



## La enginyeria inversa de l'ús abusiu de les TIC: pot ser la persuasió tecnològica una eina de prevenció?

Dr. Manuel Armayones  
Director Desenvolupament  
eHealth Center UOC



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HEALTH IT, MEDCITY INFLUENCERS

## Is digital health a behavioral science?

Dr. Brennan Spiegel, a physician-scientist at Cedars-Sinai Medical Center, has cited his own experience of attempting to build health technology whilst not addressing behavioral factors like patient motivation, engagement, and long-term adherence.

By SHERRY PAGOTO AND ERIC HEKLER

1 Comment / May 30, 2018 at 3:13 PM



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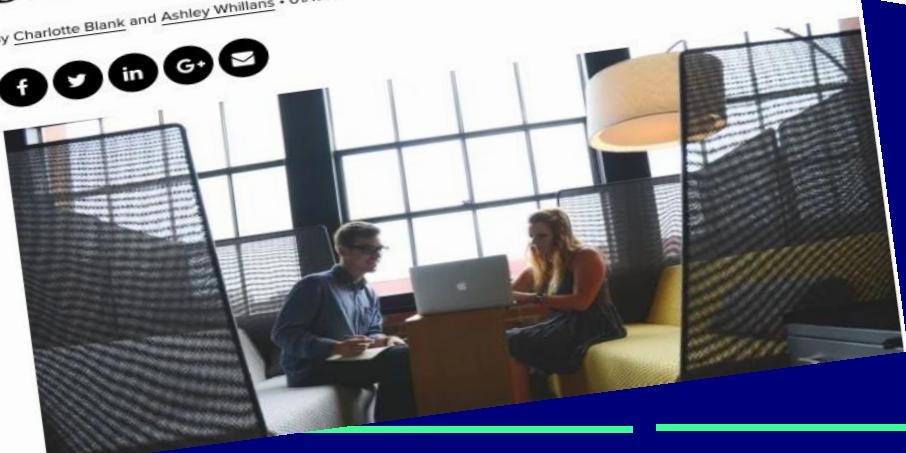
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HLTH 2019

@armayones

# Why You Need a Chief Behavioral Officer

By Charlotte Blank and Ashley Whillans • 01/18/18 10:50am



**HARVARD BUSINESS SCHOOL**

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EDITORIAL | OBSERVER | JANUARY 18, 2018

### Why You Need a Chief Behavioral Officer

by Charlotte Blank and A.V. Whillans

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Format: EU

TECHNOLOGY | ECONOMY | STARTUPS | PERSONNEL

READ NOW

*Chief Behavioral Officer." Observer (January 18, 2018).*

**About the Author**

**Ashley V. Whillans**  
Negotiation,  
Organizations &  
Markets

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1  
SEGUIR UNA  
DIETA SALUDABLE

2  
MANTENERSE  
FÍSICAMENTE ACTIVO,  
A DIARIO Y CADA  
UNO A SU MANERA

3  
VACUNARSE

4  
NO CONSUMIR  
TABACO EN NINGUNA  
DE SUS FORMAS

5  
EVITAR EL CONSUMO  
DE ALCOHOL  
O REDUCIRLO

6  
GESTIONAR EL ESTRÉS  
PARA UNA MEJOR SALUD  
FÍSICA Y MENTAL





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SEARCH  CURRENT STUDENTS STAFF UOW GLOBAL

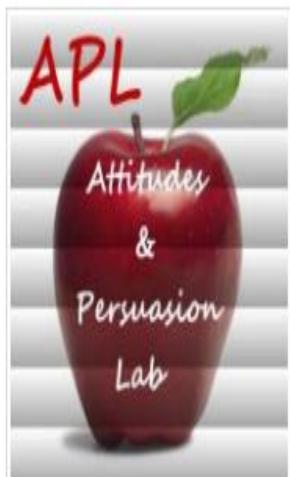
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# Centre for Persuasive Technology and Society (CPTS)



# APL (Attitudes & Persuasion Lab)



Research in the lab focuses broadly on the situational and individual difference factors responsible for changes in beliefs, attitudes, and behaviors. Much of this work explores implications of the Elaboration Likelihood Model of persuasion for understanding prejudice, consumer choices, political and legal decisions, and health behaviors. Topics of special current interest include: understanding the role of meta-cognitive (e.g., confidence/certainty) as well as implicit (automatic or unconscious) factors in persuasion, resistance to change, and advocacy; the effect of racial and ethnic prejudice, stereotypes, specific emotions and morality on social judgment and behavior. Lab members also investigate how people correct their evaluations for various factors they think may have biased their judgments (such as stereotypes they hold or emotions they are experiencing).

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# PERSUASIVE HEALTH TECHNOLOGY



## WELCOME TO THE PERSUASIVE HEALTH TECHNOLOGY LAB!

The lab persuasive health technology (Center eHealth Research & Wellbeing) focuses on personalized healthcare supported by technology. We apply a holistic approach to develop successful and engaging eHealth technologies and we study the effects and impact of these technologies on society, communities, and individuals. In this, we take into account the "whole human being" in the context of living and working. Our research is interdisciplinary based, rooted in persuasive psychology, engineering, and implementation science. We study and build on the interplay of technology, human life, and society. Check out the 90 seconds video above for a short introduction of our lab!

## CONTACT

[Prof. Dr. J. \(Lisette\) van Gemert-Pijnen](#) 

## OUR WORK

- Our Projects



Overview [Behavior Design](#) [Behavior Wizard](#) [Mobile Health](#) [Peace Innovation](#) [Archived Projects](#) [Archived Projects](#)



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## Behavior Design

The best design solutions today change human behavior. Yet despite decades of research, challenges remain for people who design to influence.

First, "persuasion" seems a dirty word. It shouldn't be. We should now embrace that we're in the business of behavior change. Next problem: conceptual confusion. The landscape of persuasion can be disorienting, muddied by impractical theories and over-hyped techniques. Our new work provides a clear view of behavior change, including language that is simple yet accurate.

Behavior change is a step-by-step process. This explains why one-shot solutions rarely achieve outcomes that matter most. To help designers and researchers succeed more often, my Stanford lab has created the ["Behavior Wizard,"](#) which maps routes to the 15 ways behavior can change.

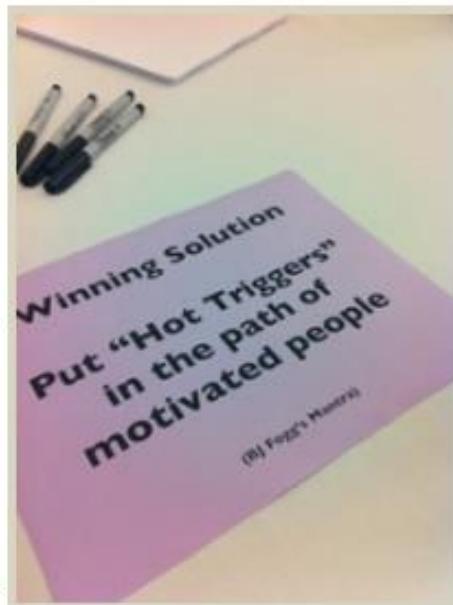
## What Matters in Behavior Design

1. We humans are lazy. BJ Fogg has mapped out the [six elements of simplicity](#) that account for this reality. With this new insight, we can pinpoint why many designs fail to achieve results. Simplicity matters more than motivation when it comes to influencing people.

2. Hot triggers change people. Many people would argue that information matters most when designing for behavior change. Not so. [Hot triggers](#) are the most powerful element in changing behavior.

