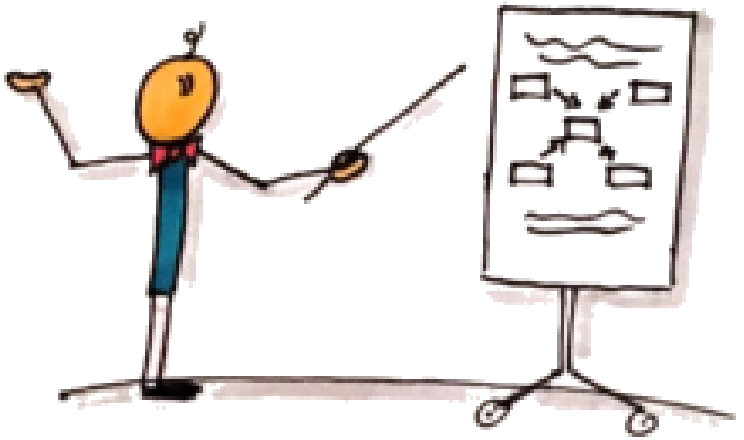
Video Games
– Motives & Barriers

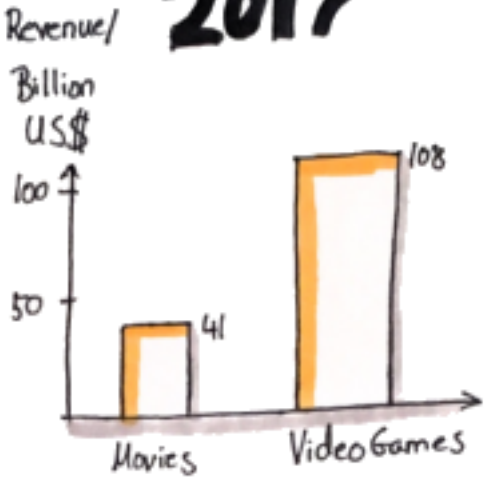


Lars Bartschat

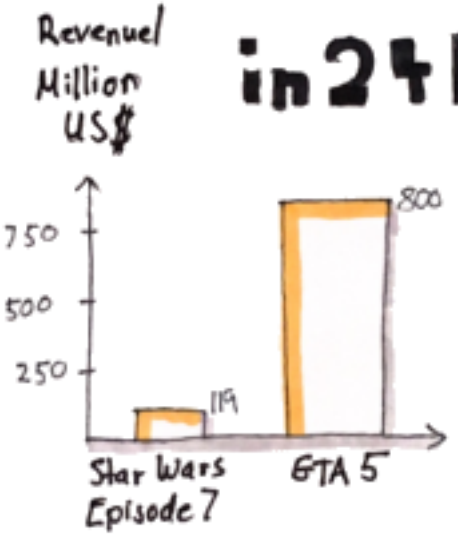
Agenda

- Introduction
- Foundations
- Model Development
- Model Validation
- Conclusion

2017

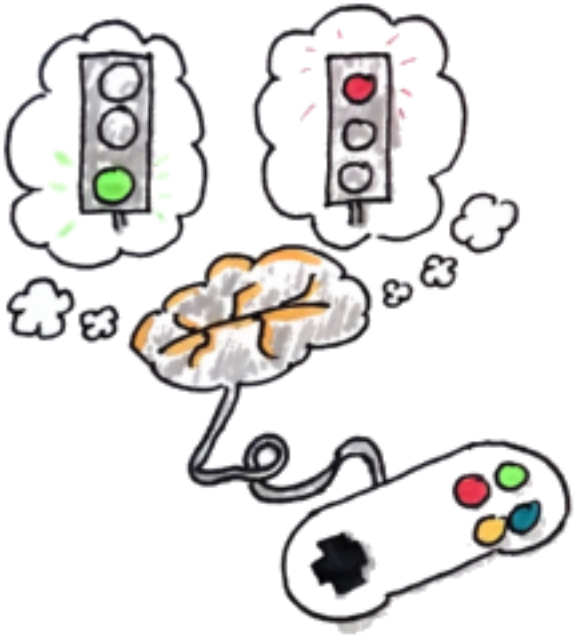


