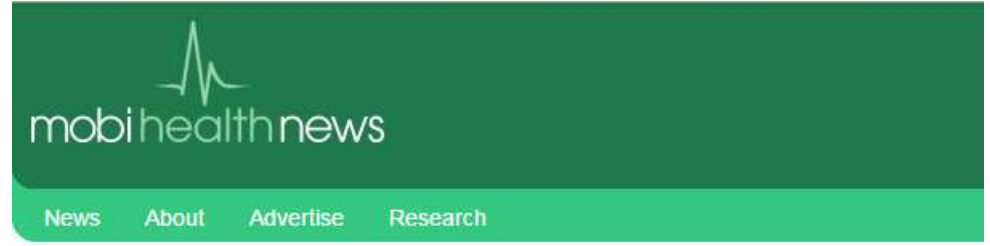


- NEWS +
- NEUROSCIENCE +
- NEUROLOGY +
- ROBOTICS +
- PSYCHOLOGY

Playing Tetris Can Block Addiction Cravings

Neuroscience News August 13, 2015 Featured, Psychology

Playing Tetris for as little as three minutes at a time can weaken cravings for drugs, food and activities such as sex and sleeping by approximately one fifth, according to new research published this week.



iHeal device aims to prevent substance abuse relapses

By: Brian Dolan | Feb 9, 2012 [Tweet](#) 23 [Share](#) 24 [Share](#) 26

Tags: Affectiva Q Sensor | chronic pain | drug abuse | iHeal | medication adherence | MIT Media Lab | post traumatic stress disorder | remote monitoring substance abuse |

Published on 13.10.15 in Vol 17, No 10 (2015): October

This paper is in the following e-collection/theme issue:

Web-based and Mobile Health Interventions

Article

Cited By (0)

Tweetations (6)

Metrics

Original Paper

A Web-Based Self-Help Intervention With and Without Chat Counseling to Reduce Cannabis Use in Problematic Cannabis Users: Three-Arm Randomized Controlled Trial

Michael P Schaub¹, PhD  ; Andreas Wenger¹, MSc  ; Oliver Berg², MD  ; Thilo Beck², MD  ; Lars Stark², MA  ;

Eveline Buehler¹, MSc  ; Severin Haug¹, PhD 

¹Swiss Research Institute for Public Health and Addiction (ISGF), associated to the University of Zurich and World Health Organization Collaborating Center, Zurich, Switzerland

²Arud Center for Addiction Medicine, Zurich, Switzerland

Conclusions: Web-based self-help interventions supplemented by brief chat counseling are an effective alternative to face-to-face treatment and can reach a group of cannabis users who differ in their use and sociodemographic characteristics from those who enter outpatient addiction treatment.

J Med Internet Res 2015;17(10):e232

doi:10.2196/jmir.4860



Tapping onto the Potential of Smartphone Applications for Psycho-Education and Early Intervention in Addictions

Melvyn W. B. Zhang^{1*} and Roger C. M. Ho²

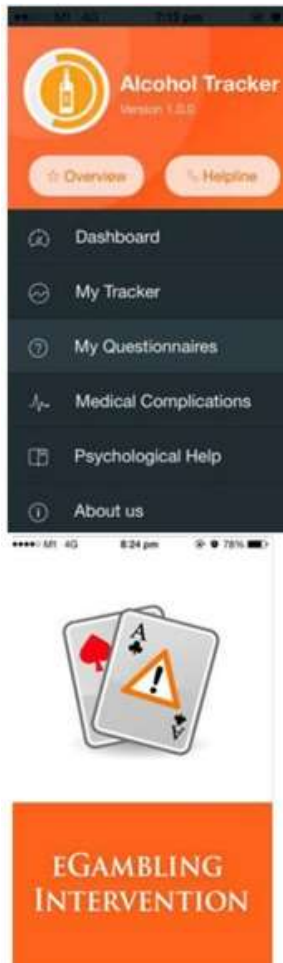
¹Biomedical Global Institute of Healthcare Research & Technology (BIGHEART), National University of Singapore, Singapore, Singapore, ²Department of Psychological Medicine, National University Healthcare Systems (NUHS), Singapore, Singapore

