

SMARTPHONE APPS FOR THE TREATMENT OF ADDICTIVE DISORDERS

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Conflict of interests: Involved (without financial interests) in the development of several apps

Reach people

MOBILIZING MENTAL HEALTH

SMARTPHONE APPS FOR MENTAL HEALTH HAVE THE POTENTIAL TO REACH PEOPLE WITHOUT ACCESS TO CARE.

Global prevalence of mental disorders

29%

Many people with mental illnesses don't get the help they need.

Developed countries

Developing countries

Percentage of people with serious disorders who did not receive help in the previous year.

35-50%

76-85%

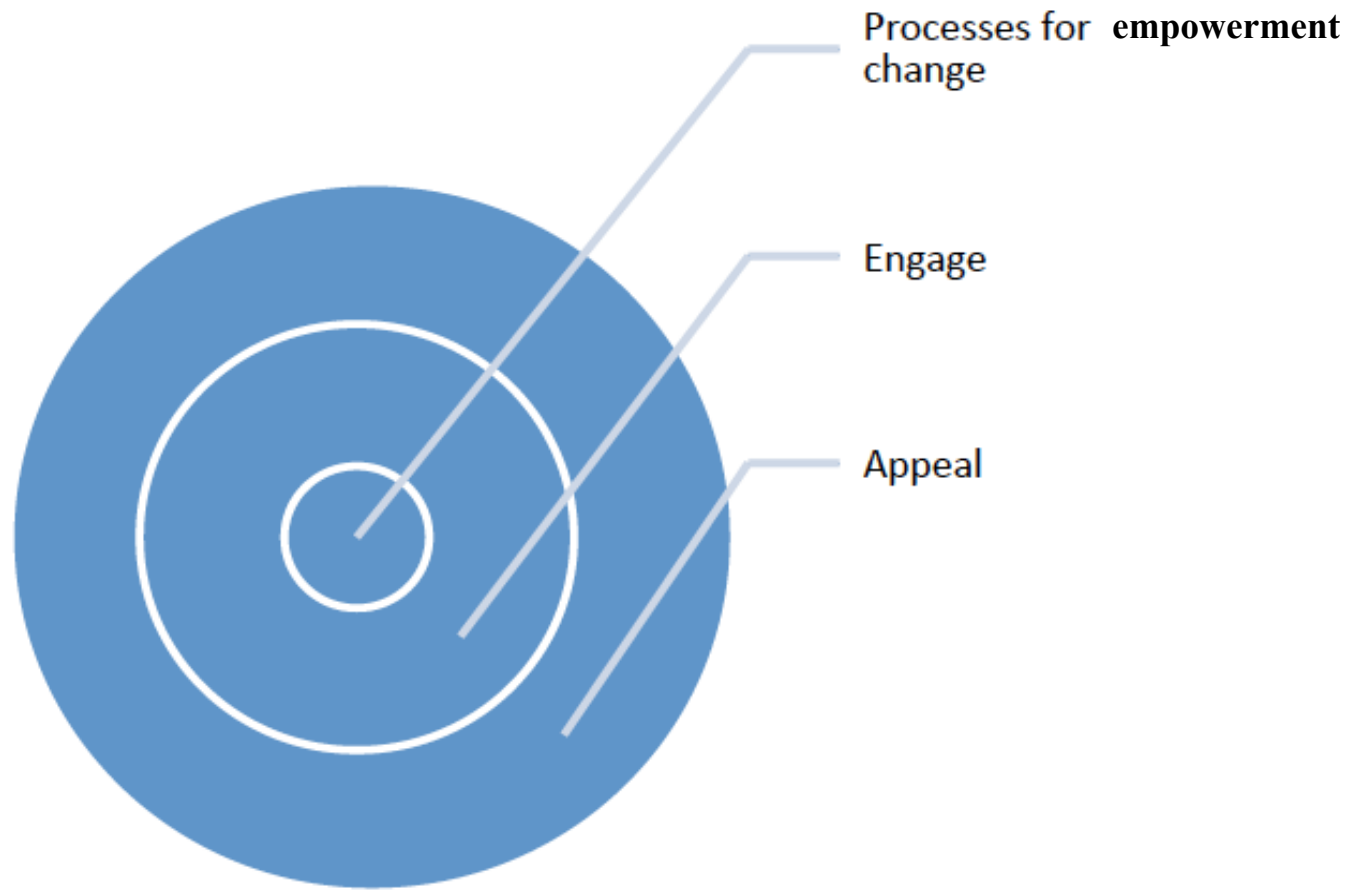
Enhance Behaviour change

- « In milieu » delivered mobile services
- Trigger behavioural change potential in specific time and context
- As a stand-alone or integrated treatments



Kramer 2010; Kiluk et al 2010;Kwasnicka et al. 2016

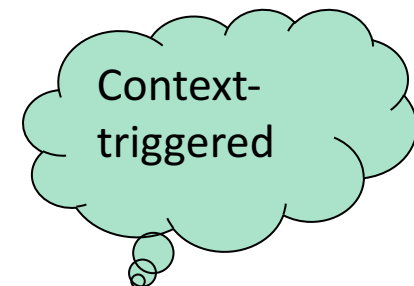
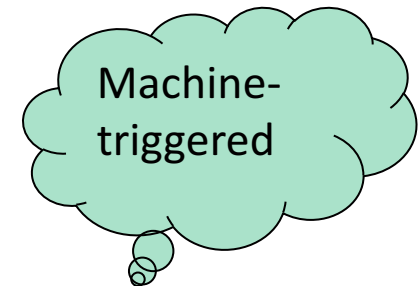
Anthes 2016