in 24h



82 million Germans

34 million Gamers



Industry Foundations

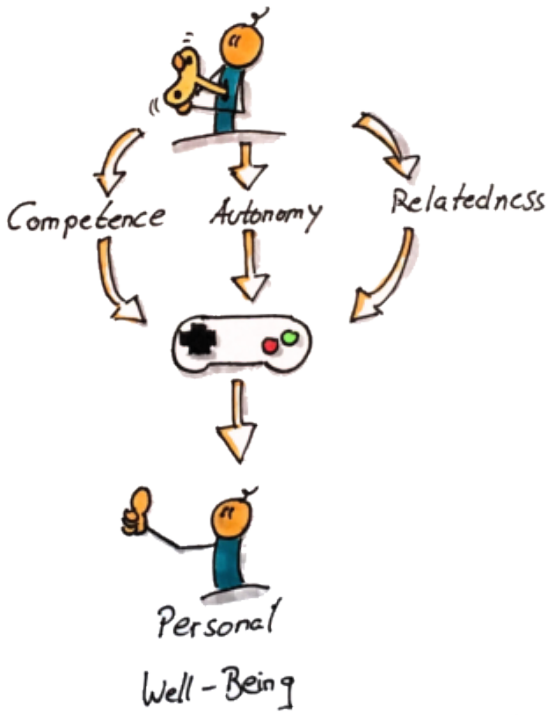
1970's

1977
1983

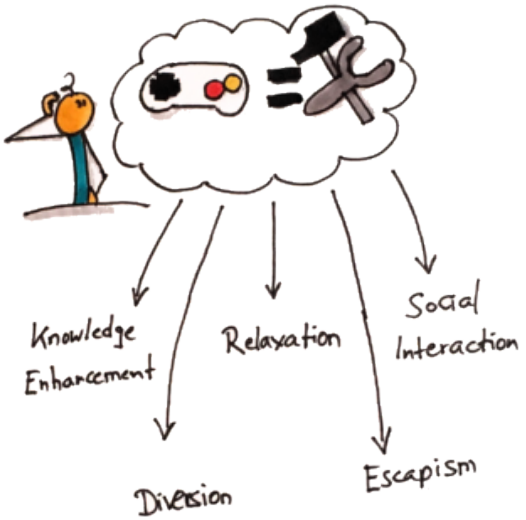
Today

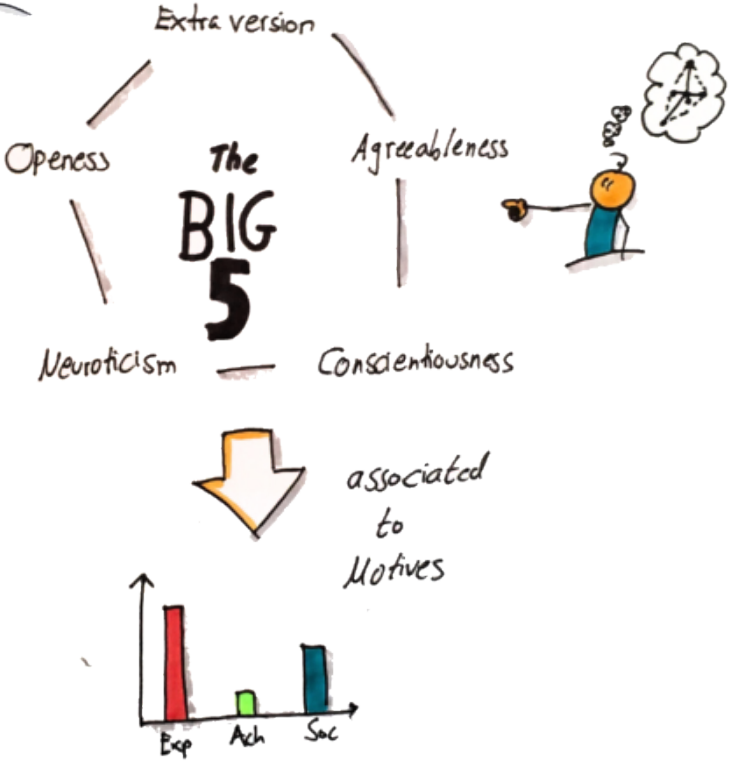
Self-Determination Theory

Intrinsic Motives



Uses & Gratifications Theory