 **frontiers**
in Psychiatry

PERSPECTIVE
published: 17 March 2016
doi: 10.3389/fpsyg.2016.00040

CONCLUSION

E-health, and in particular smartphone applications, is increasingly becoming commonplace in healthcare. While psychiatry has tapped onto these innovations for conditions, such as affective disorders, and schizophrenia and psychosis, the usage of these technologies in addiction is limited. Addiction psychiatry could harness the potential of smartphone technologies in educating the masses about the harmful effects of drugs. This is particularly important given the changing perception held by individuals toward commonly abused drugs, as more drugs are being legalized or might be legalized for medical usage. Smartphone technologies incorporating theory-driven framework could be harnessed and used as interventional tool for those who are at-risk for the development of addiction. However, there remain limitations to the usage of such technologies that should be carefully considered.





The efficacy of a web-based gambling intervention program for high school students: A preliminary randomized study

Natale Canale ^{a,*}, Alessio Vieno ^a, Mark D. Griffiths ^b, Claudia Marino ^a, Francesca Chieco ^a,
Francesca Disperati ^a, Stefano Andriolo ^a, Massimo Santinello ^a

^a Department of Developmental and Social Psychology, University of Padova, Italy

^b International Gaming Research Unit, Psychology Division, Nottingham Trent University, UK

