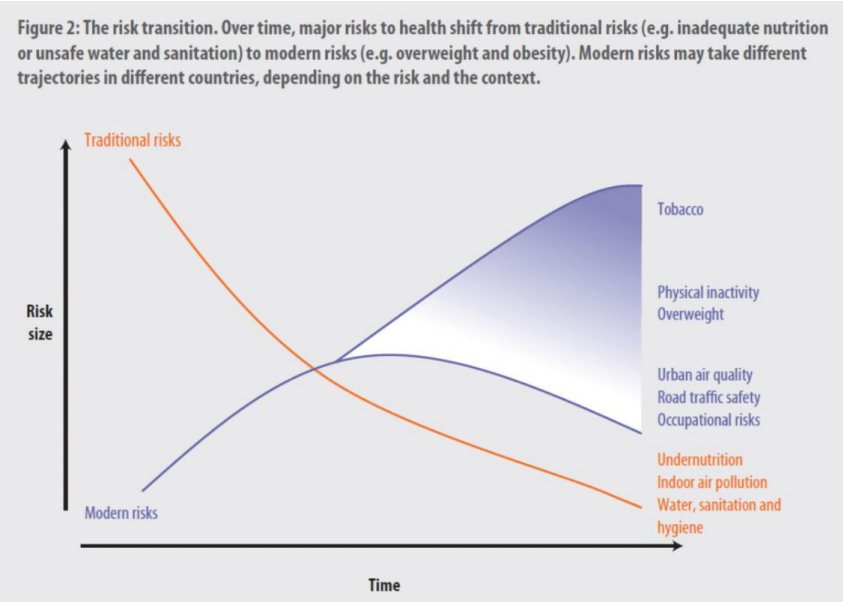
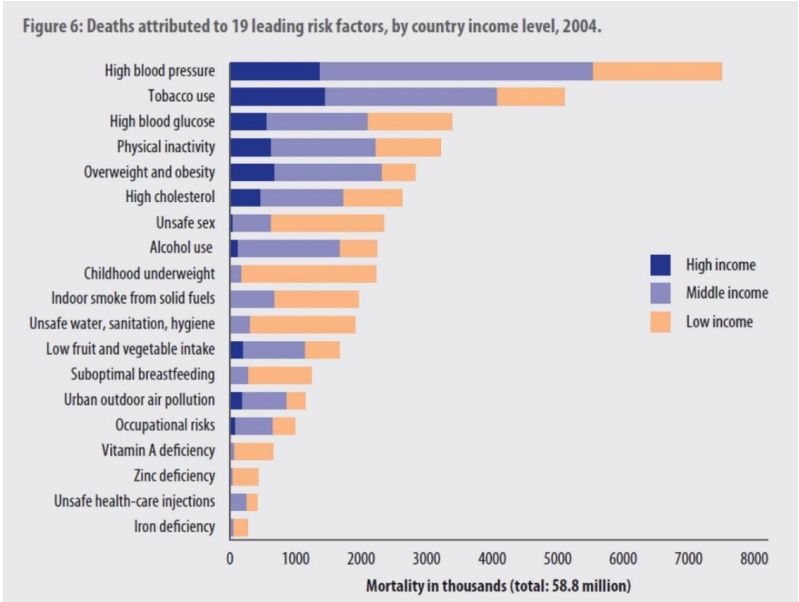
WebMD Health Services & Behavior Change