3. Daily habits are powerful. In fact, daily habits are the most powerful of all behaviors. While technology can help people create good habits most attempts fail. Why? Few designers understand the psychology of long-term behavior change. We know what it takes to create a habit – in yourself, a customer, your dog.

Designing for behavior change via social and mobile tech is new, with no leading books or conferences to turn to. Our lab is working to change that. Come join us.



## GET CONNECTED

Enter your email address to receive monthly or bimonthly updates from the lab

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Stanford GRADUATE SCHOOL OF EDUCATION



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## eHealth y Psicología: la dimensión humana de la salud digital

5 de agosto de 2019

# "Chief Behavioral Officers" Sanitarios

La figura del Chief Behavioral Officer (CBO) se abre paso en grandes organizaciones como Netflix o Amazon entre otras. El estudio del comportamiento de usuarios y clientes ha sido básico para su éxito. ¿Por qué no CBO's sanitarios que tengan como objetivo ayudar a pacientes y profesionales a lograr el ansiado "cambio de hábitos" que continuamente se nos propone?



**L**a figura del Chief Behavioral Officer, que quizás en español podríamos traducir como: "Director de Ciencias del Comportamiento", o quizás "Director de la Unidad de Análisis del comportamiento"...se aceptan sugerencias porque reconocemos que no es un nombre afortunado...Pues bien ese Chief Behavioral Officer (CBO)...





**= 5 min**



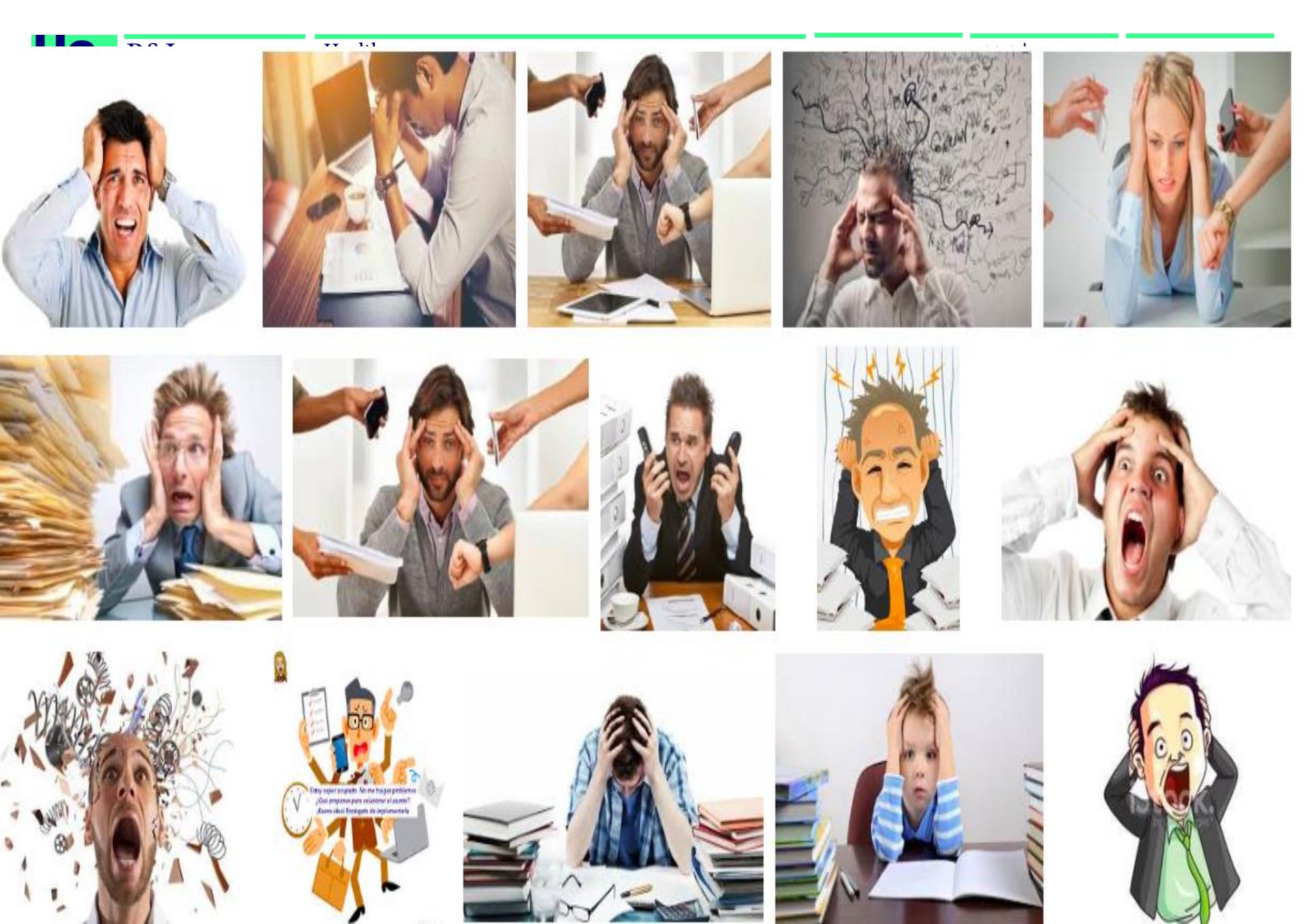
**+ = 15 min**



**+ + = 55 min**



**+ + + = ∞**



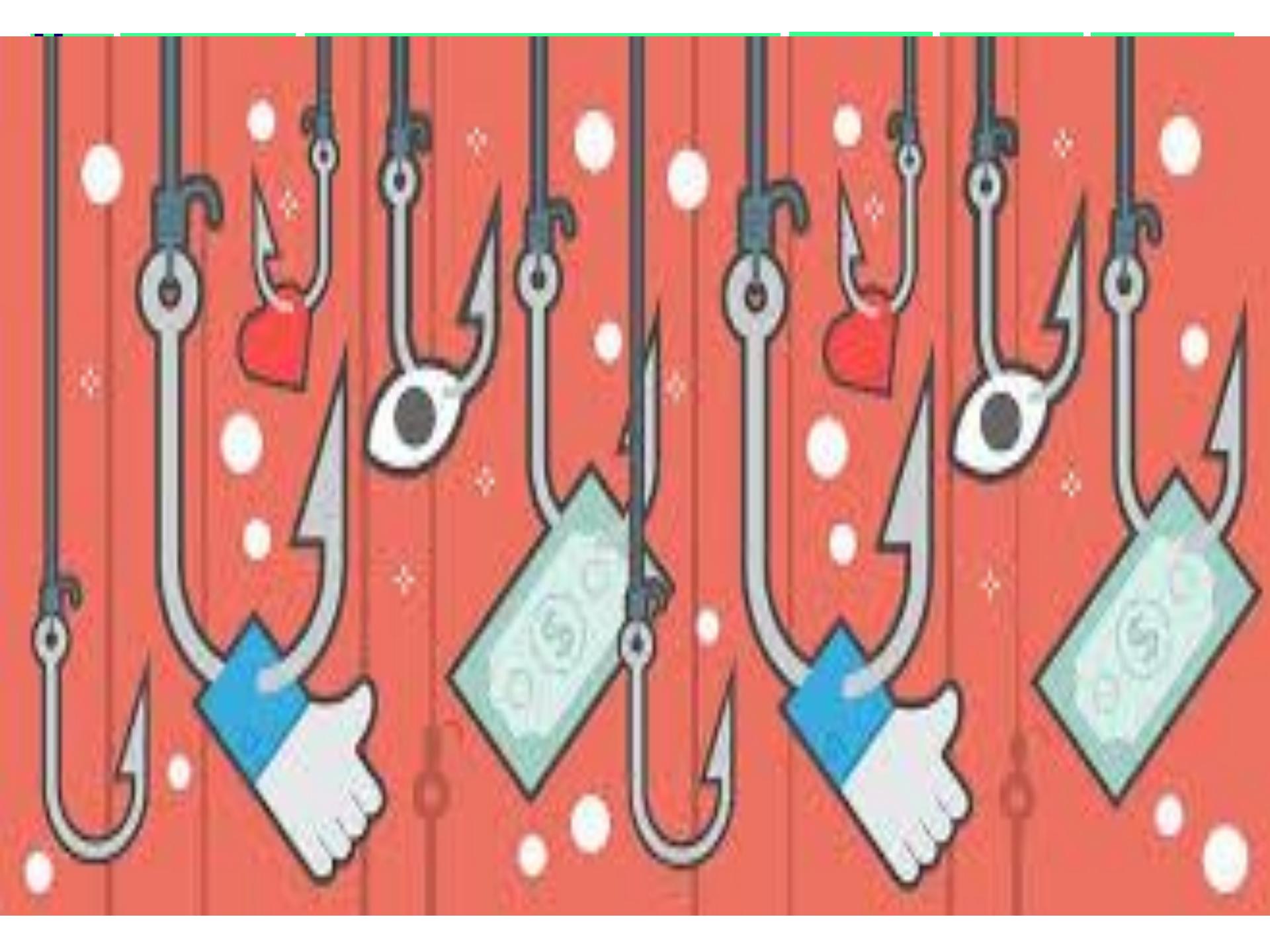
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Asociación Profesional Española  
de Naturopatía y Bioterapia