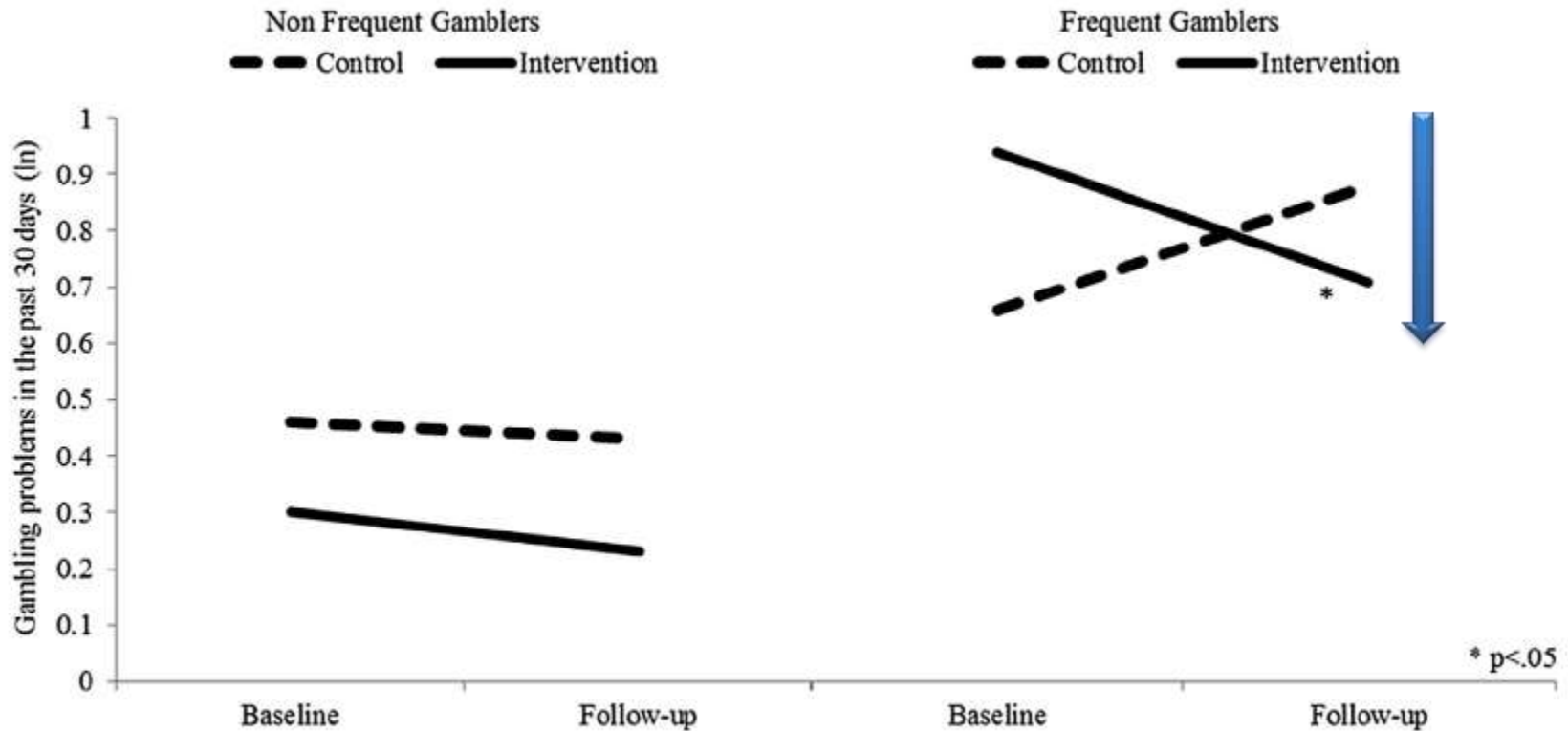


Fig. 2. Association between gambling problems in the past 30 days (ln) and time (baseline and follow-up) according to being frequent gamblers (yes/no).



Serious games in prevention and rehabilitation—a new panacea for elderly people?

Josef Wiemeyer · Annika Kliem

<p>Cognition: Perception Attention Understanding structures and meanings Strategic thinking Problem solving Planning, management Memory</p>	<p>Motor control: Eye-hand/foot coordination Reaction time Rhythmic abilities Balance Flexibility, endurance, strength</p>
<p>Emotions & volition: Emotional control Stress control Endurance</p>	<p>Social competencies: Cooperation Mutual support Empathy Interaction and communication skills Moral judgements</p>
<p>Personal competencies: Self-observation Self-critics Self-efficacy Identity Emotional control</p>	<p>Media competency: Media knowledge Self-regulated use Active communication Media design</p>

Fig. 1 Competencies that can be enhanced by playing digital games (adapted with modifications from Gebel, Gurt and Wagner [19], p. 262)