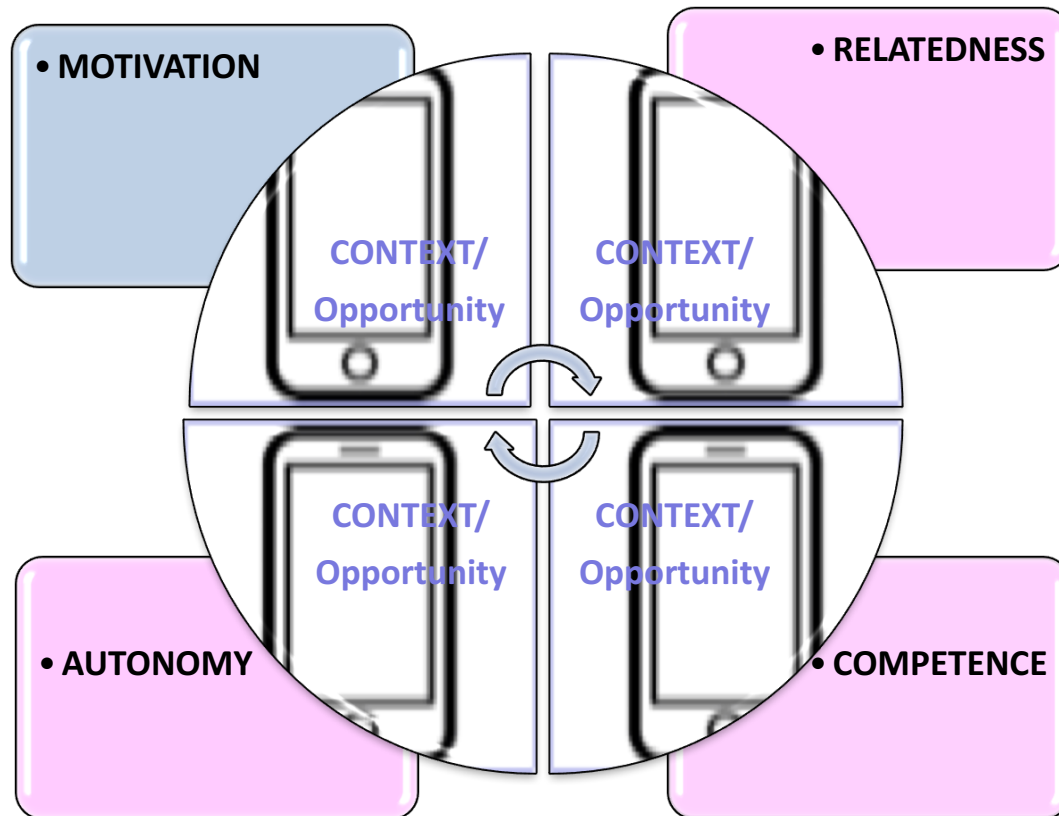
Fleming et al. 2017; Thorens et al. 2017; Sort and Khazaal in revision



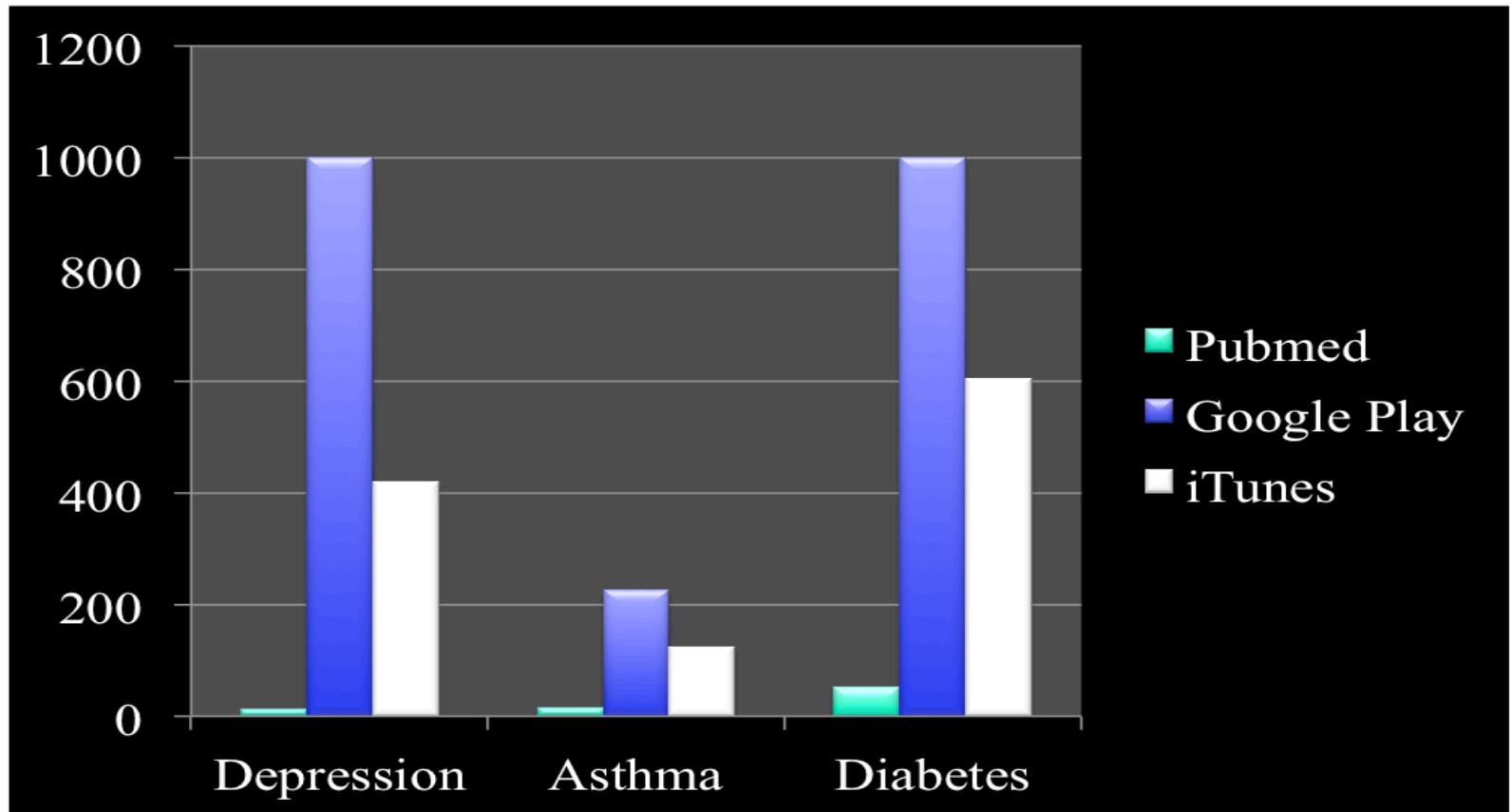
FLEXIBILITY	Active/pas sive	Objective/ subjective	Active/ passive	Objective/ subjective	Active/p assive	Objective/ subjective
Interaction	Self (psychological, physiological)		Environment (time,light,noise, localisation, social, digital..)		Service use	