Literature Overview

MOTIVES

BARRIERS

1996 Bartle

2004 Lazzaro

2006 Ryan et al
Klimmt, Hartmann

2007 Klimmt, Hartmann
Sherry et al
Ryan et al.

2008 Yee et al

2010 Gandasegui
Przybylski et al.

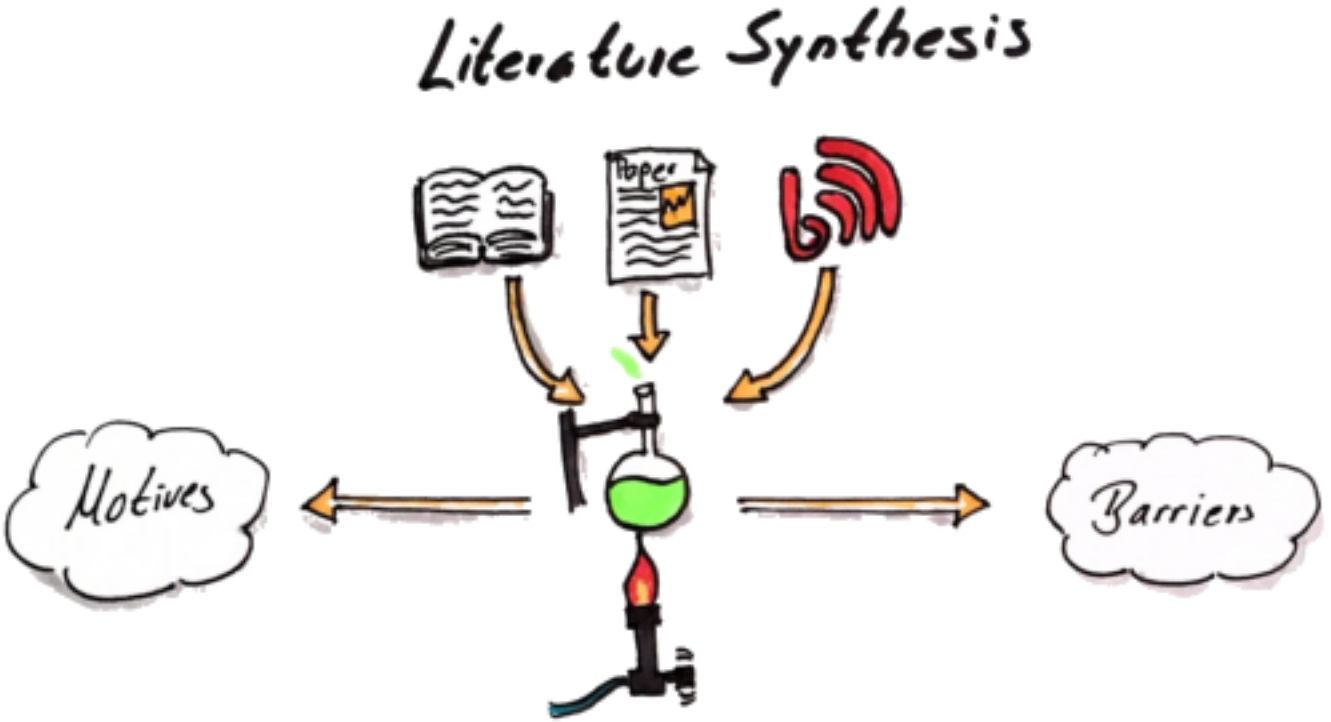
2011 Kallio et al
Leigh
Carmichael
Wong, Cheese
Tseng
Stewart
Kallio et al