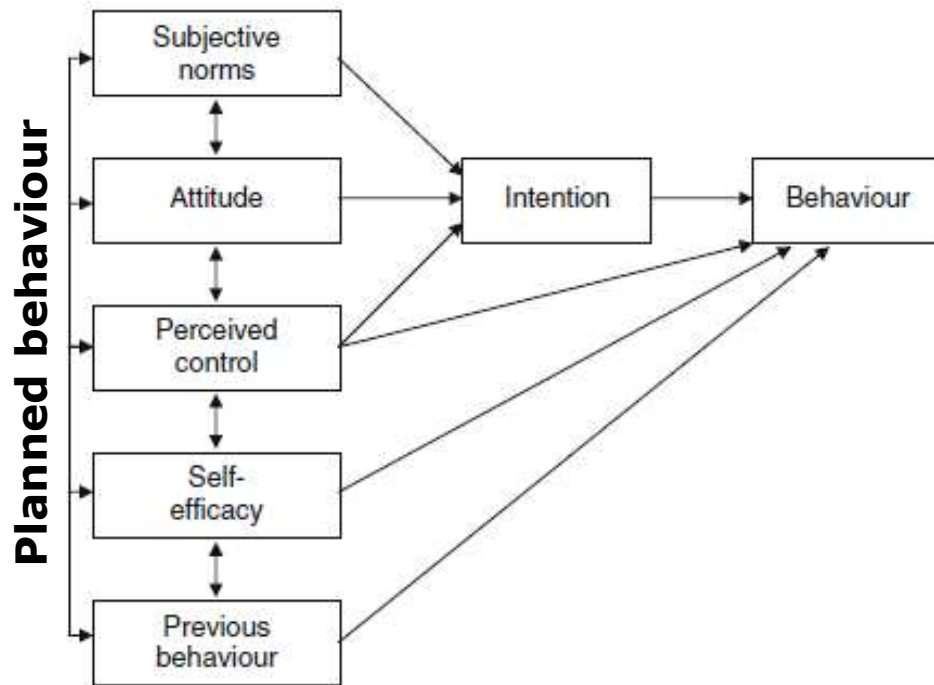


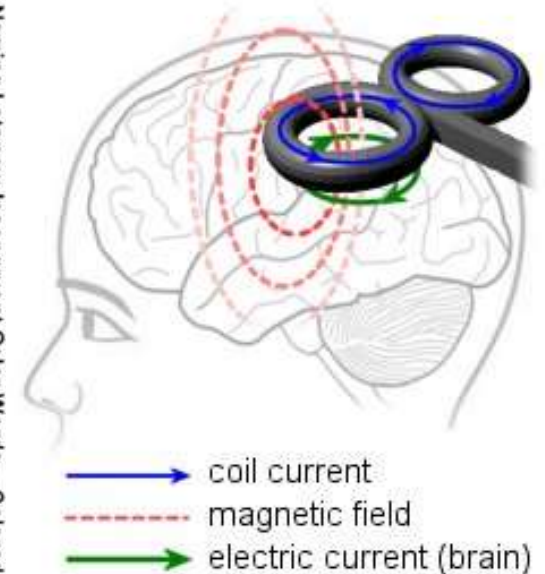
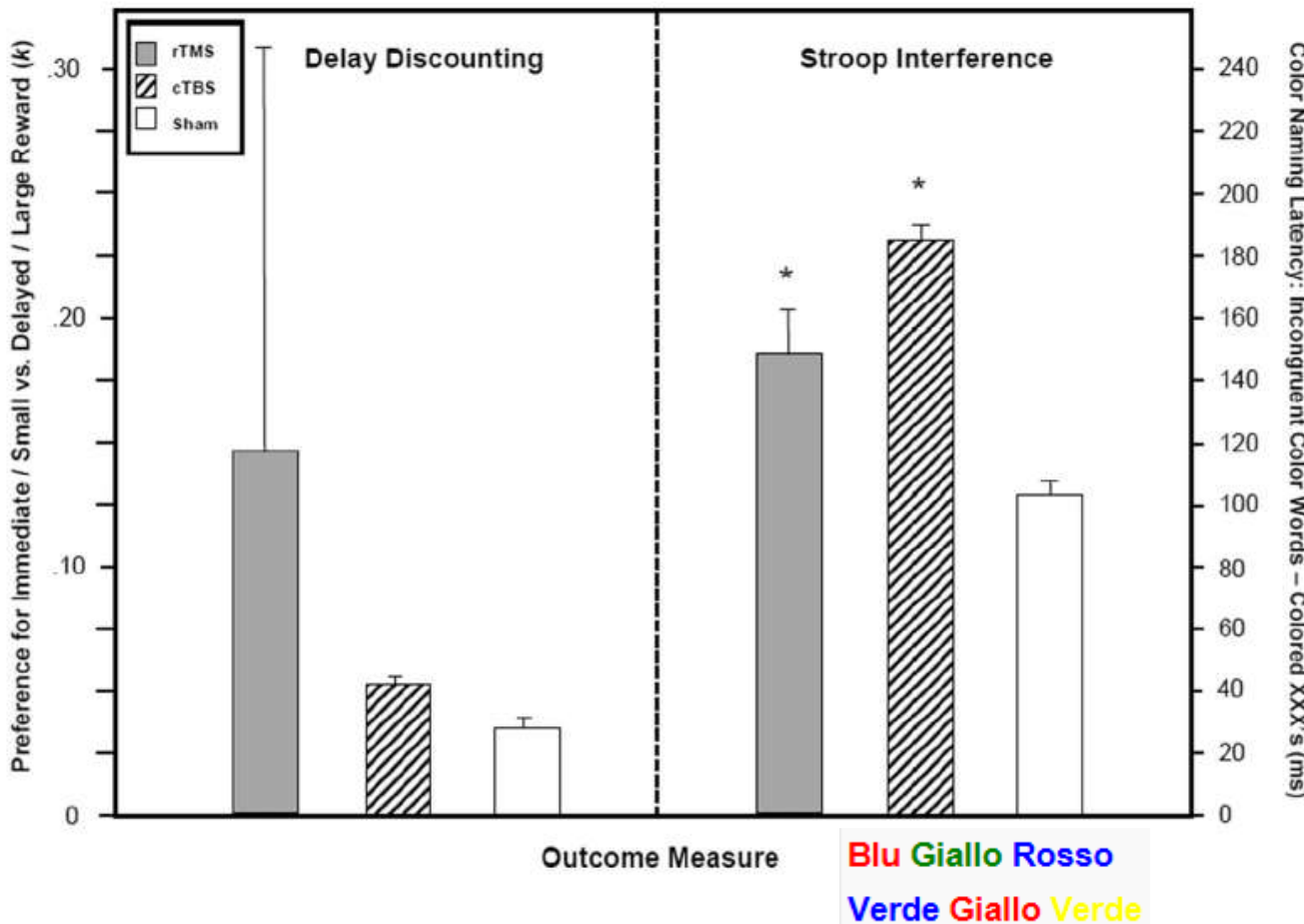
Fig. 2 Extended model of planned behaviour (adapted from Hagger, Chatzisarantis and Bidle [24])