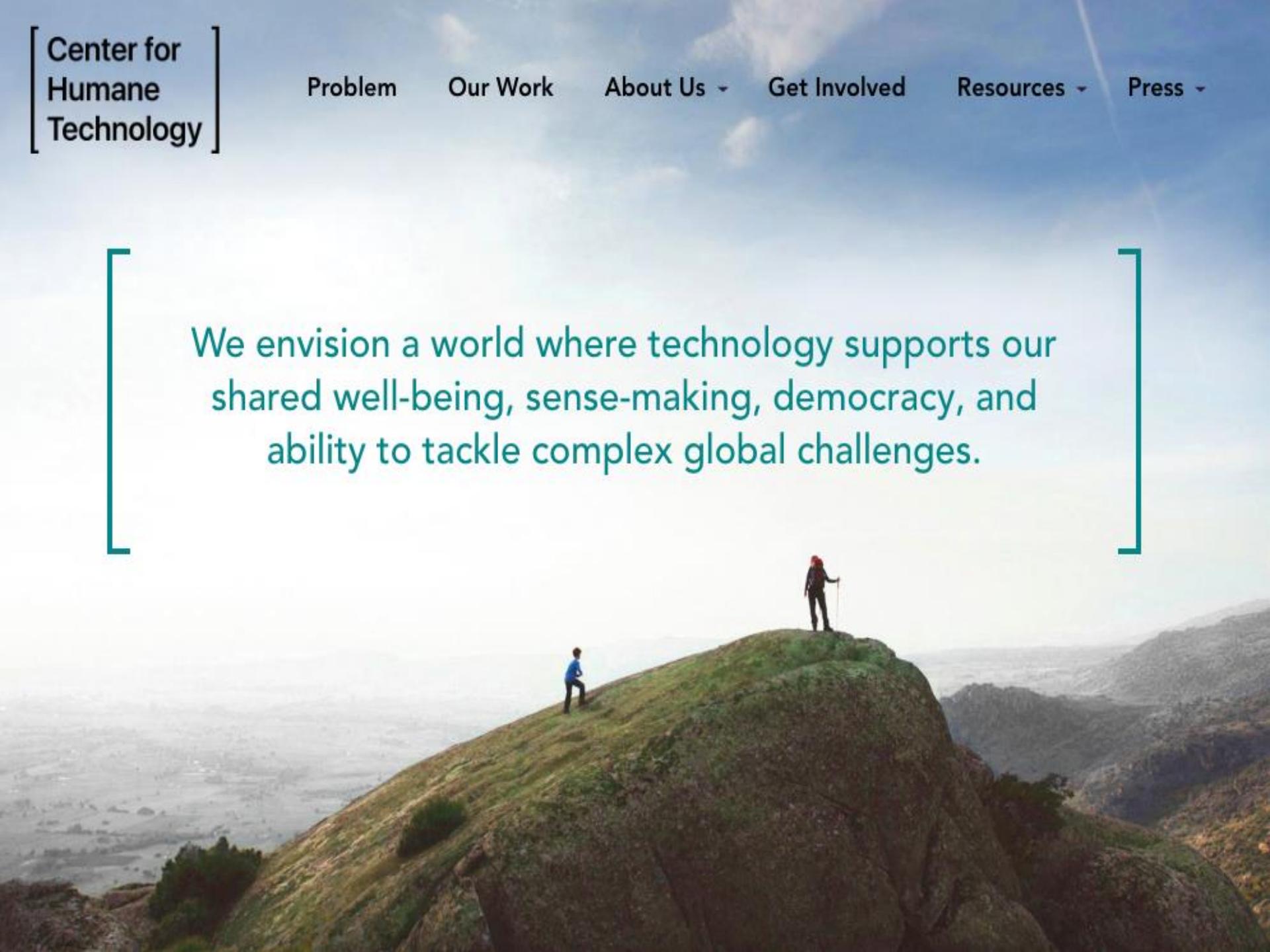
Justin Rosenstein

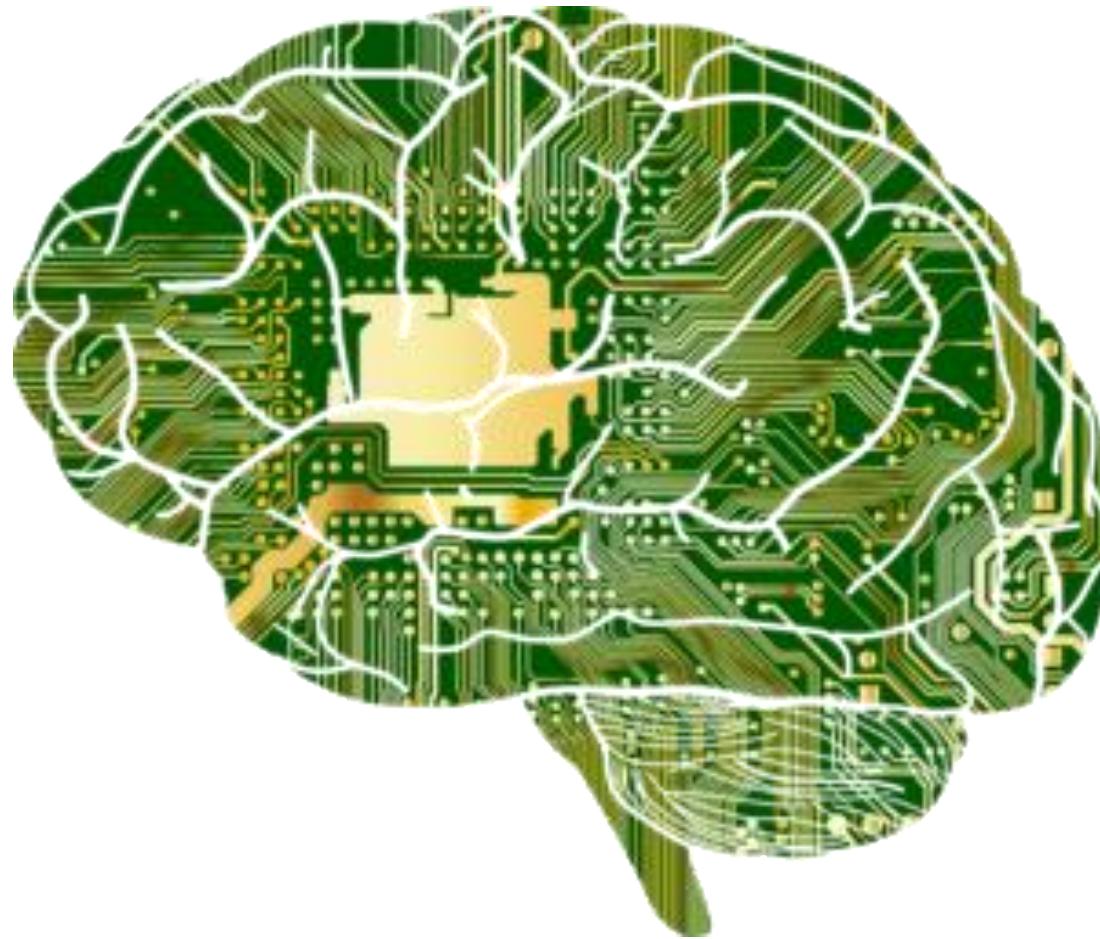


Jaron Lanier

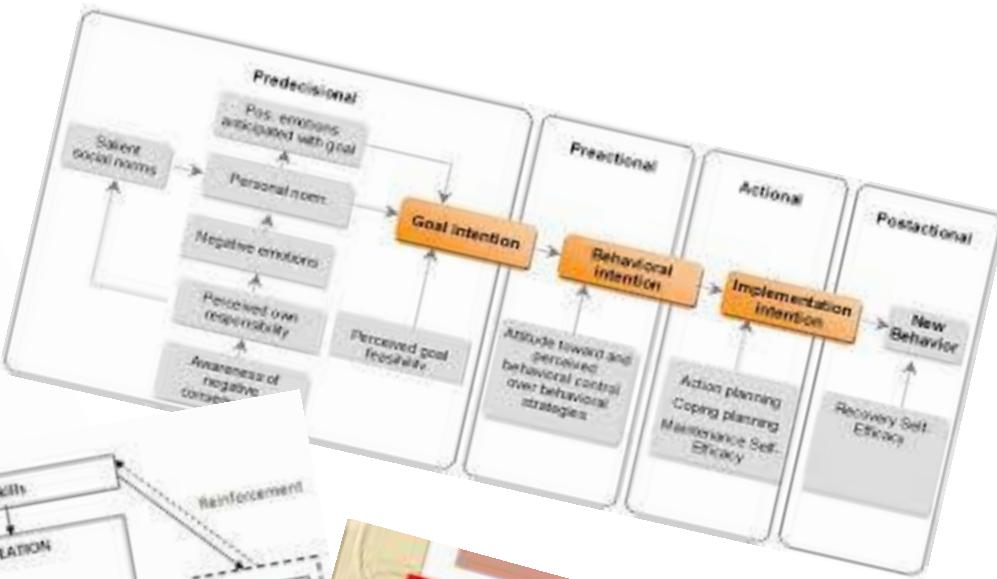
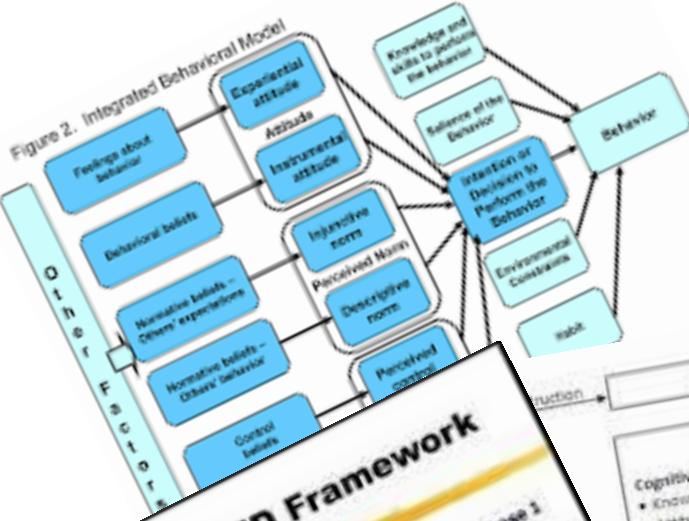


We envision a world where technology supports our shared well-being, sense-making, democracy, and ability to tackle complex global challenges.

