

Willpower Challenge

(outside of Cooper's book)

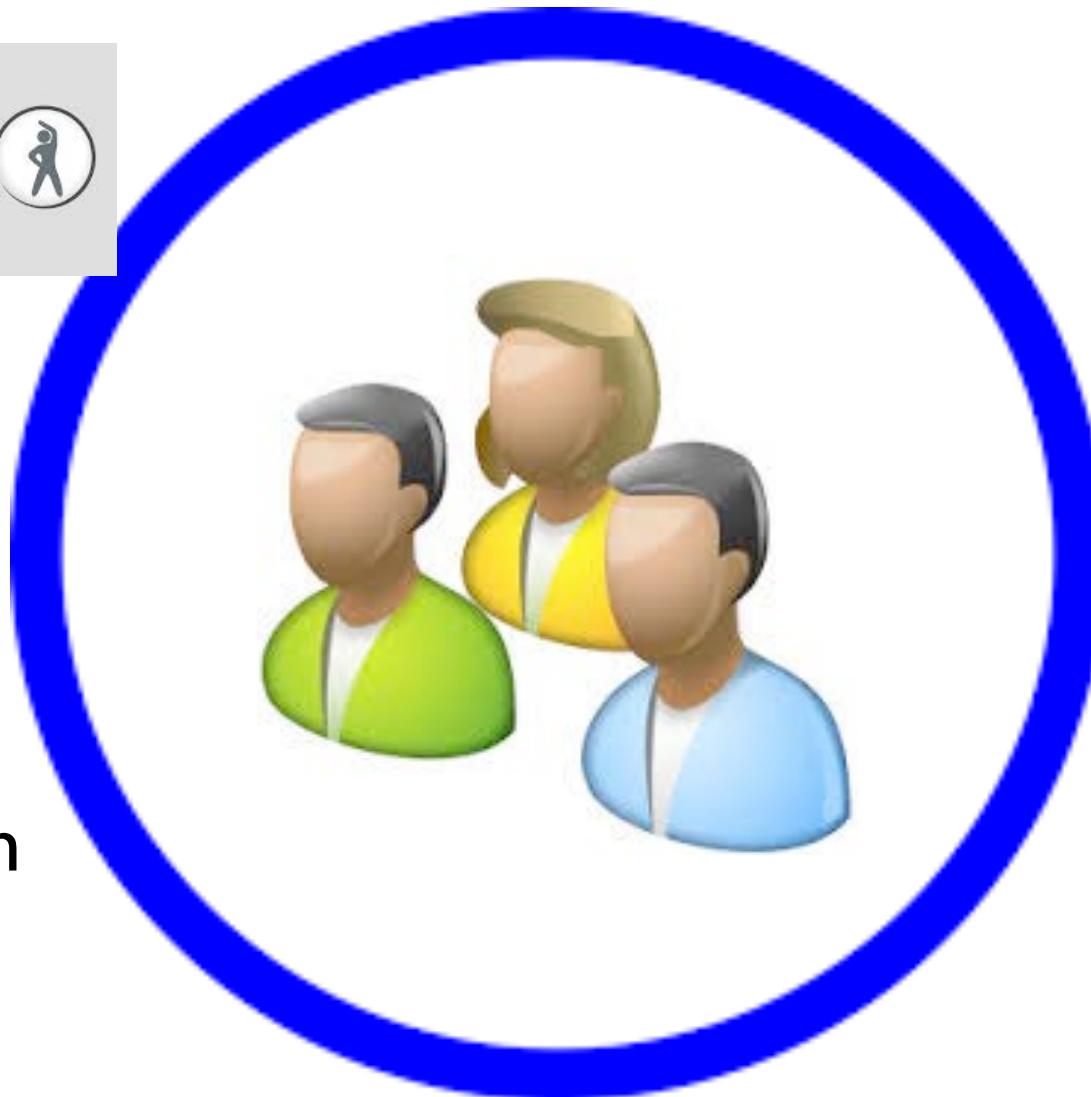
School of Computer and
Communication Sciences
EPFL
Pearl Pu

A willpower challenge is one that requires us to put effort and time, and significant behavior adjustment to achieve.