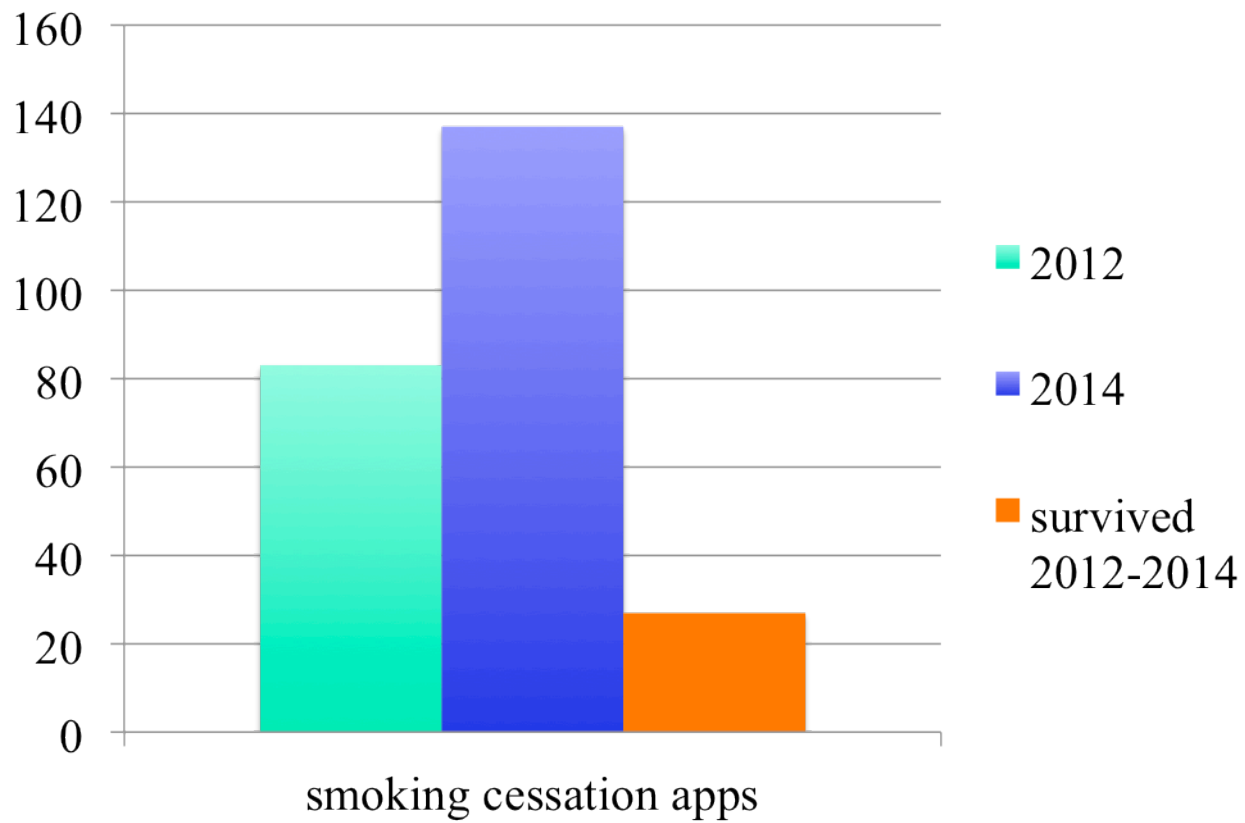
Spiegel 2015



Ryan 2000; Deci 2000; Michie S, et al. 2011; Donoghue 2014; Loo Gee et al. 2016; Gaebel et al. 2016; Khazaal et al. 2016