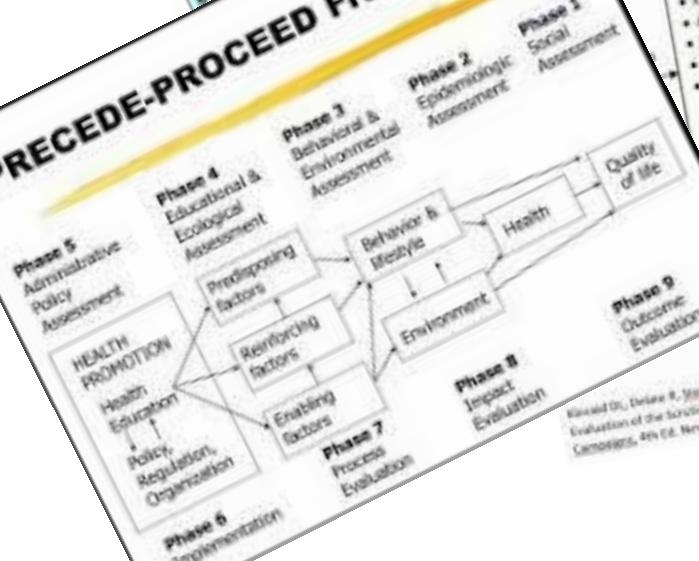




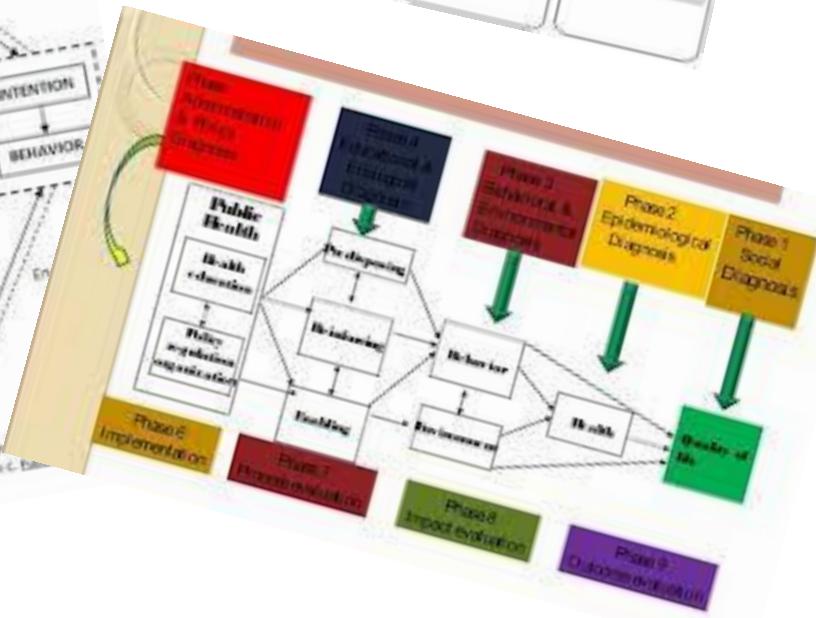




## PRECEDE-PROCEED Framework



Kwaidi D, Deale R, Maita ID & Fugueira ML. (2013). Closing the gaps in HIV prevention: Evaluation of the Sonke HIV Campaign in South Africa. In Rice R & Atiles C. *Handbook of HIV/AIDS Prevention and Intervention*. 4th Ed. Newbury Park, CA: Sage. pp. 305-329.