Effects of High Frequency Repeated Transcranial Magnetic Stimulation and Continuous Theta Burst Stimulation on Gambling Reinforcement, Delay Discounting, and Stroop Interference in Men with Pathological Gambling

Martin Zack ^{a,*}, Sang Soo Cho ^b, Jennifer Parlee ^a, Mark Jacobs ^b, Crystal Li ^b, Isabelle Boileau ^b, Antonio Strafella ^b

^a Neuroscience Research Department, Centre for Addiction and Mental Health, 33 Russell Street, Toronto, Ontario M5S 2S1, Canada

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Enhancing decision-making and cognitive impulse control with transcranial direct current stimulation (tDCS) applied over the orbitofrontal cortex (OFC): A randomized and sham-controlled exploratory study

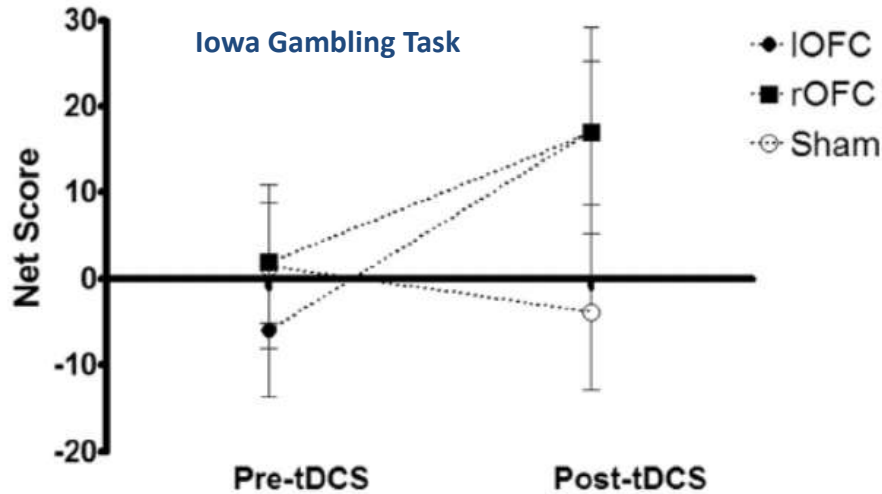
Julien Ouellet ^a, Alexander McGirr ^b, Frederique Van den Eynde ^a, Fabrice Jollant ^c, Martin Lepage ^d, Marcelo T. Berlim ^{a,c,*}