2013 Billieux
Graham, Gosling

2015 Lovato
Kahn et al.

2017 Holmes

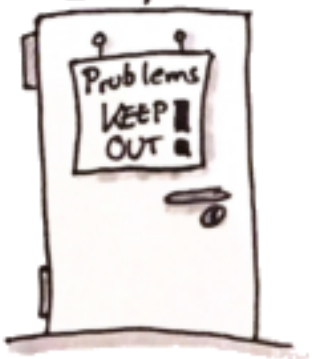
t


Literature Synthesis
Paper
Motives
Barriers

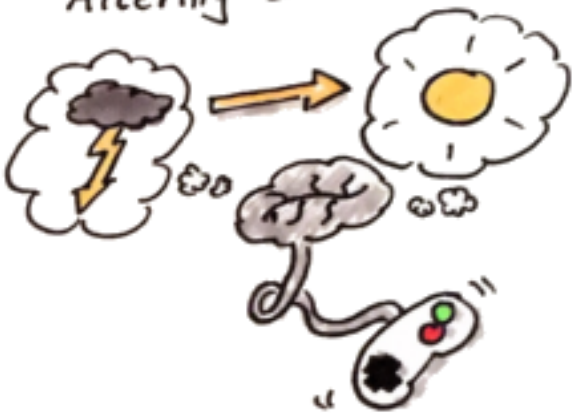
Motives

Sociability

Escapism



Altering Emotional States



Competition

Time Killing

Immersion

Achievement

Exploration

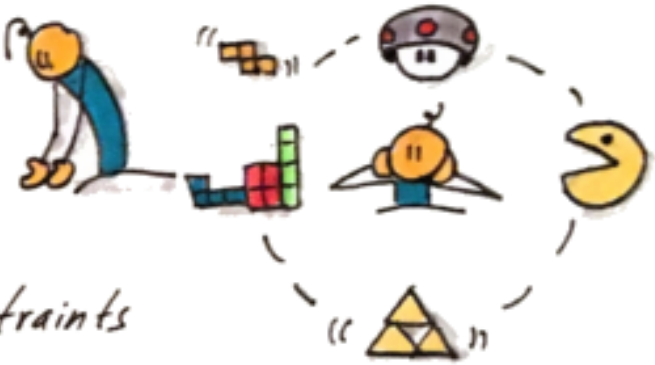