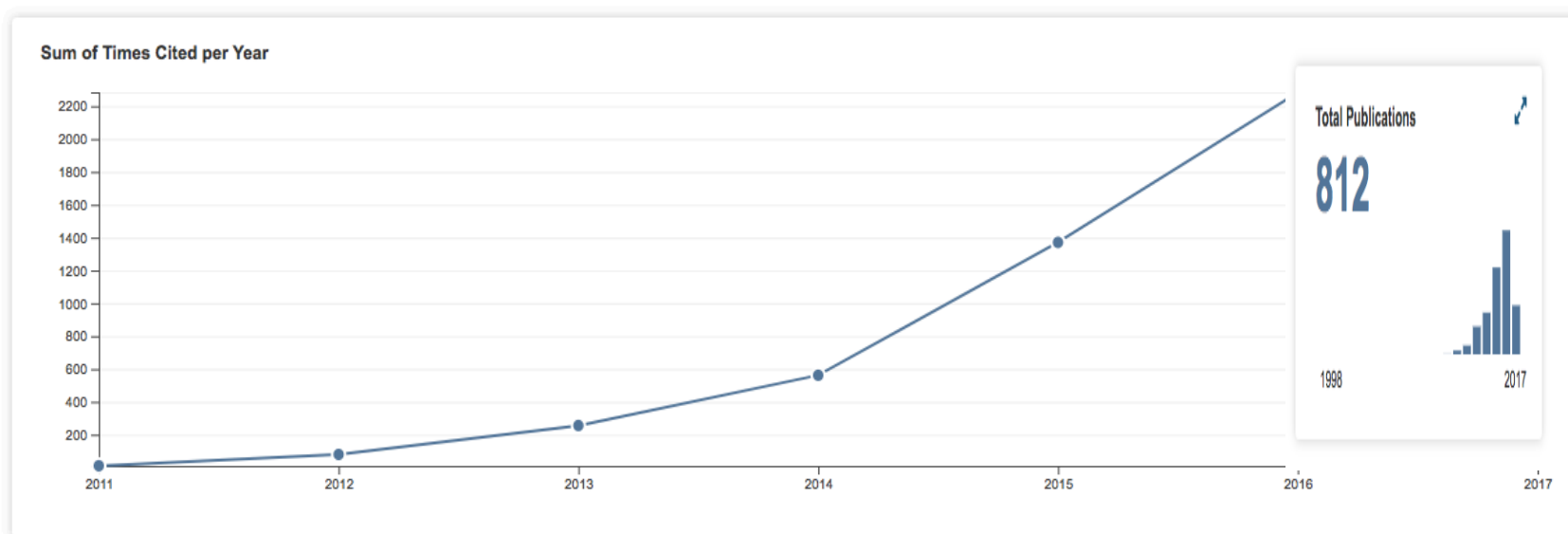


Martinez-Perez 2013



Kaur Ubhi et al. 2016

Topic: Smartphone apps



<https://apps.webofknowledge.com/> July 4, 2017



Table 4. Characteristics of smartphone apps by status (free vs. paid apps)

Characteristics and scores	Free apps (n = 22)	Paid apps (n = 30)	p value
Self-help (0–21)	1.0 (2.1)	0.6 (1.4)	0.4
Content quality (0–24)	1.9 (3.8)	1.6 (3.6)	0.7

Self-help model:

- Motivation
- Feedback
- Risk identification
- Relapse prevention (coping)

Penzenstadler et al. 2016; Van Singer et al. 2015; Cohn 2011; Pagoto 2013; Carter 2013; Donker 2013; Choi 2014; Arnhold 2014; Kaur Ubhi 2016; Larsen 2016; Huguet 2016; Nicholas 2016; khazaal et al. In preparation

Table 2 | Evidence-based apps listed among the top 50 apps recommended by online app stores

App Store:		Apple			Google			Blackberry			Windows		
Search Term:		Quit Smoking	Stop Smoking	Smoking Cessation	Quit Smoking	Stop Smoking	Smoking Cessation	Quit Smoking	Stop Smoking	Smoking Cessation	Quit Smoking	Stop Smoking	Smoking Cessation
Mobile Apps:	SmartQuit			x			x						x
	DistractMe												
	mCM												
	SmokeFree28												
	Craving to Quit			x									
	REQ-Mobile												

Brianna et al. 2017



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Assess and change

Jeu·contrôle

POUR GÉRER VOS PROBLÈMES DE JEU

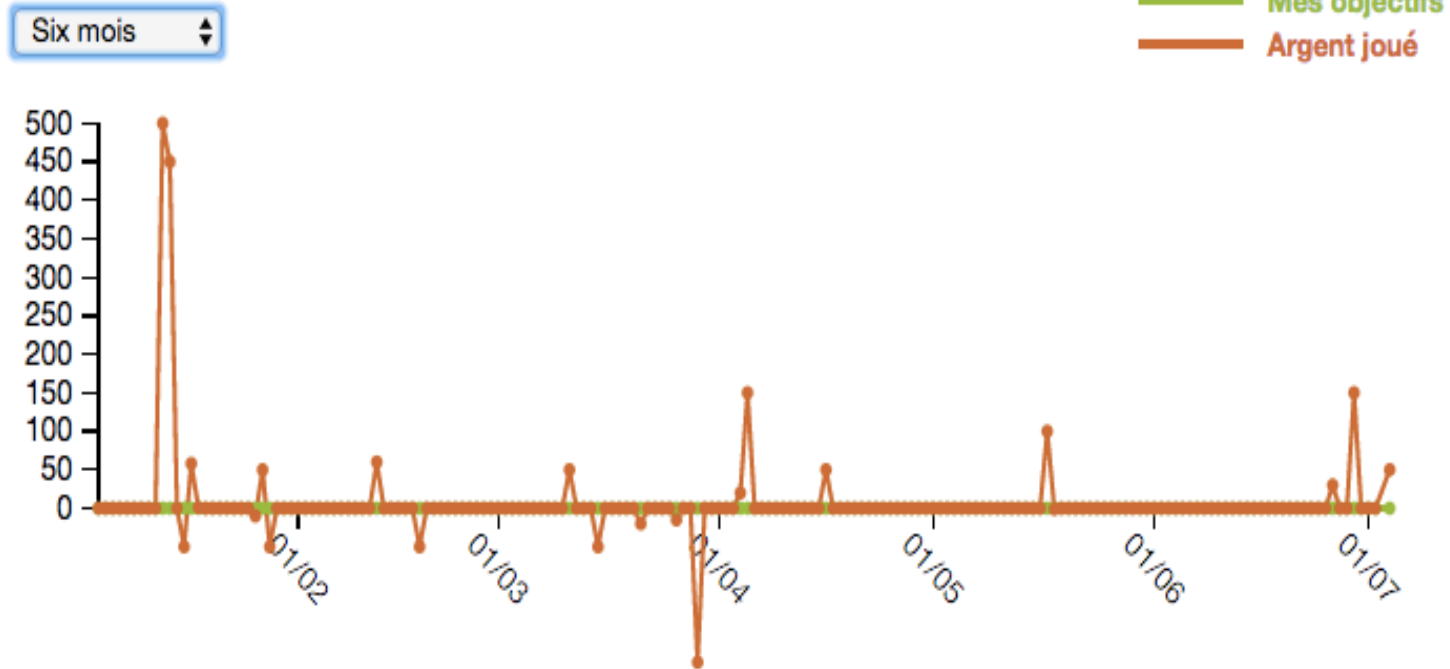


**Automy
Relatedness
Competence**

Khazaal et al. 2017

Assess and Change

EVOLUTION DE MES DÉPENSES



Assess and Change

Group Differences on Risky Drinking Days and by Month, N= 349

Effect	Mean (SE)		Mean Difference (95% CI)	t_{df}	<i>P</i> Value	d^b	<i>h</i>
	Control	A-CHESS					
Analysis of all available data ^c							
Overall	2.75 (0.34)	1.39 (0.34)	1.37 (0.46 to 2.27)	2.98 _{287.69}	.003	.23	.18