Why do we face these challenges?



Health
Education
Career
Popular with
friends



Gov
Org
Social
FF



PLAY

DESPAIR



INTRINSIC OR EXTRINSIC CHALLENGE



- I want to turn in homework before the deadlines (intrinsic)
- You need to show up at work on time (extrinsic)

You or someone else sets the challenge for you

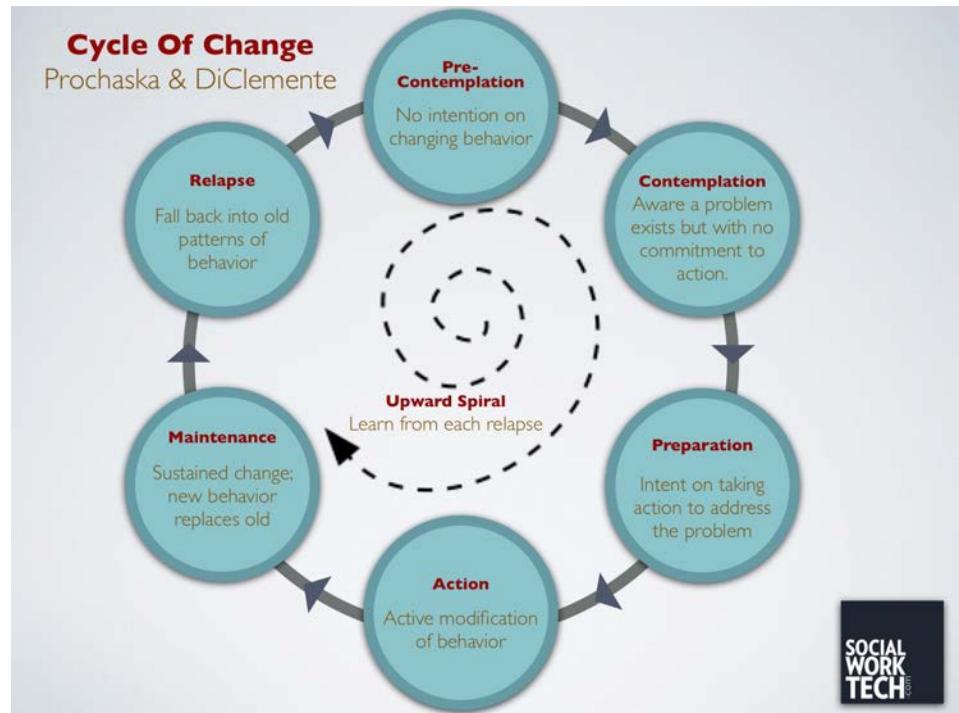
**Acceptance is a process**

- denial
- anger
- depression
- negotiation
- acceptance

(DADNA)

TRANS-THEORETICAL MODEL

- It combines different psychotherapy theories
 - pre-contemplation
 - contemplation
 - preparation
 - action
 - maintenance



Change without maintenance is a failure

- Acceptance, activation, and maintenance are big steps in willpower challenge tasks
 - How might technology help?
 - How might technology mediate the process?

**Goal setting
Scaffolding
Habits**



Goal setting

- Locke's theory of goal setting
 - goals motivate people in their tasks
- Specific vs. general goals
 - increase step counts by 500 every day for three weeks (**specific**); lead a more active lifestyle (**general**)
 - setting specific goals generates higher performance



A Theory of Goal Setting and Task Performance
Locke and Latham, 1990

MASTERY VS. PERFORMANCE

- Ideal student: focused on learning, not grades, improvement, not appearance, competency, not competition
- Ideal user for healthy behavior change: eating balanced meals, leading healthy lifestyles, exercising frequently, not just focus on the waist size or weight loss