^a Neuromodulation Research Clinic, Douglas Mental Health University Institute, Montréal, Québec, Canada

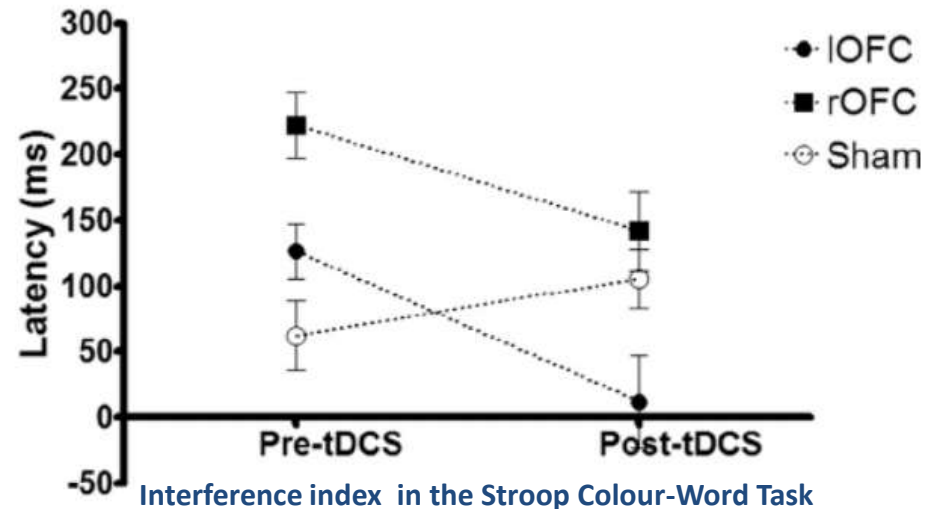
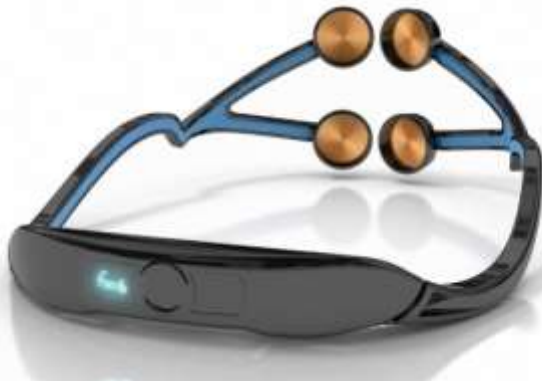
^b Department of Psychiatry, University of British Columbia, Vancouver, British Columbia, Canada

^c Depressive Disorders Program, Douglas Mental Health University Institute and McGill University, Montréal, Québec, Canada

^d Brain Imaging Group, Douglas Mental Health University Institute and McGill University, Montréal, Québec, Canada



Abbreviations: IOFC = left orbitofrontal cortex; rOFC = right orbitofrontal cortex.