- Ask an expert
- Discussion Groups
- Healthy Events
- Panic Button
- Weekly check-in
- High risks location



Gustafson et al.2014

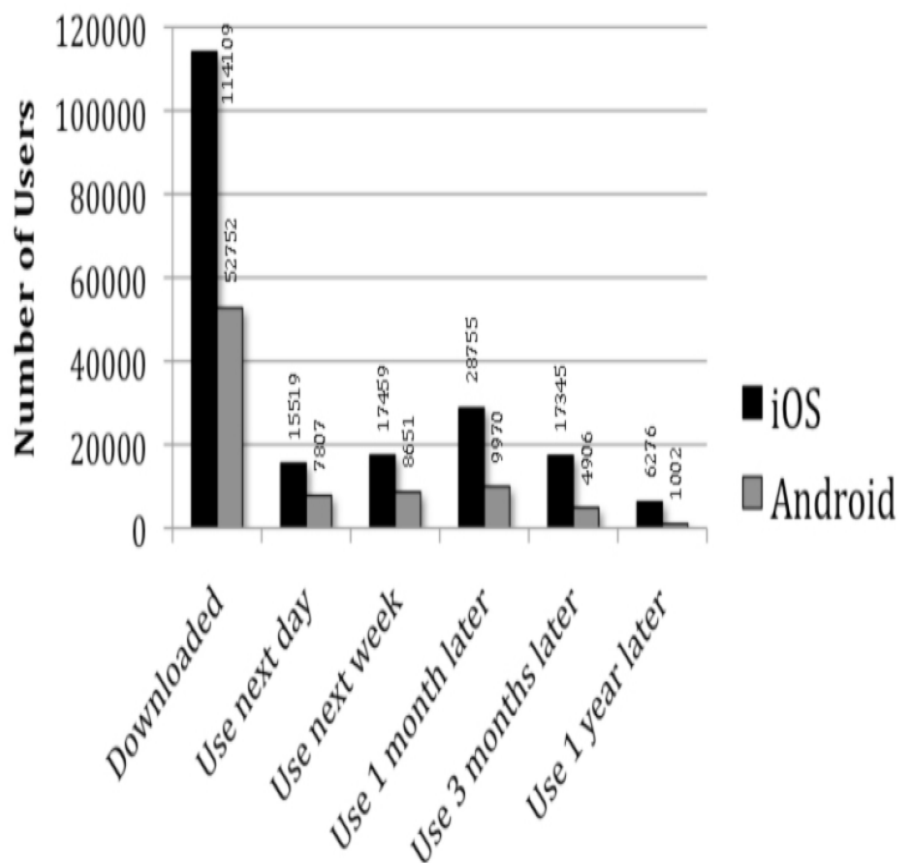
APPEAL?

- ▶ N > 1300 : 90% : moderate or high severity scores (ASSIST-Cannabis)
- ▶ N > 3000: 82% At risk Depression

Khazaaal et al. 2014; Khazaaal et al. 2015; BinDhim et al. 2015

Engagement?

Figure 3. PTSD Coach use and maintenance up to one year after initial download.