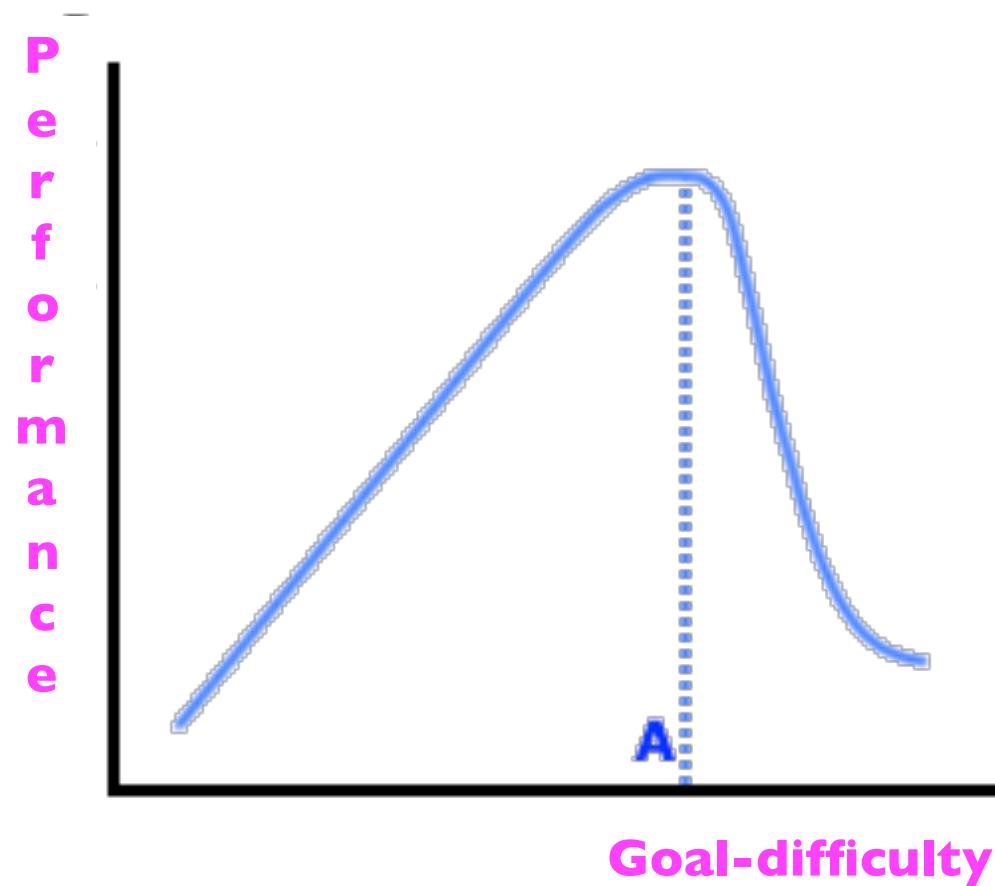


Mastery goals are more productive, especially for intrinsically motivated tasks

FOUR TYPES OF GOALS

- Performance goals are the same as specific goals
 - T/F
- When a task is self-motivated, it's better to set mastery goals.
 - T/F
- When giving specific goals, it's best to make it measurable, attainable, relevant, with a sensible deadline.
 - T/F
- What is the worst goal?
 - Specific
 - General
 - Mastery
 - Performance

How goal is related to performance



Goals that are too difficult are perceived as unattainable, which will either thwart commitment (PSU WC, 2015, L. 6) or lead to dishonest behaviors in order to achieve the goal (Bennett, 2009).