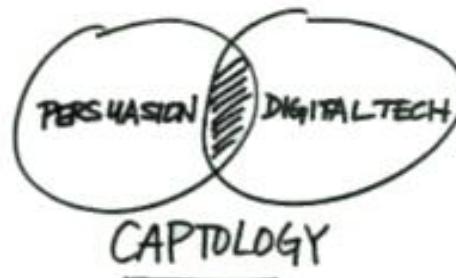




## Captology

Every day more and more computing products, including websites and mobile apps, are designed to change what people think and do.

[Learn more](#)



Persuasive Technology Lab  
Stanford University

## Persuasion & Technology

BJ Fogg, Ph.D.

Stanford University

Persuasive Technology Lab



11:29

Fri, 2006



## WELCOME TO THE LAB

The Stanford Persuasive Technology Lab creates insight into how computing products — from websites to mobile phone software — can be designed to change what people believe and what they do.

[Learn more about the lab](#)

## MACHINES DESIGNED TO CHANGE HUMANS

Yes, this can be a scary topic: machines designed to influence human beliefs and behaviors. But there's good news. We believe that much like human persuaders, persuasive technologies can bring about positive changes in many domains, including health, business, safety, and education.

We also believe that new advances in technology can help promote world peace in 30 years. With such positive ends in mind, we are creating a body of expertise in the design, theory, and analysis of persuasive technologies, an area called captology.

[Read 7 Points on Ethics and Persuasive Technology](#)

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## GET CONNECTED

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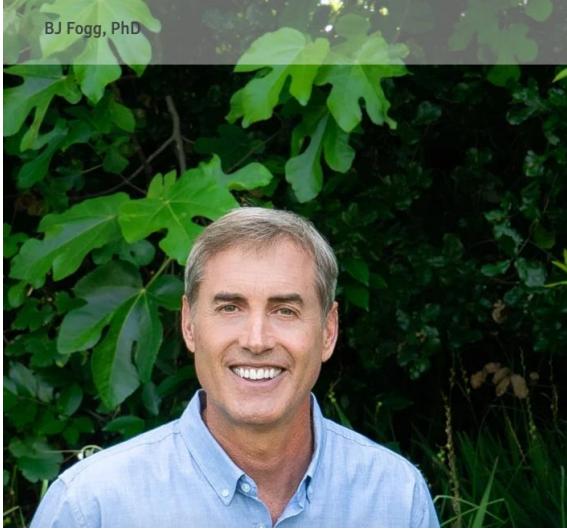
## DESIGN RESOURCES for BEHAVIOR CHANGE

Tools for understanding human nature, hot triggers, & new habits.

GO

## INFORMATION FOR:

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Hello!

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# BJ Fogg, PhD

Behavior Scientist at Stanford University

I teach good people how behavior works so they can create products & services that benefit everyday people around the world.

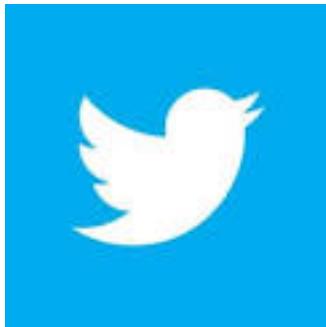
*Warning: As I'm getting older, I'm also getting bolder. Now in my 50s I have less time to be timid. I probably will offend some people, but I hope you will appreciate my directness. Here we go...*

In 2007 I solved an important puzzle about human behavior. At the time of discovery I was delighted, but I didn't fully grasp the power and potential of this thing I called the "Fogg Behavior Model."

In written form, my model looks like this:

D → M → D





High

Motivation

Low

# Fogg Behavior Model

BehaviorModel.org

**B: MAP**  
at the same moment

**Prompts**  
succeed here

*Action Line*

**Prompts**  
fail here

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Hard to Do

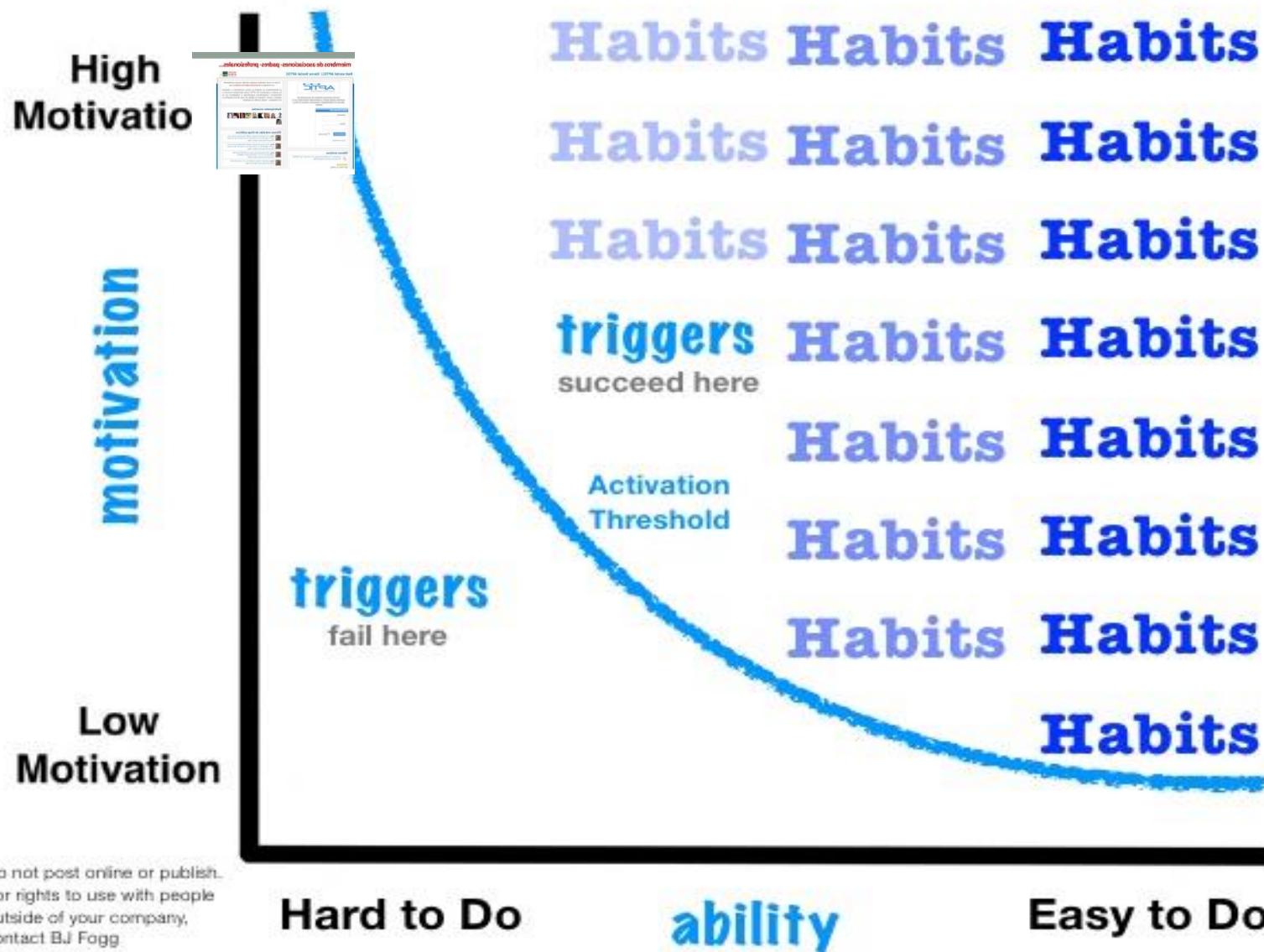
**Ability**

Easy to Do

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# Fogg Behavior Model

[www.BehaviorModel.org](http://www.BehaviorModel.org)