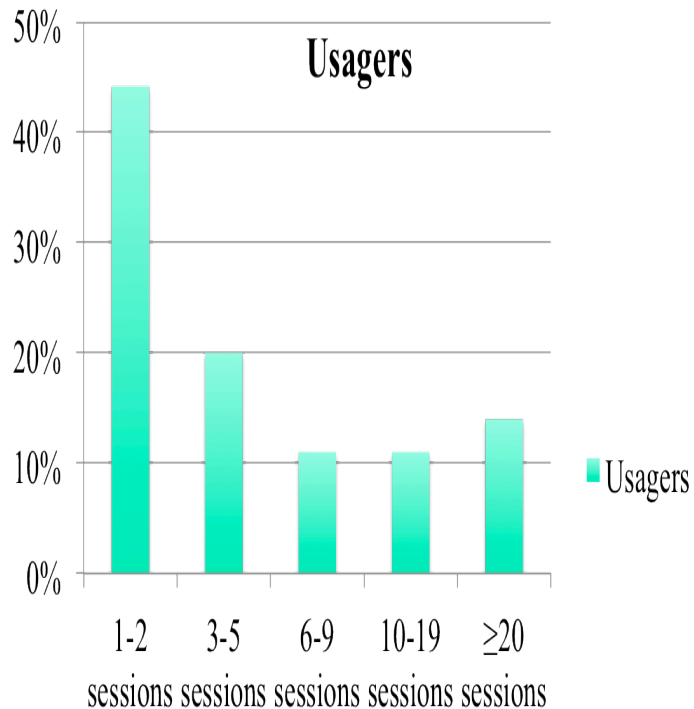


Owen et al. 2015



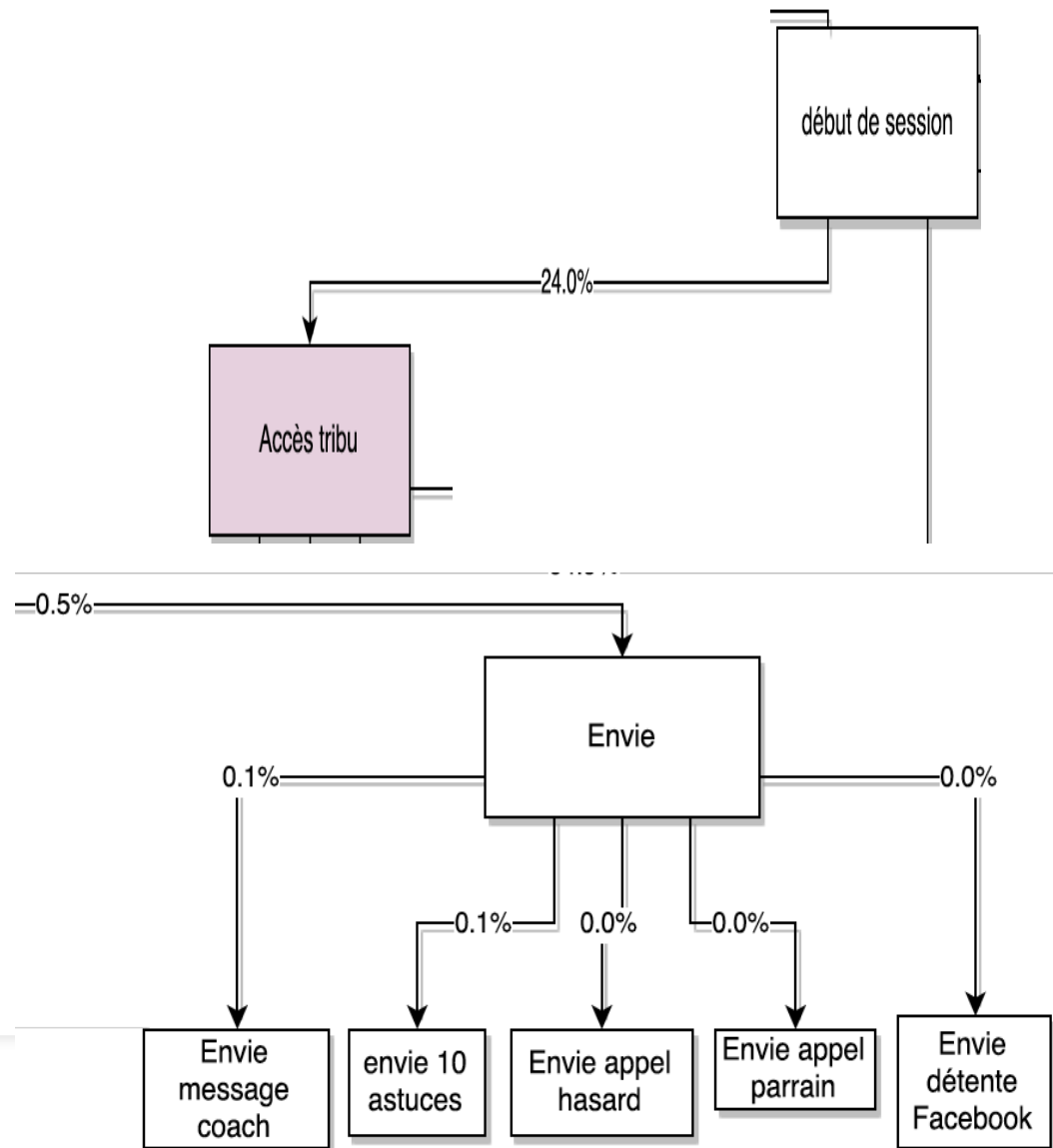
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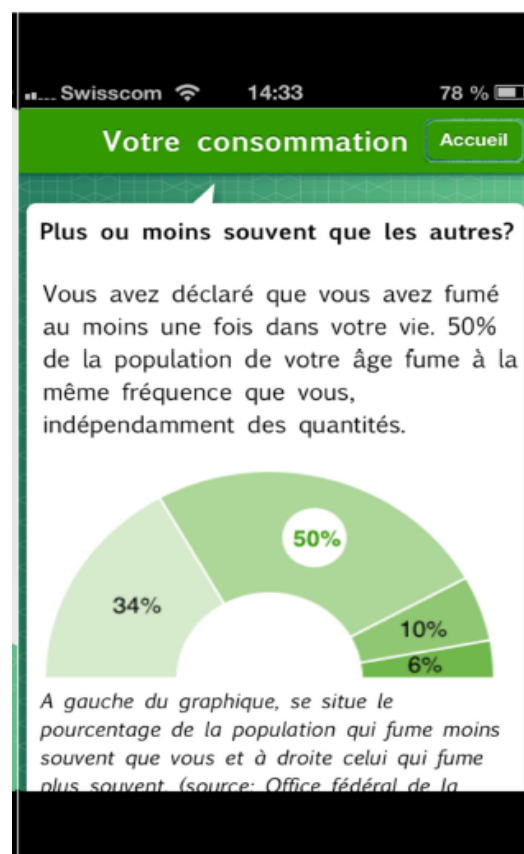
Engagement?



> 22000 users
> 722000 sessions

Khazaal et al. In preparation





Stop-cannabis.ch
La Tribu



Autonomy
Relatedness
Competence

- Screening and brief intervention
- Ecological momentary intervention (EMI)

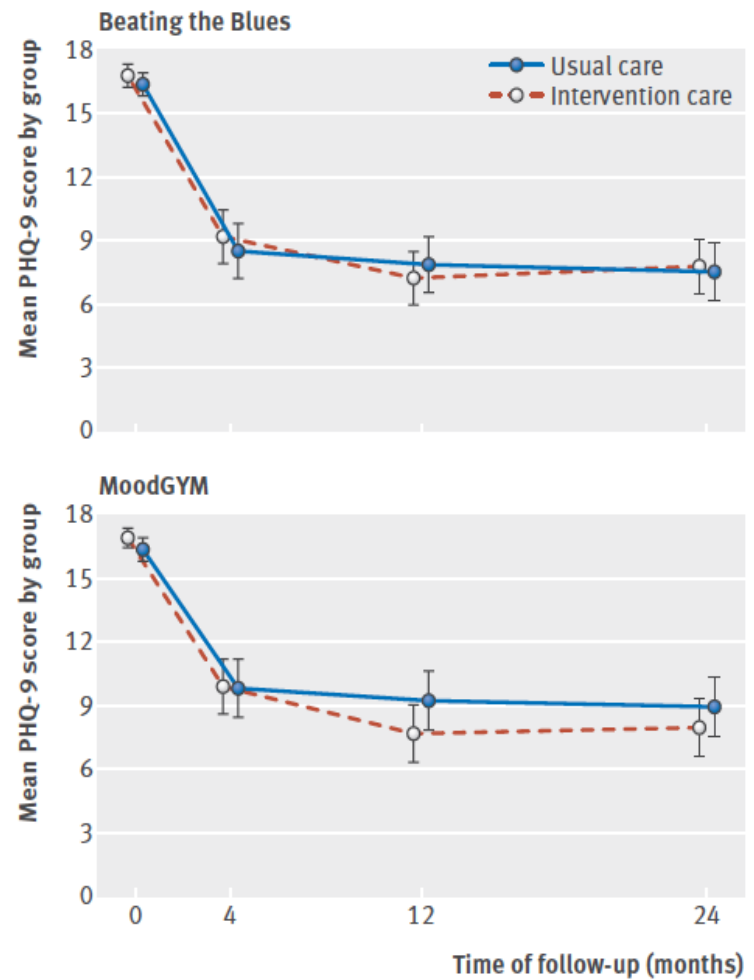
Monney et al. 2015.