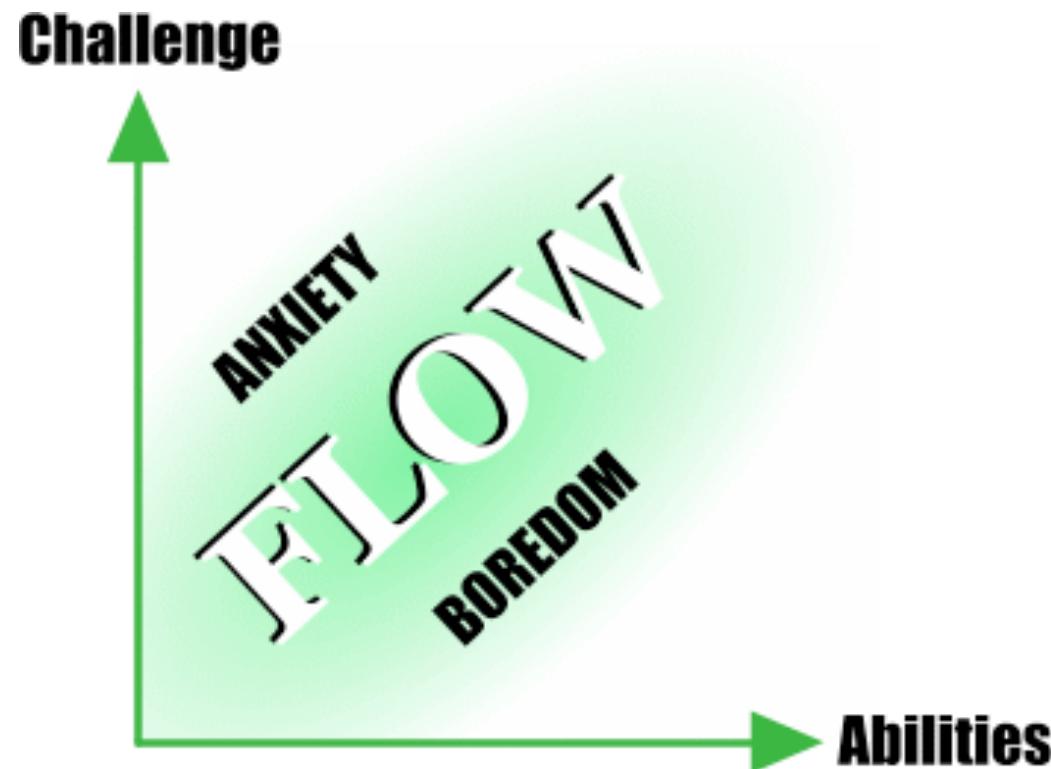


Scaffolding

- baby-steps
- Activation & feedback



Why baby steps work?



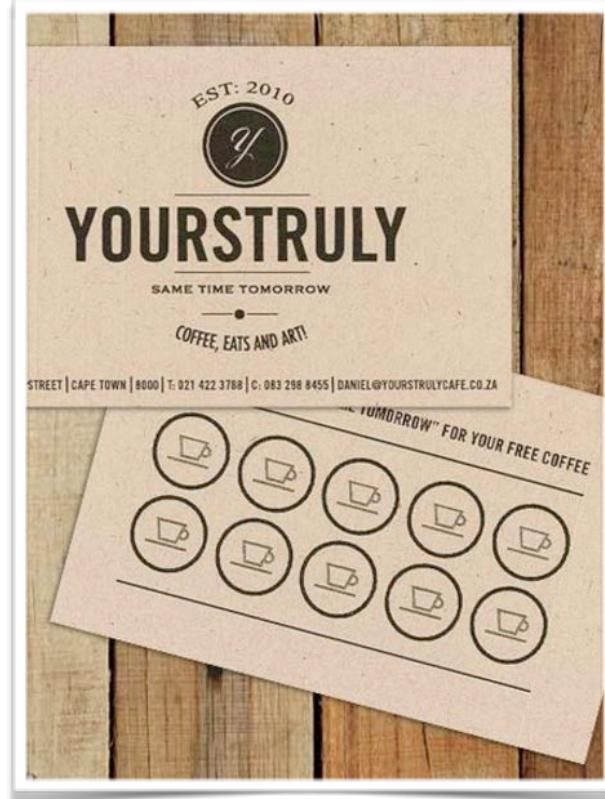
Flow state: feeling of concentration or complete absorption with enjoyment
(Mihaly Csikszentmihalyi)

- Clark Hull 1934
- People will accelerate their behaviors as they progress closer to the goal

Devise baby steps as a warped staircase

GOAL PERCEPTION

- Card A: the card has 10 boxes for the stamps, and when you get the card, all the boxes are blank
- Card B: the card has 12 boxes for the stamps, and when you get the card the first two boxes are already stamped.