Barriers

Complexity

Aesthetics

Inaccessibility of Game Devices

Hyperchoice



Unfamiliarity

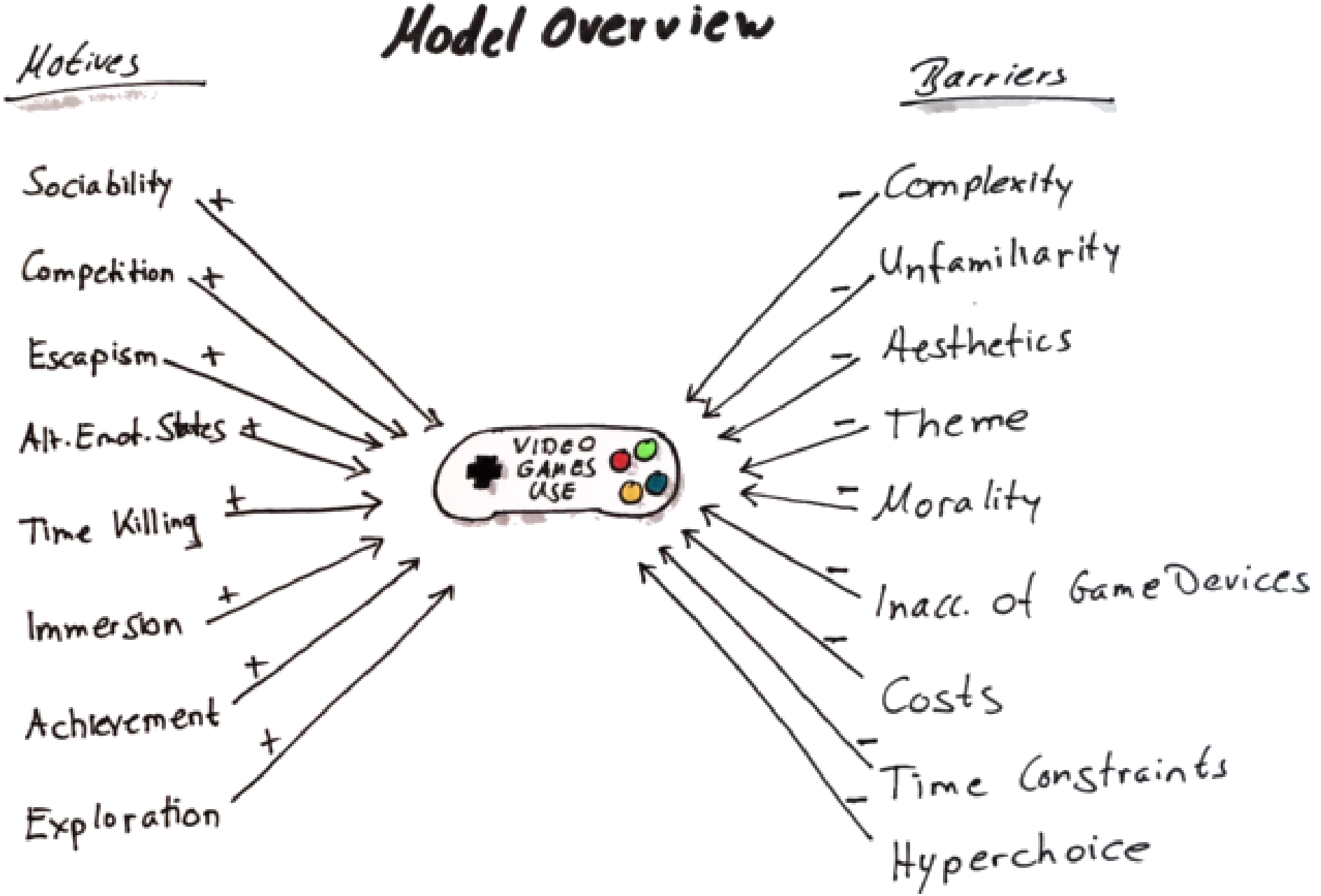
Morality

Time Constraints

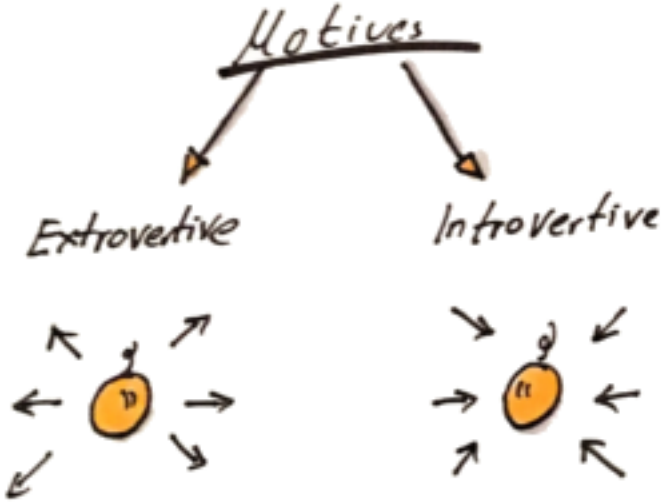
Theme

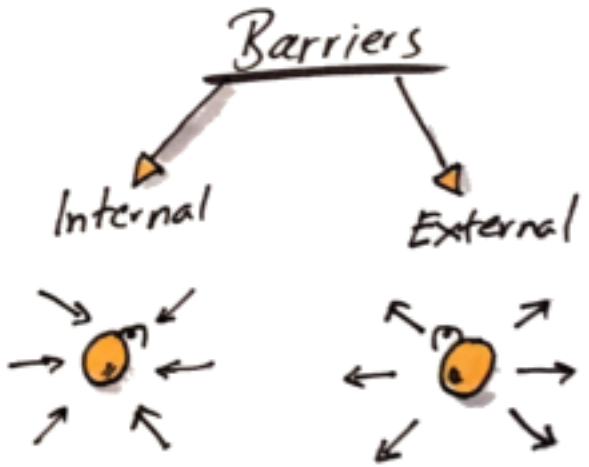
Costs

Model Overview

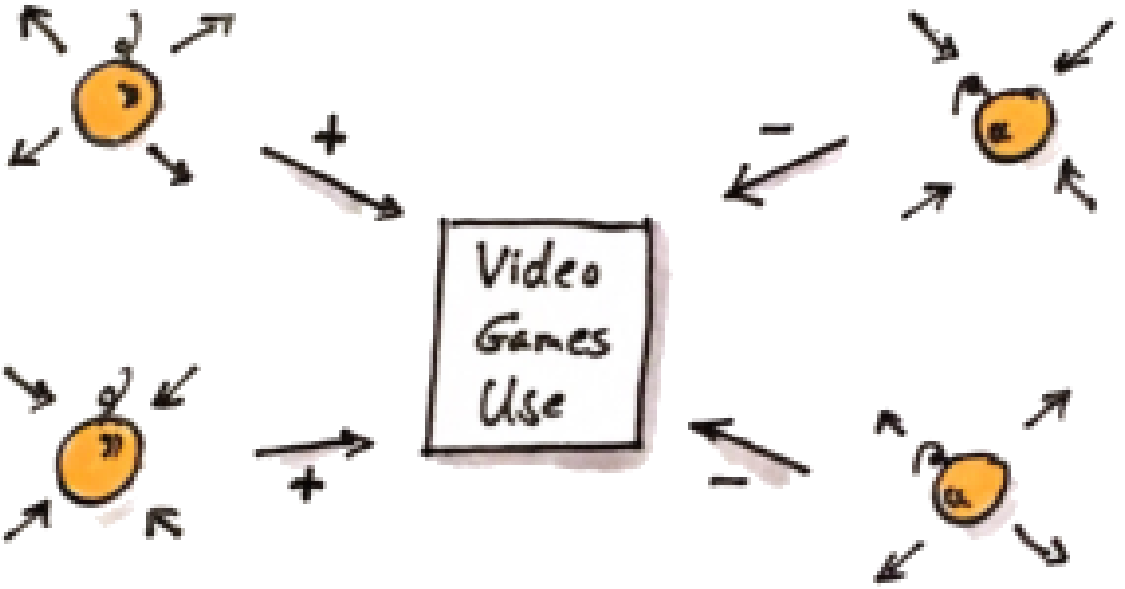