N=717 postings by 328 users

Table 2
Item classification by type of forum.

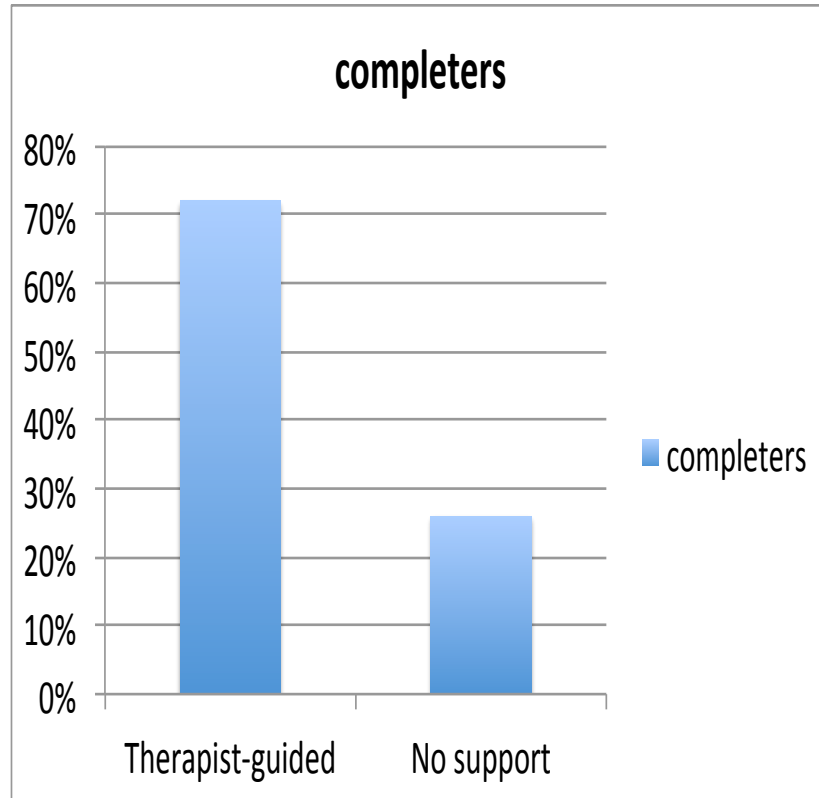
Item	Cannabis addiction (n = 297)	Cannabis rehabilitation (n = 231)	Marijuana Anonymous (n = 189)	p-Value
Fields of interest				
Illness-related aspects, % present ✓				
Symptoms	55.6 ★	45.0	22.2	<0.0005
Emotions	9.2	20.7	12.2	0.001
Diagnosis	18.0	10.4	9.0	0.006
Prognosis	0	0.5	0	— ^a
Etiology/Research	18.7	0	1.1	<0.0005
Medication	11.3	5.4	1.6	<0.0005
Treatment	15.1	7.7	28.6 ★	<0.0005
Professionals	5.6	7.2	1.6	0.03
Social aspects, % present				
Social perception	1.4	1.8	0.5	— ^a
Social network	9.2	13.1	6.9	(0.1)
Legal issues	3.2	0.9	0	— ^a
Financial and legal issues, % present				
Financial issues	7.4	3.6	3.2	(0.06)
Vocational issues	8.5	11.3	7.9	(0.4)
Housing	0.7	0.5	1.1	— ^a
Self-help mechanisms ✓				
Exchange of information, % present				
Disclosure	65.5	77.0 ★	49.2	<0.0005
Provision of information	28.2	15.3	21.2	0.002
Request for information	12.3	10.8	4.8	0.02
Emotional support, % present ✓				
Empathy and support	10.6	31.1 ★	26.5	<0.0005
Friendship	0.4	0	1.1	— ^a
Gratitude	5.6	17.1	24.3 ★	<0.0005
Group support, % present				
Online group cohesion	0.4	4.1	4.8	<0.0005
Negative statement	0.7	1.8	5.3	0.003

- ◆ 16-18% completion rates of the sessions
- ◆ Median number of completed sessions 1-2



Gilbody et al. 2015

OVERCOME THE ENGAGEMENT CHALLENGE



- Peer and social support

Richards and Richardson 2012; Greiner et al. 2017



Reducing delusional conviction through a cognitive-based group training game: a multicentre randomized controlled trial

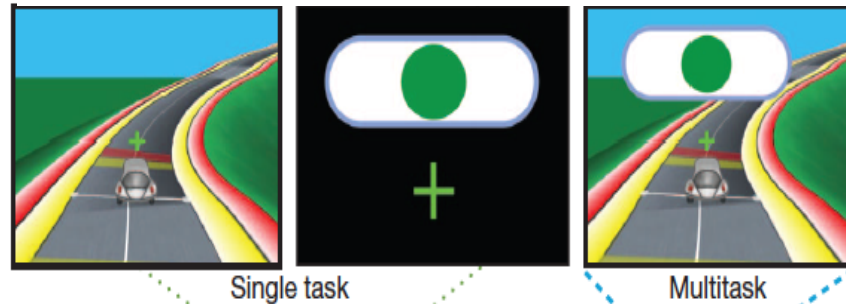
Yasser Khazaal ^{1*}, Anne Chatton ¹, Karen Dieben ¹, Philippe Huguelet ¹, Maria Boucherie ¹, Gregoire Monney ¹, Laurent Lecardeur ², Virginie Salamin ³, Fethi Bretel ⁴, Silke Azoulay ⁵, Elodie Pesenti ⁶, Raoul Krychowski ⁷, Andreia Costa Prata ⁷, Javier Bartolomei ¹, Perrine Brazo ², Alexei Traian ⁸, Thomas Charpeaud ⁹, Elodie Murys ¹⁰, Florent Poupard ¹¹, Serge Rouvière ¹², Daniele Zullino ¹, Alberto Parabiaghi ¹³, Mohamed Saoud ^{12,14,15} and Jérôme Favrod ¹⁶