The coffee shop experiment by Ran Kivetz 2006

PUT THE THEORIES TOGETHER

Combine flow state theory with goal gradient effect theory: Chinese Wall theory



The path to the goal is a warped staircase

Activation, feedback = intervention

Intervention -> Framing

- Framing can be both in words and in pictures
- E.g., you have been doing well. You have increased 400 steps on average in the past two weeks

Be specific about intervention/framing

FRAMING USING PERSUASION PRINCIPLES

Scarcity: just bought, only two rooms left, limited edition [2]

Bandwagon Effect: follow the majority [3]

Halo Effect: attractive overall design the app [4]

Social Proof: how other people like the product [2]

Similarity: set the background color to user's favourite [5]

A 3-h introductory photography class (CHF 34) with an extra class (CHF 65) with comprendrelaphotographie.com

Jetzt kaufen!

Preis: ab CHF 34.00

Rabatt 51%	Ersparnis CHF 35.00
---------------	------------------------

Als Geschenk kaufen!

Angebot läuft noch:
2 Tage 07:55:17

Bereits 88 verkauft

Deal findet statt!

Freunden empfehlen!

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Highlights

- Familiarize yourself with all the features of your camera
- A 3-h introductory photography class and a second one in option
- In two parts: theoretical and practical
- Group classes
- You'll find your voucher at the

Konditionen

- Valid until April 26th, 2013
- Booking required, upon availability at www.comprendrelaphotographie.lausanne
- The meeting places are in the center of Lausanne
- Come with your compact or reflex camera

***Power of Praise* [5]**

Praise with different framing makes it easier to persuade people.

***Negativity Bias* [7]**

People pay more attention and give more weight to negative than positive information.

***Humor Effect* [6]**

Humorous items are more easily remembered than non-humorous ones.

***Rhyme as Reason* [8]**

A statement is judged as more truthful when it is rewritten to rhyme.

***„Maybe Later“* [5]**

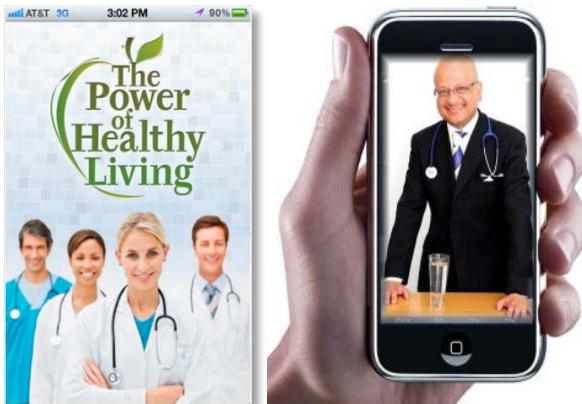
“Maybe Later” works better than “no”. It provides psychological hints.

- People are motivated by social comparisons
 - if the differences are too significant, upward comparison induces fear
 - people are more motivated by downward comparisons
- Showing more than 10 competitors can dampen the motivation (leader board problem)

MAKE FRAMING VISUAL



Power of Authority [5]



OR

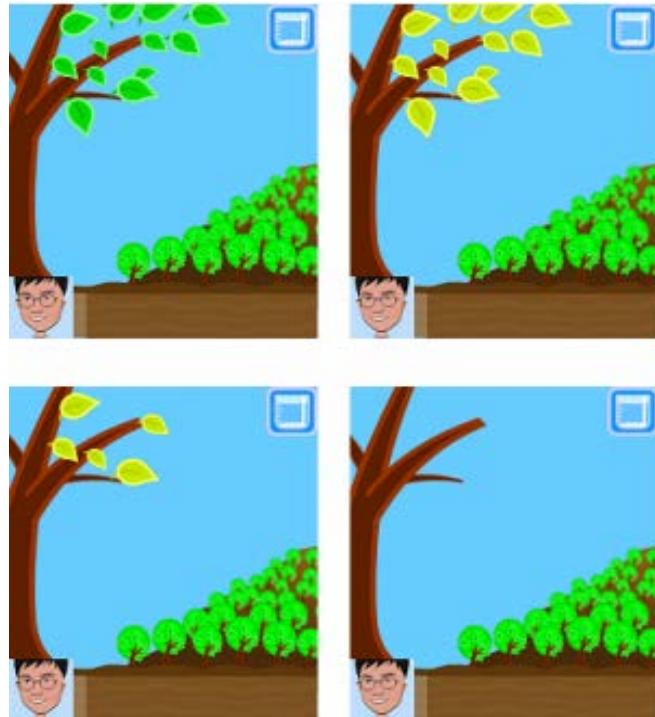
Power of Humor [6]