Motives & Barriers - Direct Effects



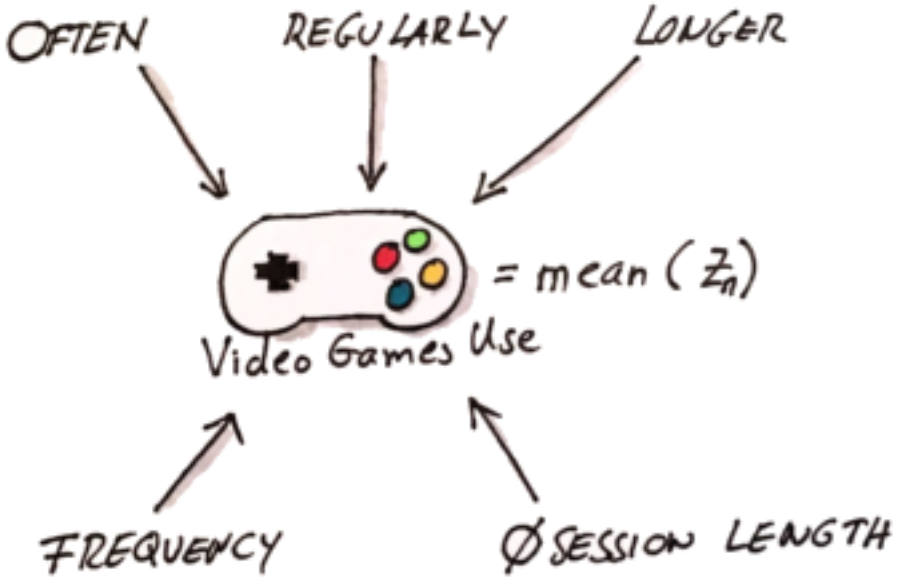


Factorized Model



Research Methodology

Measuring the Dependent Variable



Z-scores:

$$z_i = \frac{x_i - \bar{x}}{s}$$

Measuring the Independent Variables

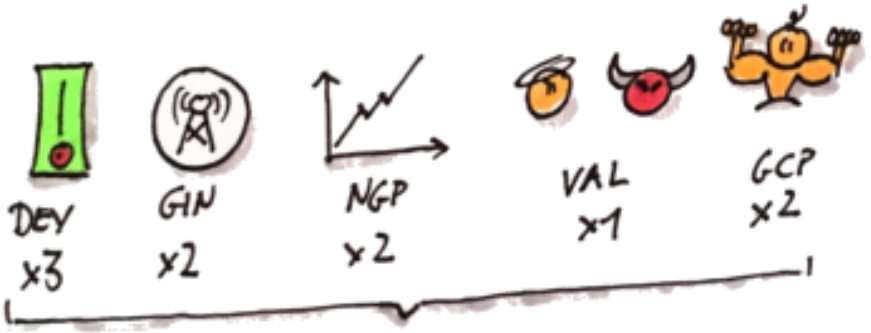
	1 disagree	...			1 agree
Item_1	○	○	○	○	○
Item_2	○	○	○	○	○
Item_3	○	○	○	○	○