LETTER

doi:10.1038/nature12486

Video game training enhances cognitive control in older adults

J. A. Anguera ^{1,2,3}, J. Boccanfuso ^{1,3}, J. L. Rintoul ^{1,3}, O. Al-Hashimi ^{1,2,3}, F. Faraji ^{1,3}, J. Janowich ^{1,3}, E. Kong ^{1,3}, Y. Larraburo ^{1,3}, C. Rolle ^{1,3}, E. Johnston ¹ & A. Gazzaley ^{1,2,3,4}

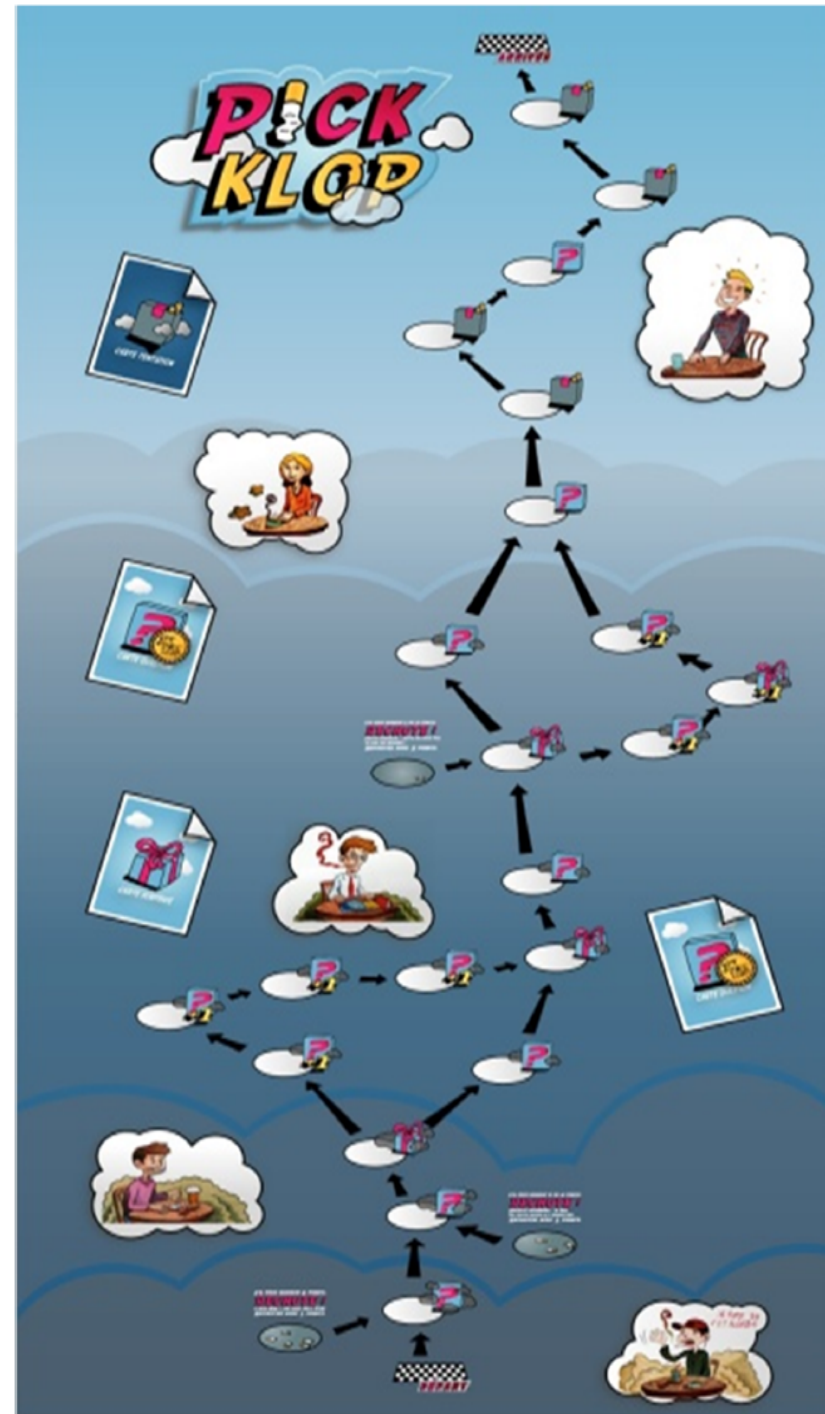


RESEARCH

Open Access

Impact of a board-game approach on current smokers: a randomized controlled trial

Yasser Khazaal^{1*}, Anne Chatton¹, Roberto Prezdemolo¹, Fadi Zebouni², Yves Edel², Johan Jacquet¹, Ornella Ruggeri¹, Emilie Burnens¹, Grégoire Monney¹, Anne-Sylvie Protti¹, Jean-François Etter³, Riaz Khan¹, Jacques Cornuz⁴ and Daniele Zullino¹



Maximizing the Impact of e-Therapy and Serious Gaming: Time for a Paradigm Shift

Theresa M. Fleming^{1,2}, Derek de Beurs³, Yasser Khazaal⁴, Andrea Gaggioli^{5,6}, Giuseppe Riva^{5,6}, Cristina Botella^{7,8,9}, Rosa M. Baños^{8,9}, Filippo Aschieri⁵, Lynda M. Bavin¹, Annet Kleiboer¹⁰, Sally Merry¹, Ho Ming Lau¹¹ and Heleen Riper¹⁰*

**COMETS Collaboration on
Maximising the impact of E-Therapy
& Serious gaming**



Fleming et al.2016

Geneva
3-6 July 2018
First
European Congress
European Society of Social Psychiatry

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