**B = mat**

at same moment

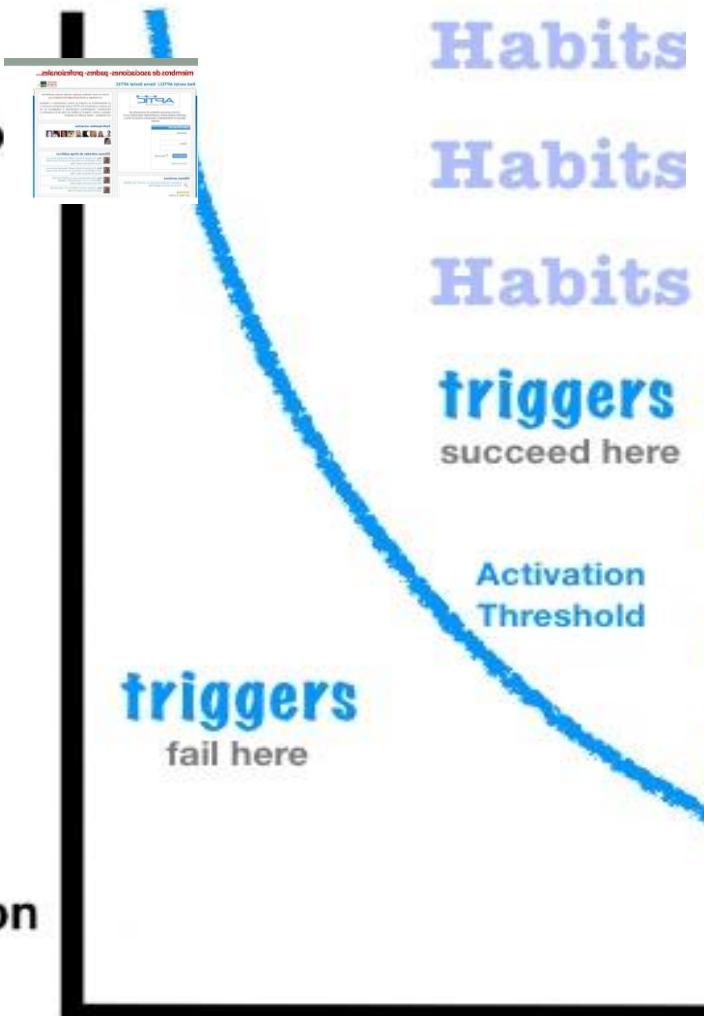
# Fogg Behavior Model

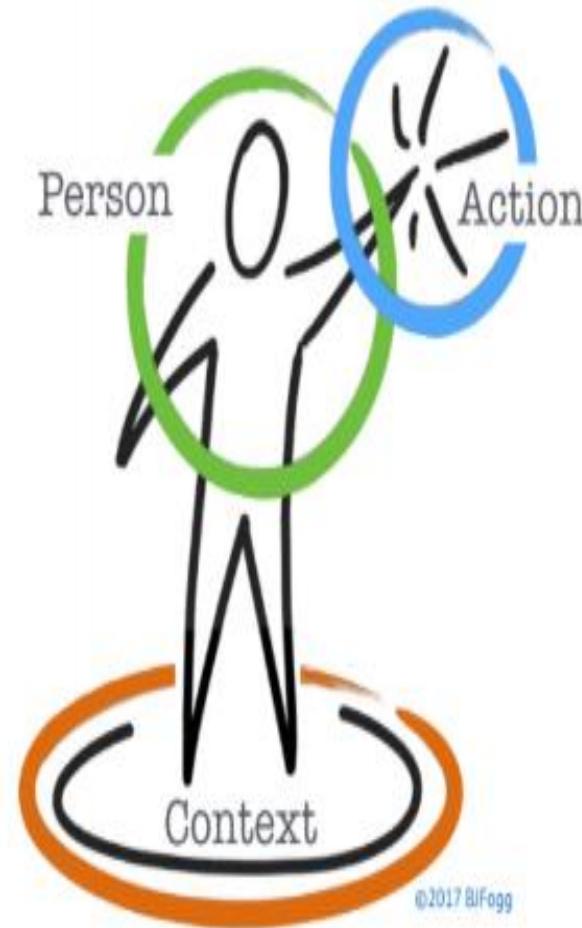
[www.BehaviorModel.org](http://www.BehaviorModel.org)

High Motivation

motivation

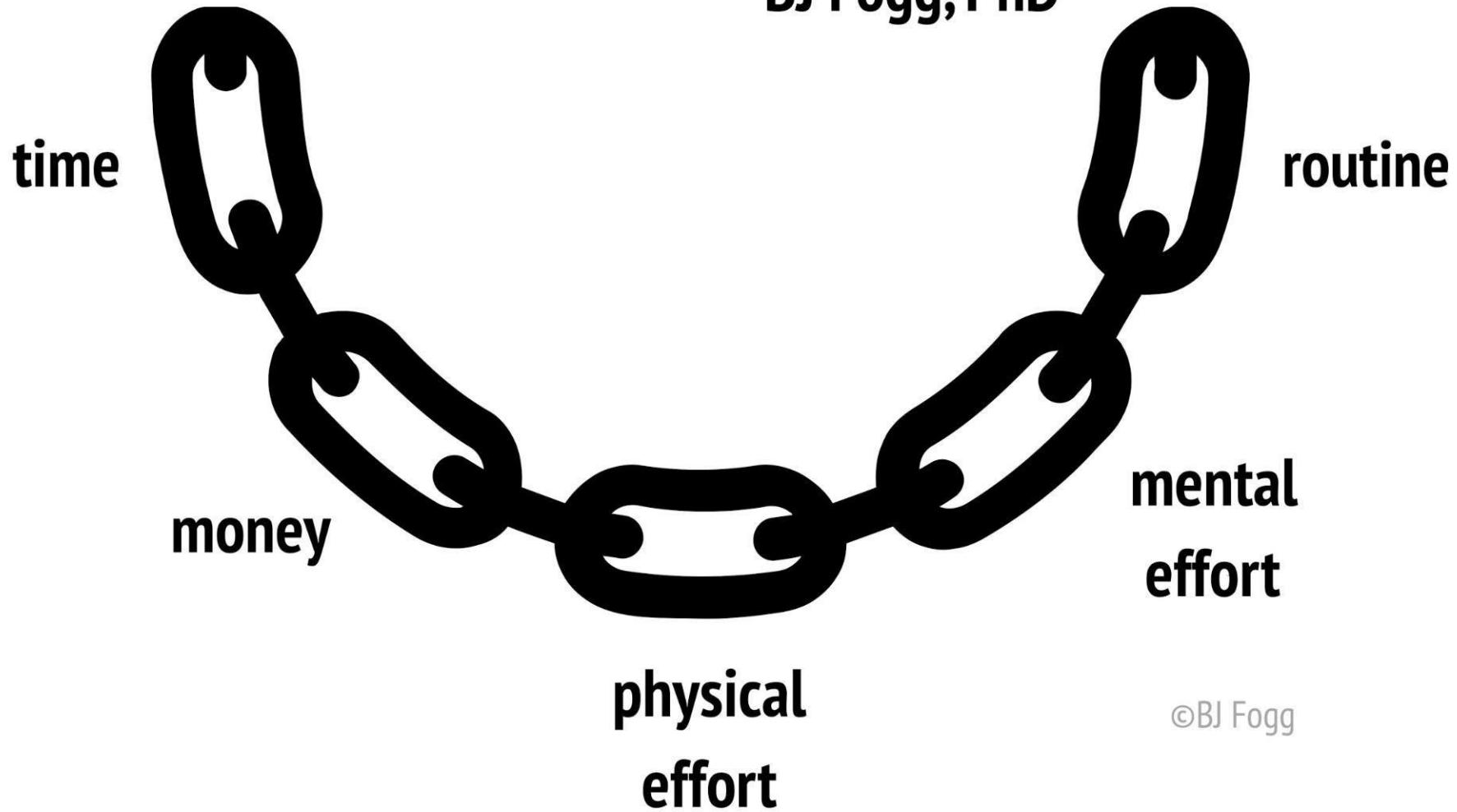
Low Motivation





# Ability Chain

BJ Fogg, PhD



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# ¿CÓMO QUIERES JUGAR?