} $Scale_i$

$$Score\ (Scale_i) = mean\ (Item_{1..3})$$

Sample Description

Determine the Gamer Type:



$$\frac{\Sigma}{10} = \text{COREness}$$

<2.5 CASUAL

>2.5 CORE

>50% University Diploma or Postgrad!

Results

Reliability & Unidimensionality of Scales

Reliability

→ Cronbach's α

Video Game Usage $\alpha = 0.890$ ✓

Independent Variables $\alpha > 0.700$ ✓

Coreness Scale $\alpha = 0.884$ ✓

Unidimensionality

→ Principal Component Analysis

Kaiser Criterion Eigenvalue > 1

↓

✓

Assumptions

- ☑ Linear
- ☑ Additive

Regression Equation:

$$Usage_i = B_0 + B_1 \times Soc. + B_2 \times Comp. + \ldots + \epsilon_i$$

Model Testing - Model 1

all VIF ≤ 3 ✓
no multicollinearity

	B	β	t-stat.	p	VIF
Intercept	-1.123		-6.020	0.000	
Competition	0.073	0.110	2.242	0.026	2.152
Alt. Enrol. St.	0.088	0.120	2.095	0.037	2.917
Time Killing	0.121	0.167	3.552	0.000	1.958
Immersion	0.084	0.133	2.379	0.018	2.755
Exploration	0.170	0.245	4.393	0.000	2.772
Unfamiliarity	-0.170	-0.190	-3.270	0.001	2.978
Time Const.	-0.121	-0.180	-5.030	0.000	1.138

only $p < 0.05$ shown

R^2	0.714
R^2 (adj.)	0.694
F-Stat.	35.227
Prob(F-stat)	0.000
Durbin-Watson	2.065

→ independency of errors ✓

DV = Video Game Use
N = 273

Model Testing - Model 2 (factorized)

	B	β	t-stat.	p	VIF
Intercept	-0.174		-2.830	0.005	
Introv. Motives	0.560	0.672	18.816	0.000	1.055
Extrov. Motives	0.212	0.254	7.219	0.000	1.023
Intern. Barriers	-0.200	-0.240	-6.430	0.000	1.148
Extern. Barriers	-0.115	-0.138	-3932	0.045	1.015
Gender	0.236	0.124	3.206	0.002	1.241

R^2	0.677
R^2 (adj.)	0.671
Fstat.	111.761
Prob.(F-stat.)	0.000
Durbin-Watson	1.807

DV = Video Games Use

N = 273

Regression Analysis (with factor scores)

Adequacy of Sample?

KMO = 0.807

How many?