MAKE FRAMING VISUALLY COMPARABLE



MAKE FRAMING EMOTIONAL



- April, 3 trips = 325 kg CO₂
- March, 2 trips = 127 kg CO₂
- February, 1 trip = 43 kg CO₂
- January, 3 trips = 89 kg CO₂

Total carbon for all your trips to date
All of Dopplr's carbon calculations are provided by

4.802 kg



- Group 1 (expected group): Good drawing certificate and asked if they wanted to draw to get the certificate
- Group 2 (unexpected group): receive an unexpected drawing certificate
- Group 3 (control group): ask the children if they wanted to draw, but didn't mention a certificate and didn't give them one

Children in group 2 and 3 were most active in task repetition without incentives

Don't assume that money or any other extrinsic reward is the best way to reward people

If you're going to give an extrinsic reward, it will be more motivating if it is unexpected

1. The Fine Art of Separating People from their Bad Behaviors – Online, Sebastian Deterding, Copenhagen, June 25, 2009
2. Influence: The Psychology of Persuasion, Robert B. Cialdini
3. Bandwagon Effect, http://en.wikipedia.org/wiki/Bandwagon_effect
4. Halo Effect, http://en.wikipedia.org/wiki/Halo_effect
5. Persuasive Technology: Using Computers to Change What We Think and Do, B.J. Fogg
6. Mobile App Design for Behavior Change, Eva Kaniasty, May 25, 2011
7. Negativity Bias, http://en.wikipedia.org/wiki/Negativity_bias
8. Rhyme as Reason, http://en.wikipedia.org/wiki/Rhyme-as-reason_effect
9. The Gamification of Mobile Apps, Lisa Oshima, September 30, 2011, <http://socializemobilize.com/2011/09/30/the-gamification-of-mobile/>
10. Total Engagement: Using Games and Virtual Worlds to Change the Way People Work and Businesses Complete, Byron Reeves and J. Leighton Read, November 2, 2009
11. The Benefits and Pitfalls of Gamification, Justin Smith, March 26, 2012, <http://webdesign.tutsplus.com/articles/general/the-benefits-and-pitfalls-of-gamification/>
12. Kaptein, Maurits, Boris De Ruyter, Panos Markopoulos, and Emile Aarts. "Adaptive persuasive systems: a study of tailored persuasive text messages to reduce snacking." *ACM Transactions on Interactive Intelligent Systems (TiiS)* 2, no. 2 (2012): 10.



Habit formation - maintenance
of behavior change

- When something is hard for you to do, make it a habit
 - brushing teeth
 - getting up early
 - memorizing 20 words every day to learn a new language
 - jogging three times a week

The power of habit: why we do what we do in life and business - Charles Duhigg 2012

- The average time it took for people to form a habit is 66 days
- But
 - some people take shorter, while others take longer time to form habits
 - the more complex the behavior, the longer it takes to form a habit