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www.masscompulsivegambling.org

GAME Me - Advanced system for self care gambling [Linked in](#)

Published on August 5, 2016

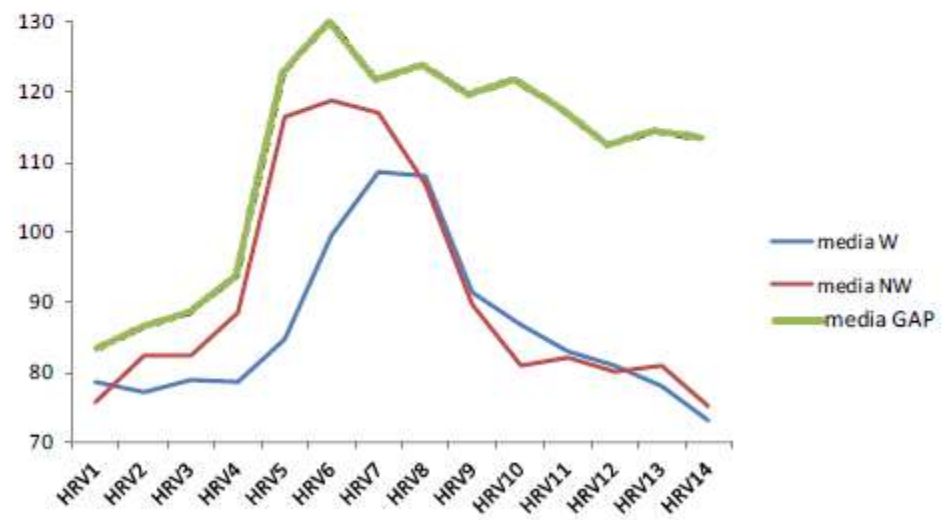
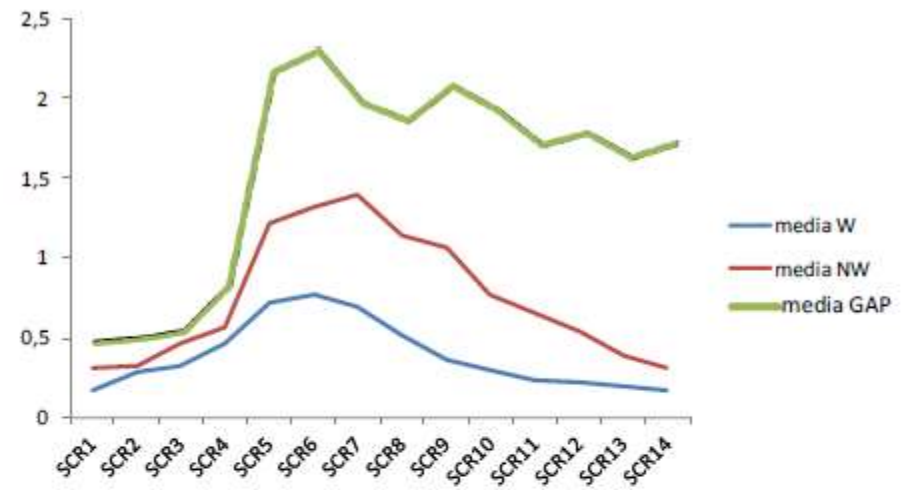