Presented by Heidi Roux
User Experience Design
Feb 2023

WebMD
health services

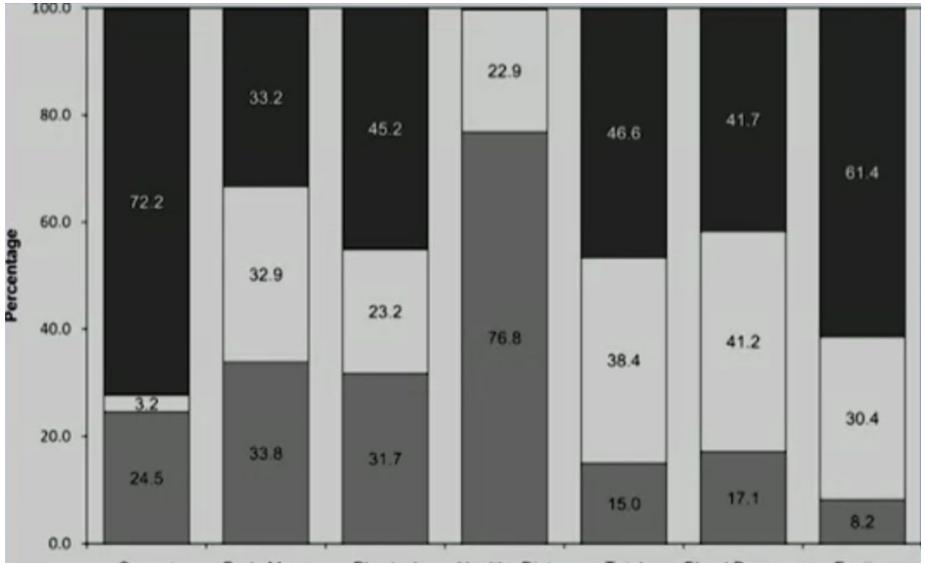
Worldwide most chronic diseases & many infectious diseases can be traced to behaviors





https://globalhealth.harvard.edu/social-determinants-over-time/

Even though people know what reduces risk, it doesn't translate to changed behavior



Ideal behavior

Intermediate behavior

Poor behavior

American Heart Association 2011, US Adults aged 20+

And it has a huge impact on business

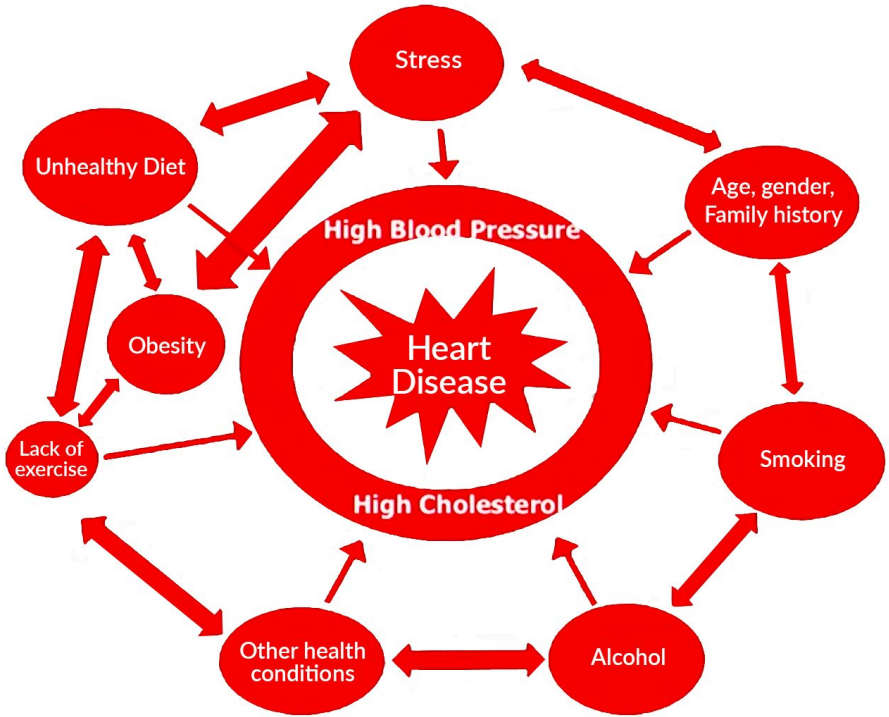
$575 Billion

What employers spent on employees' poor health in 2019*

*https://www.healthleadersmedia.com/finance/employees-poor-health-cost-employers-575b-2019

WebMD health services

The Good News



All areas of health are connected, so …

Intervening in any area will reduce health risks*

*Marney A White, Professor at Yale School of Public Health; online course "Health Behavior Change: From Evidence to Action"

The Better News

Studies show that
health intervention programs *can* help*
to improve health behaviors.