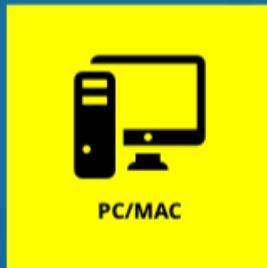
PLAYSTATION



XBOX



NINTENDO SWITCH



PC/MAC



MÓVIL

EPIC GAMES

REGISTRARSE

Spain

\*Nombre  \*Apellidos

\*Nombre de usuario

\*Dirección de correo electrónico

\*Contraseña

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## Sensation is a Core Motivator



## Anticipation is a Core Motivator



## Belonging is a Core Motivator



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Fortnite • Este es nuestro particular ranking con lo mejor de la escena competitiva

## Top 10: Los mejores jugadores de Fortnite

29/06/2019 | 09:49 CEST



Rubén Gutiérrez

Comentar >

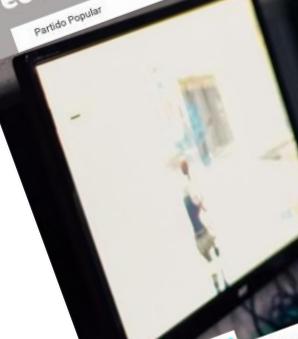
EL NBA LEAGUE PASS  
LOS TIENE TODOS.

EMPEZAR A VER



ED economíaDigital

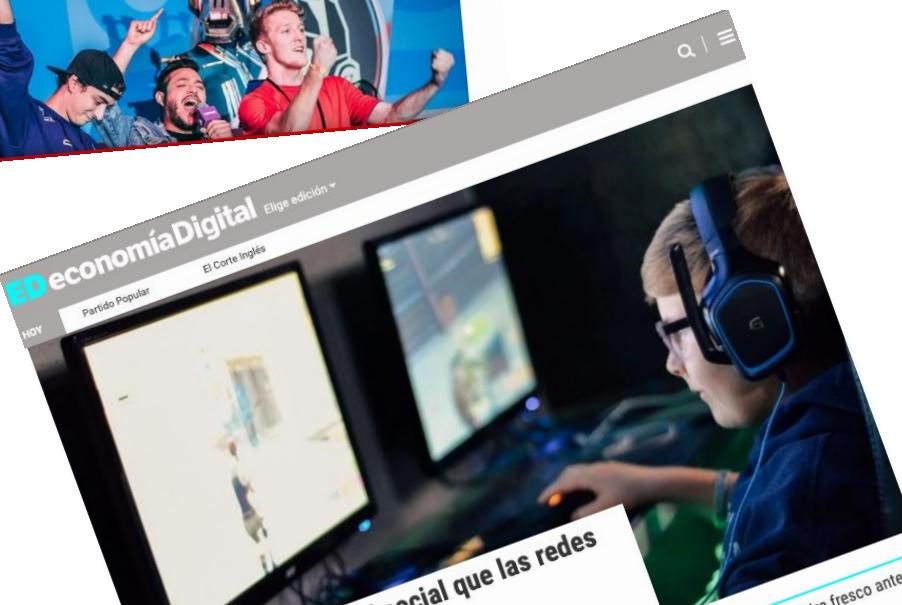
Elige edición ▾



TECNOLOGÍA Y TENDENCIAS  
Fortnite es mejor red social que las redes  
sociales

→ Así es Apex Legends, el juego que hace sombra a Fortnite  
→ Netflix: "Competimos con Fortnite más que con HBO"

Fortnite es un videojuego y no una red social, pero muchas de sus virtudes son un soplo de aire fresco ante la  
oferta de Facebook, Twitter e Instagram



High

Motivation

Low

Hard to Do

Ability

Easy to Do

# Fogg Behavior Model

BehaviorModel.org

~~B: MAP~~  
at the same moment

Prompts

succeed

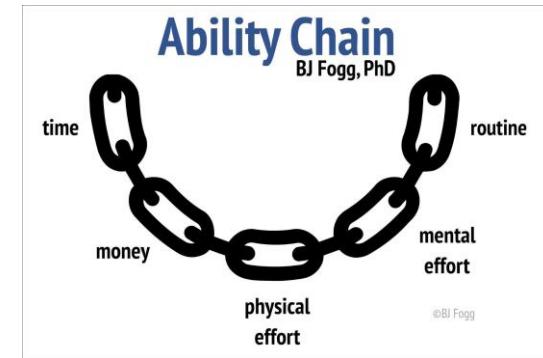


Prompts  
fail here

tion Line

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High

Motivation

Low

# Fogg Behavior Model

BehaviorModel.org

~~B:MAP~~  
at the same moment

Prompts  
succeed here



Prompts  
fail here



Hard to Do

Ability

Easy to Do

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High

Motivation

Low

Hard to Do

Ability

Easy to Do

# Fogg Behavior Model

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**B: MAP**  
at the same moment

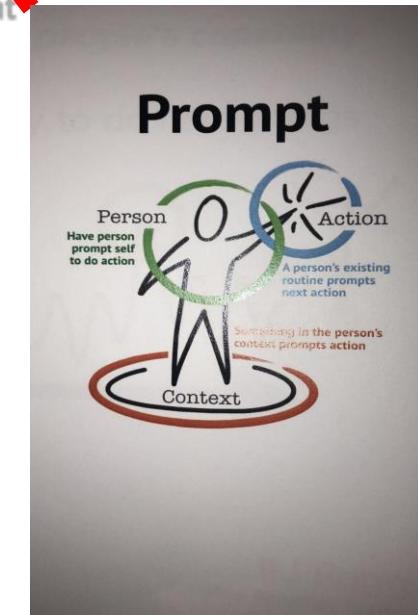
Prompts  
succeed here

Action Line

Prompts  
fail here

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# BCT Taxonomy

4+

David Crane

★★★★★ 5.0, 2 Ratings

Free

## iPhone Screenshots

02-UK 12:49 60%

BCTs Taxonomy

By category

Filter items...

- 1. Goals and planning
- 2. Feedback and monitoring
- 3. Social support
- 4. Shaping knowledge
- 5. Natural consequences
- 6. Comparison of behaviour
- 7. Associations
- 8. Repetition and substitution

Grouped All About Help Contact

02-UK 12:49 60%

back BCTs Taxonomy

1. Goals and planning

- 1.1 Goal setting (behaviour)
- 1.2 Problem solving
- 1.3 Goal setting (outcome)
- 1.4 Action planning
- 1.5 Review behavior goal(s)
- 1.6 Discrepancy between current behavior and goal
- 1.7 Review outcome goal(s)
- 1.8 Behavioral contract

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02-UK 12:49 60%

back BCTs Taxonomy

1.1 Goal setting (behaviour)

Set or agree a goal defined in terms of the behavior to be achieved.