ADVANCE SYSTEM FOR SELF CARE GAMING

Conduttanza cutanea



Frequenza cardiaca

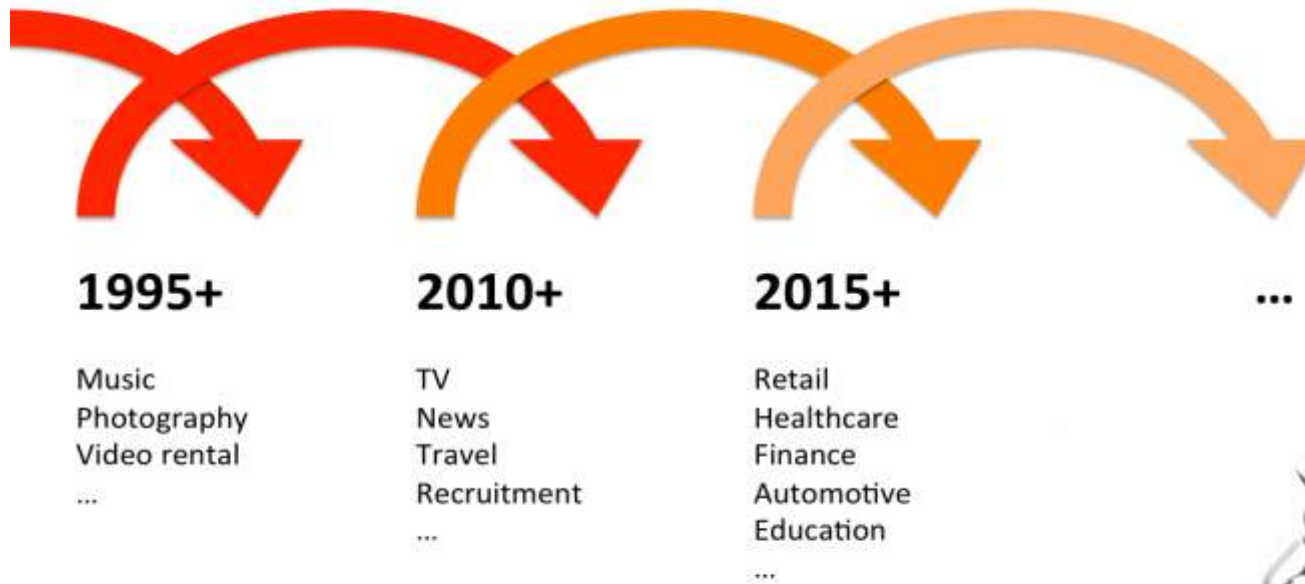




Subire o governare il cambiamento?

Disruption

Waves of **Digital Disruption**



Professionals side
Care providers

Support change

Openness
Lean organization
Leadership model
Systems
interoperability
Training
e-CF

Matching supply
and demand

Instruments

Connectivity
Devices
e—health solutions
m—health solutions
On-line services
Big-open-linked data
Internet of Things
e-learning
MOOC

Clients side
Cure demand

Support accessibility

Education
Literacy
Pay for value
Satisfaction
Empowerment
Self management
Engagement

APPROPRIATENESS – Outcome, not volume

GAP E NUOVE TECNOLOGIE



YOU CAN'T DO TODAY'S JOB WITH YESTERDAY'S METHODS AND BE IN BUSINESS TOMORROW.



Ottimizzare le risorse
Impiego soluzioni tecnologiche
Riqualificazione professionisti
Revisione procedure
Leadership

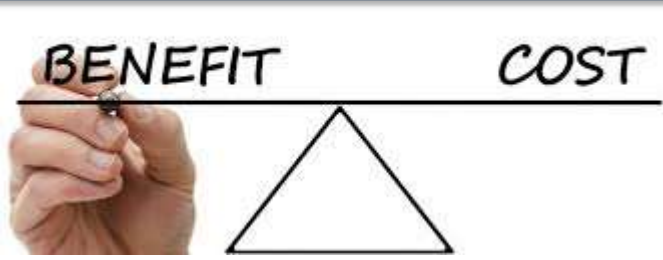
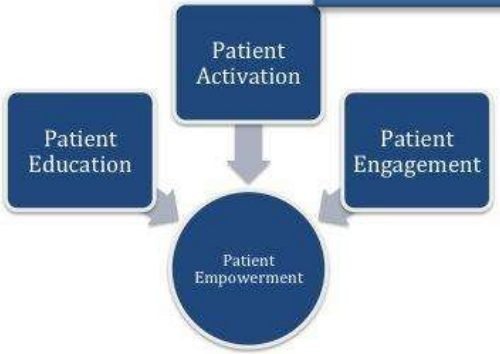




YOU CAN'T DO TODAY'S JOB WITH YESTERDAY'S METHODS AND BE IN BUSINESS TOMORROW.



Miglioramento percorso clinico
Analisi della domanda e riorganizzazione dell'offerta
Coinvolgimento pazienti (empowerment)
Valutazione efficienza ed efficacia
Riduzione costi



GAP E NUOVE TECNOLOGIE