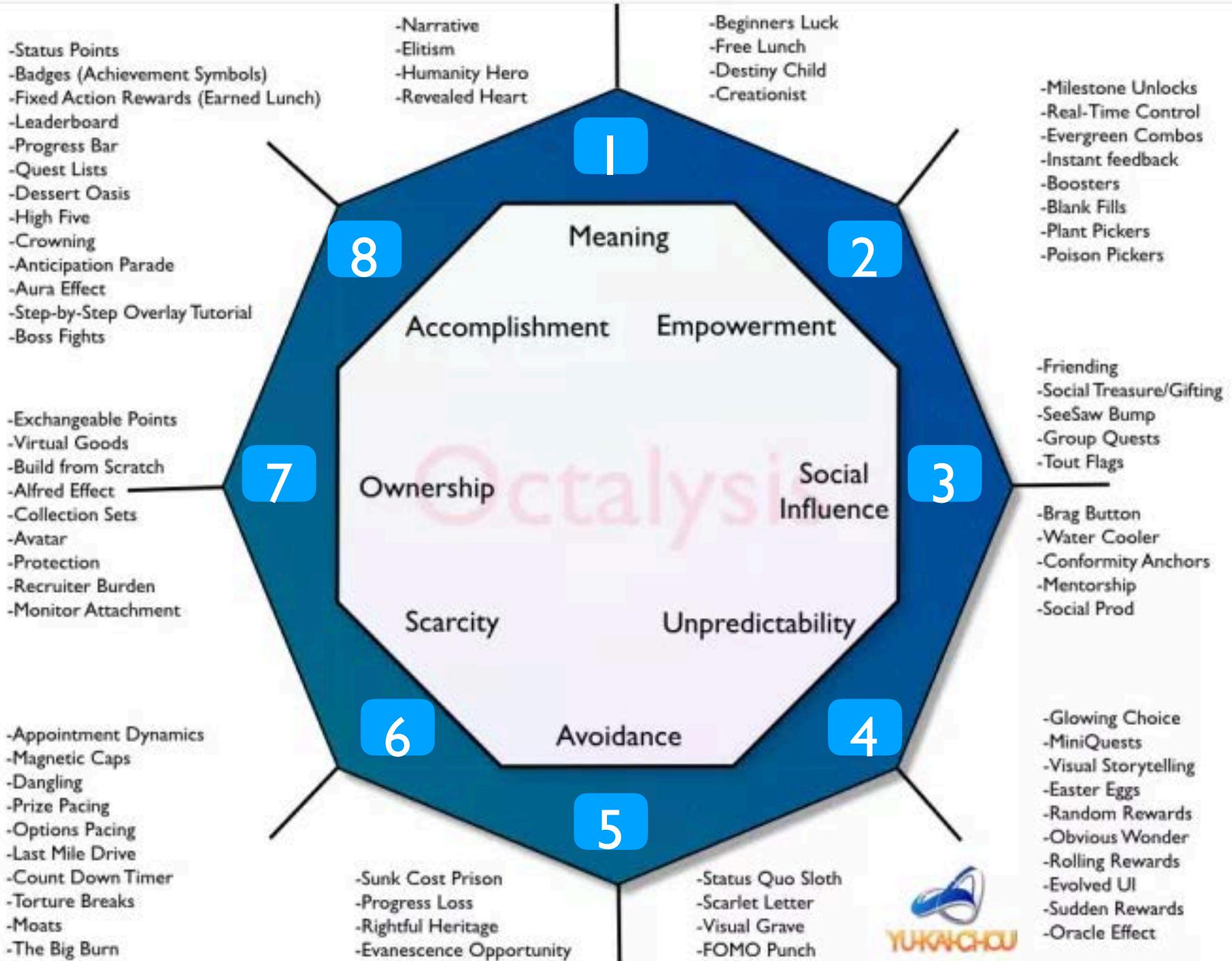
Documented success on forming a habit to maintain behavior change

WHAT TO DO DURING THE 66 DAYS?

- Visualizing behavior
- Help users with scaffolding methods
- Framing: activation and feedback
- Gamification

Gamification

<https://yukaichou.com/gamification-examples/octalysis-complete-gamification-framework/>





Conclusion

- Accepting WCT is not as easy as it seems
- It's important to set goals
- Mastery goals work well for intrinsic goals while SMART work effectively for extrinsic goals
- Performance is linearly correlated to task difficulty, but be aware of disengagement
- The shorter the distance to the goal, the more motivated people are to reach it
- You can get this extra motivation even with the illusion of progress, especially in the beginning
- Scaffold users during their journey by devising baby-steps

TAKE-HOME MESSAGES CONTINUED

- Consider giving effective activation and feedbacks in text
- Consider giving visual, emotional feedbacks
- Be careful with financial incentives
- Be careful with comparing users with their peers - fear complex
- Habit is the king

Some guidelines for game design

- Design activities that are truly fun
- Set specific and challenging goals
- Show people how they're progressing (but be careful about their perception)
- People like to master something new
- People like to be in control (play the game at their own pace)
- People like to compare themselves with others