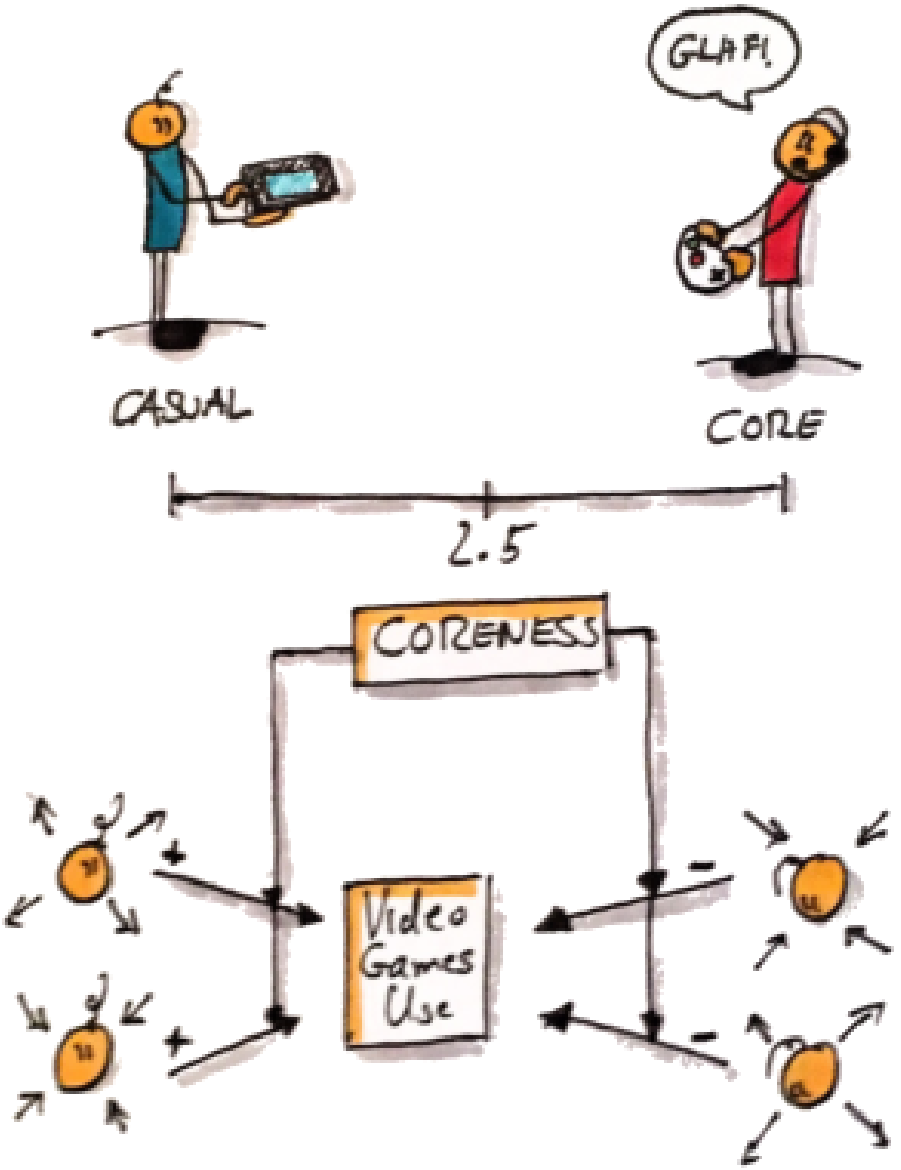
Parallel Analysis

4

PCA

Component	Construct
1	Introv. Motives
2	Intern. Barriers
3	Extrov. Motives
4	Extern. Barriers

Post-Hoc Analysis - Game Type as Moderator ?



Model Testing - Model3

<3

		B	β	tstat.	p	VIF
Sign.	Intercept	0.007		0.098	0.922	
	Intrav. Motives	0.373	0.447	9.601	0.000	2.026
	Extrav Motives	0.124	0.149	4.030	0.000	1.348
	Int. Barriers	-0.121	0.145	-3.465	0.000	1.763
	Ext. Barriers	-0.085	0.102	-2.736	0.001	1.291
	Coreness	0.298	0.357	6.477	0.000	2.584
	IA Coren. x Intro. Mot.	-0.087	0.099	-2.769	0.006	1.195
non-sig.	IA Coren. x Extr. Mot	-0.015	0.018	-0.532	0.595	1.128
	IA Coren. x Int. Barr.	-0.022	0.026	-0.722	0.471	1.283
	IA Coren. x Ext Barr.	-0.036	0.044	-1.268	0.206	1.217
	Gender	0.044	0.023	0.551	0.551	1.217

R^2	0.734
R^2 (adj)	0.724
F-Stat.	72.268
Prob (F-Stat.)	0.000
Durbin-Watson	1.962

DV: Video Games Use
N = 273

Discussion of Results

Model 2 → Factors
- Effect Sizes
- Gender

Model 1
- Significant Motives / Barriers
- non-significant Motives / Barriers

Model 3
- Core vs Casual
- Interaction → only one
- Coreness (effect size)

→ **Main Drivers for Video Gaming**
- Exploration
- Time Killing
- Immersion
- Altering Emotional States
- Competition

Main Obstacles
- Unfamiliarity
- Time Constraints

Sample Composition

♀ 24%

♂ 76%

Implications

Limitations

Future Research

https://github.com/bartschat

- Thesis incl. all references
- Presentation

Contact: bartschat@mailbox.org

DISCUSSION