Examples

Agree a daily walking goal (e.g. 3 miles) with the person and reach agreement about the goal.

Set the goal of eating 5 pieces of fruit per day as specified in public health guidelines.

Notes

- Only code goal-setting if there is sufficient evidence that goal set as part of intervention;

Grouped All About Help Contact

02-UK 12:49 60%

BCTs Taxonomy

About

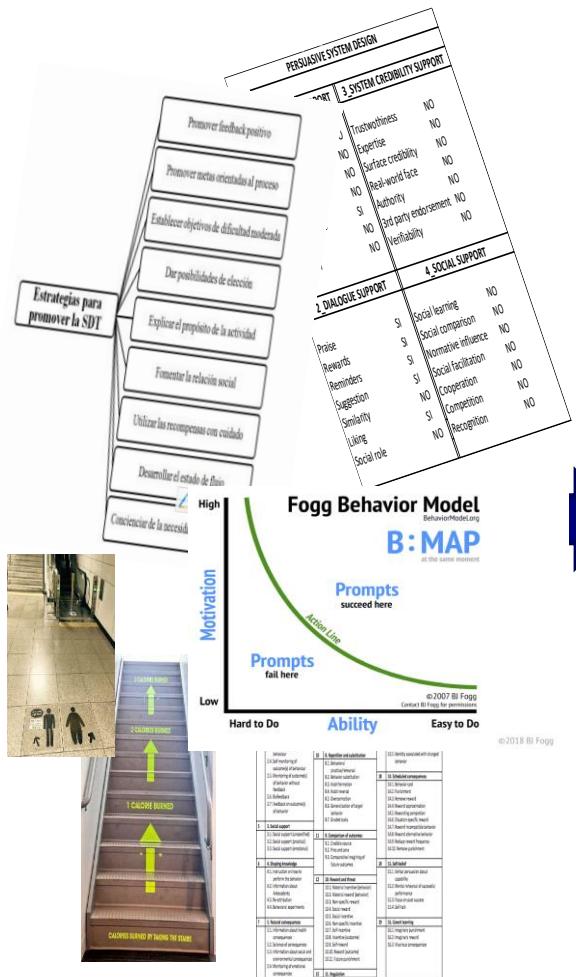
Background

We lack a shared language for describing the content, especially the active ingredients, of behaviour change interventions (i.e. the techniques that lead to behaviour change). This limits the possibility of replicating effective interventions, of synthesising evidence, and of understanding the causal mechanisms underlying behaviour change.

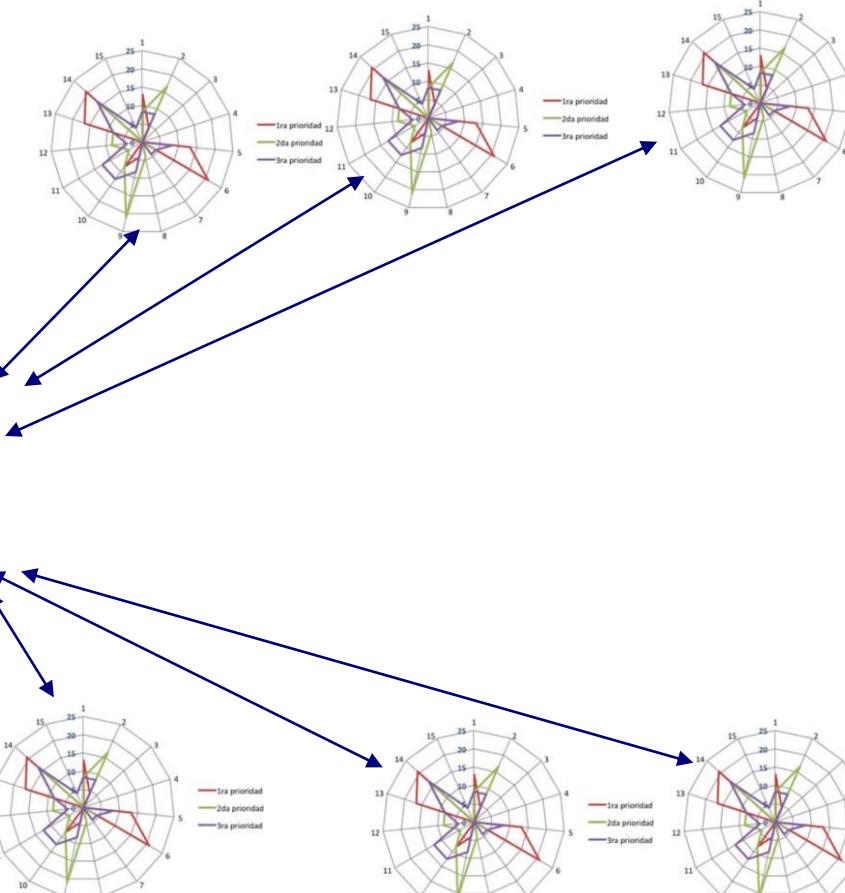
The Behaviour Change Technique Taxonomy Version 1 (BCTTv1)

The taxonomy provides a reliable and generalizable nomenclature of behaviour change techniques which can be used as a method for

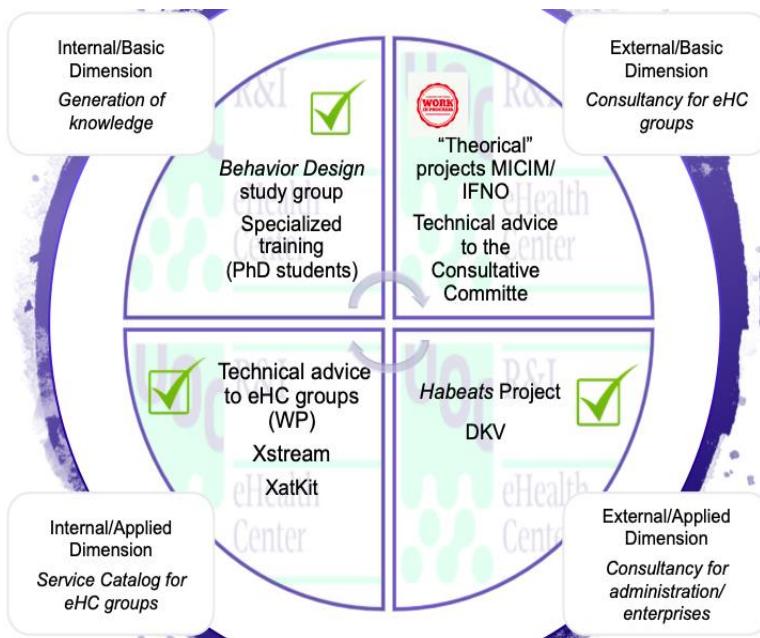
Grouped All About Help Contact



Aplicaciones eHealth (sector promoción movimiento)



# Behavior Design Research LAB



## AIM:

**Design of intervention programs including elements of persuasive design based on behavioral models (Oinas model, BJ Fogg) applicable through ICT.**

## TOPICS:

- **Adherence to treatment**
- **Promote the active participation of patients**
- **Increase physical activity**
- **Increase healthy nutritional habits**

**We are working in several projects with health organizations and enterprises incorporating elements of persuasive design in different online applications.**

If you need help, do not hesitate to ask for a meeting and we will talk about it!

Contact: Dr. Manuel Armayones [marmayones@uoc.edu](mailto:marmayones@uoc.edu)

# ¡Gràcies pel vostre temps!



 @armayones

 UOCresearch  
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