*Look AHEAD (Action for Health in Diabetes) study *Cardiovascular Effects of Intensive Lifestyle Intervention in Type 2 Diabetes *The Efficacy of a Brief Tailored Fruit & Vegetable Intake Intervention

WebMD health services

With a Caveat …

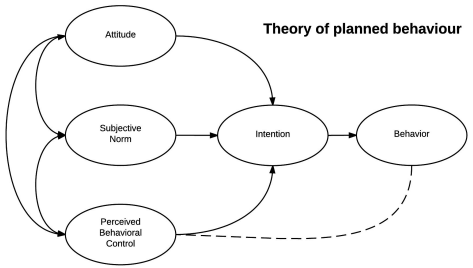
… to intervene *effectively*
we must understand
how behavior change works

The WebMD Behavior Change Model

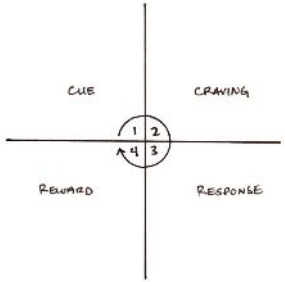
The CARE Model Introduction

Influential Behavior Models:

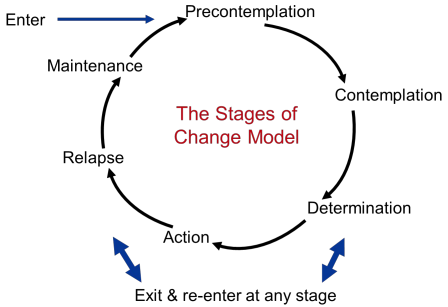
Theory of Planned Behavior



The Habit Loop
(Atomic Habits)

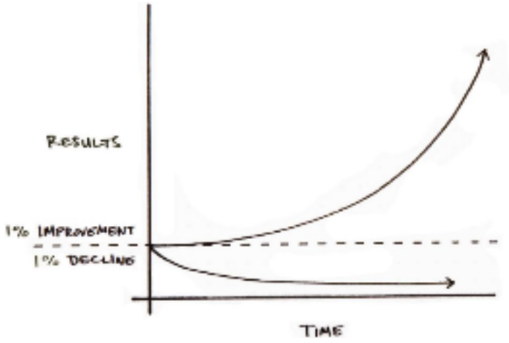


Stages of Change model
(The transtheoretical model)

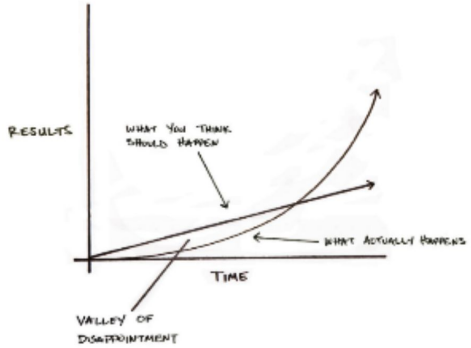


Influential Theories:

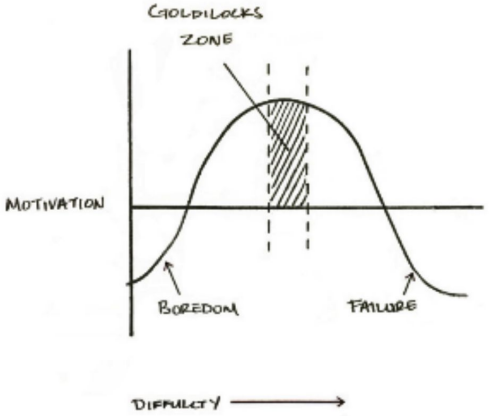
Aggregation of Small Gains



The Plateau of Latent Potential



Yerkes–Dodson law (The Goldilocks Rule)



Influential Reading

Atomic Habits*
By James Clear

The Power of Habit: Why We Do What We Do in Life and Business
By Charles Duhigg

Nudge: Improving Decisions About Health, Wealth, and Happiness
By Richard H. Thaler

Thinking, Fast and Slow
by Daniel Kahneman

Tiny Habits*
By BJ Fogg

Influence
By Robert Cialdini

Behavioral Economics
By Scott Huettel

Triggers
By Marshall Goldsmith

Hooked
By Nir Eyal, Ryan Hoover

The Village Effect*
By Susan Pinker

How to Change
By Katy Milkman

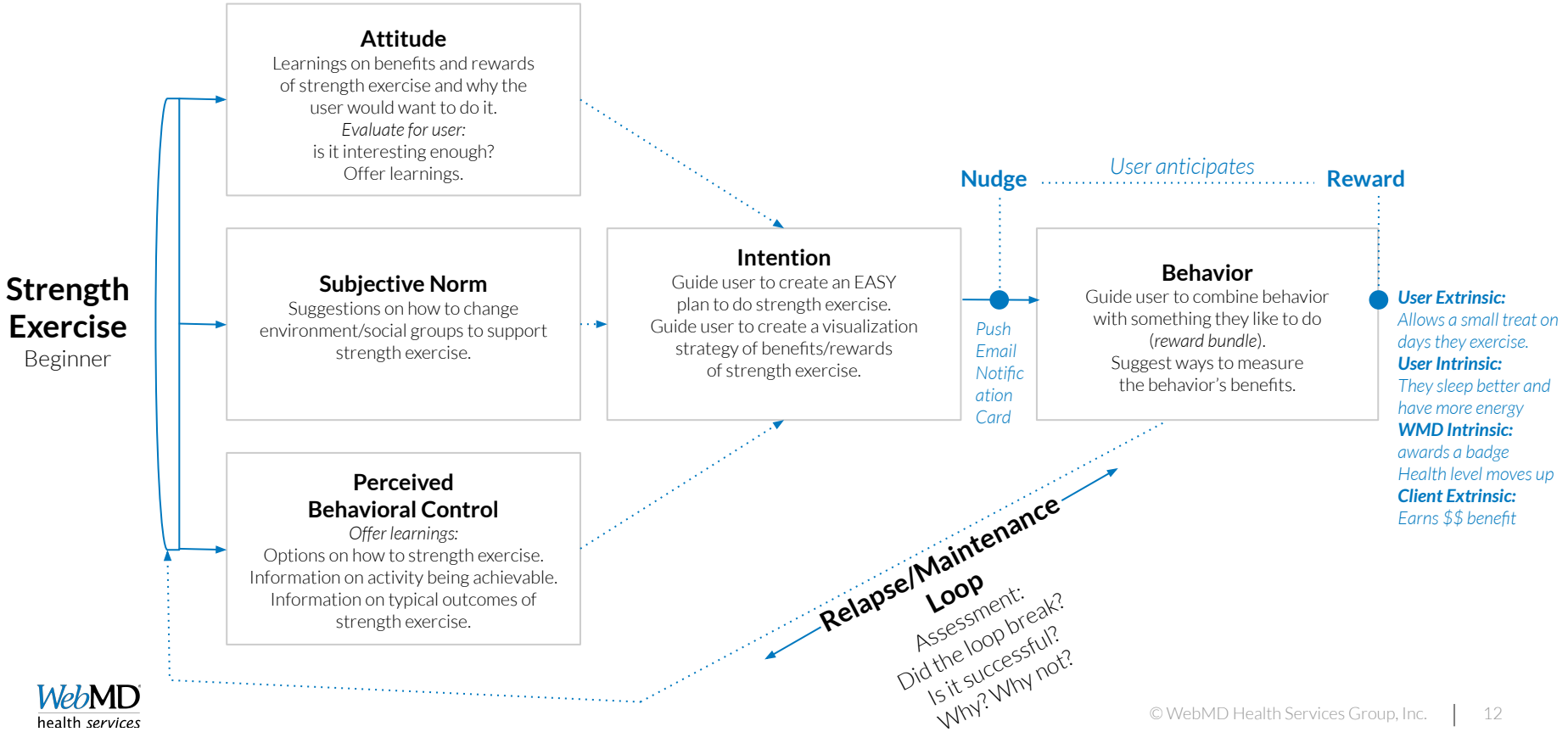
Inspired
By Marty Cagan

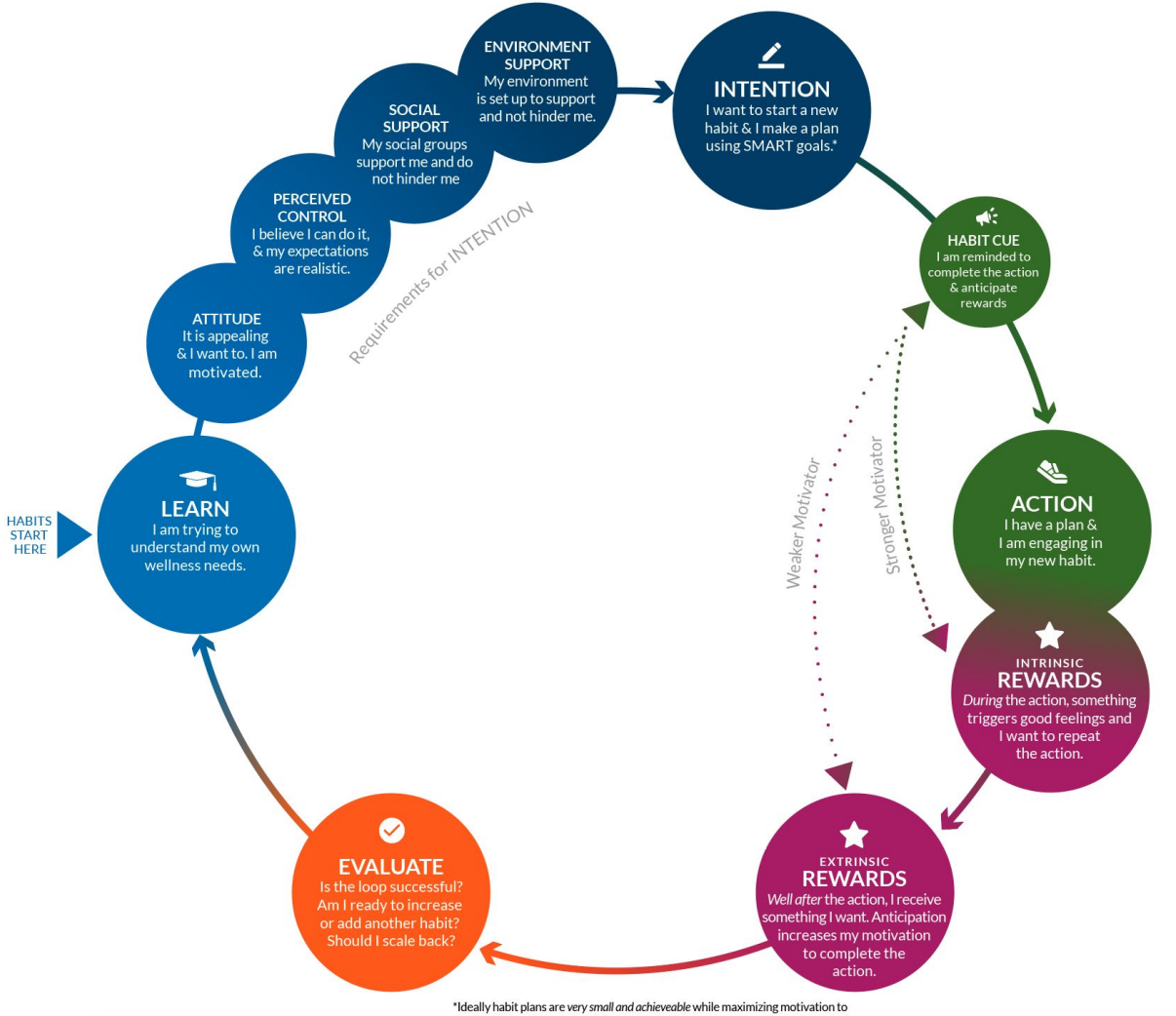
Mixed Signals
By Uri Gneezy

WebMD health services

*read first

The First Version





*Ideally habit plans are *very small and achieveable* while maximizing motivation to complete the plan. Both of these items are highly personal to the individual.

WebMD health services

The WebMD Behavior Change Model

The Care Model Specifics: **LEARN!**

Awareness

- Health Assessment
- Coaching
- Content (articles, videos, podcasts)

Awareness (pre-contemplation) 👀

Health goal identification is prerequisite to habit change

Does the individual …

- Know their health numbers?
- Practice a healthy lifestyle?
- Have any health conditions?
- Have denial or ignorance as a barrier?
- Have an awareness of the range of wellness dimensions?

WebMD health services

Attitude

- Health Assessment
- Coaching
- Content (articles, videos, podcasts)
- Community*
- Rewards

*Potentially

WebMD health services

Attitude (Motivation) 👍

Requirements:

Belief, Expectation, and Value

1. Do they **believe** their health risks are real and **expect** they will cause poor outcomes later?
2. Do they **believe** new healthy habits have impact and **expect** them to improve or eliminate poor outcomes?
3. Do they **believe** the behavior benefit is worth the behavior cost and find **value** in it?

WebMD health services

Attitude (Motivation) 

Weaknesses:

- **Motivation is unreliable** and can ebb and flow minute to minute due to our emotions. (affect heuristic)
- It tends to **be stronger in the morning** and weaker at night
- It is like a muscle and **gets tired** with continued use
- If a person feels constrained by a **lack of choices**, their motivation will decrease. (reactance)

Attitude (Motivation) 

Boosting with Rewards and Incentives

- It can *sometimes* be *temporarily* boosted with incentives
  - These can be a meaningful driver of a behavior until intrinsic rewards kick in (ex: wow, I feel better!) (Skinner's Operant Conditioning)
- In order to be effective, a reward/incentive needs to be meaningful to the individual. (status quo bias)
- A reward can happen before, during, or after a habit action but to be habit forming *must* happen *very shortly* within the habit timeframe. (temptation bundling; motivation ritual)

Attitude (Motivation) 

Ways to Hack Attitude

- **Choice Prediction:** People want to be like what they identify with (driving a Prius makes me feel environmentally friendly).
- **Commitment & Consistency:** People desire to act in a manner consistent with their stated beliefs and prior actions. (I tell my kids to eat healthy so I need to be a good example)
- **Premack Principle:** when a higher-probability behavior can only be engaged in if a lower-probability behavior is completed, the frequency of the lower-probability behavior will increase.
- **Episodic Future Thinking:** Visualization of a goal can help improve motivation briefly.

Attitude (Motivation) 

Motivation to STOP:

- **Habit replacement:** change is more likely to occur when an old habit is replaced with a new habit that fulfills the same reward need.
- **Reinforcement of competing behavior:** identify a behavior that competes with the ability to engage in an undesirable target behavior.
- **Removal of Reinforcers:** decrease an unwanted behavior by removing a positive stimulus (like a time out).

Subjective Norm

- Coaching
- Community
- Challenges

Subjective Norms

Social Support

Are the people around you …

- Supportive?
- Helpful?
- Good examples of healthy behavior?

Environmental Support

Are your surrounding …

- Conducive to living healthy?
- Designed to set you up for success?

Subjective Norms 

Behavioral Psychology learnings:

- **Choice Architecture:** The environment influences the choices people make and may lead them to act in ways that are counter to their true preferences.
- **Social Cognitive Theory:** People learn by observing the actions of others and the results of those actions
- **Social Proof:** People view a behavior as more correct to the degree that they see others performing it and use it to determine proper behavior for themselves.
- **Social Practice Theory:** Behavior takes place in social environments and efforts to change it must therefore take account of the social context and the political and economic forces which act directly on people's health regardless of any individual choices that they may make about their own conduct.

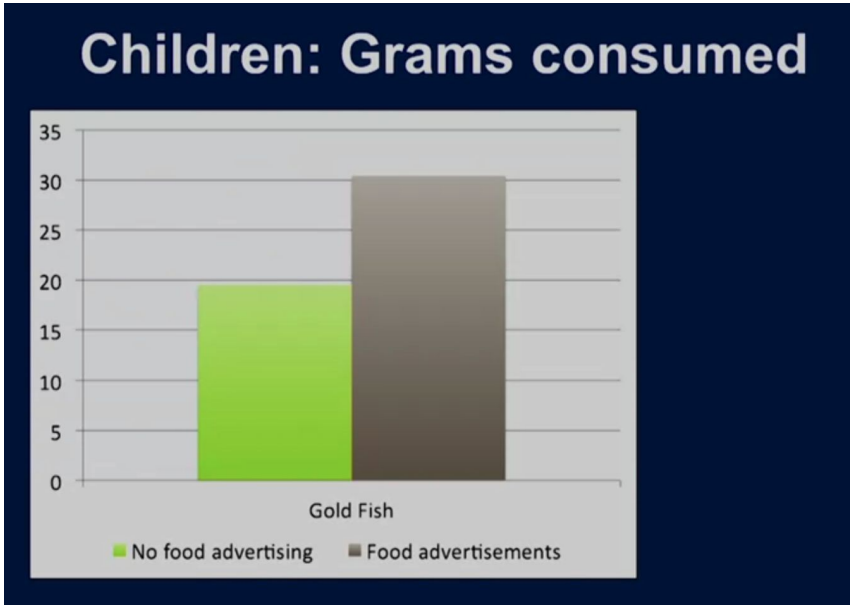
Subjective Norms

If a person has a close friend who is obese
their chances of being obese increase by nearly

57%

https://www.nih.gov/news-events/nih-research-matters/friends-family-may-play-role-obesity

Subjective Norms



The effect on children eating Gold Fish crackers when exposed to food advertising

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2743554/

Subjective Norms

"On average, American workers stay late **2.5 days a week**, meaning most go home when scheduled only about half the time."

82% - due to pressure from a boss/supervisor

https://amerisleep.com/blog/can-you-stay-late/

Subjective Norms 

Ways to Hack Subjective Norms:

- **Prime the environment:** design the environment for success by placing a hurdle in the way of bad behaviors and removing the barriers to good ones.
- **Reduce Friction:** While removing barriers to good habits, also try to reduce any friction.
- **Pair it with a social norm:** Make it 'cool' (aka everyone else is doing it)
- **Periodic events:** Find someone who will join in on the habit goal (or even just offer positive feedback … rewards!)

Perceived Control

- Coaching
- Content (articles, videos, podcasts)
- Community*

*Potentially

WebMD health services

Perceived Control 💪

Requirements:

- It must be *very* easy
- It must be obvious how to do
- It must be *very*, *very* easy
- The person must believe they can
- It must be *very*, ***very***, ***very*** easy

WebMD health services

Perceived Control 

Behavioral Psychology learnings:

- **Self-efficacy Theory:** an individual's *belief* in his or her capacity to execute behaviors is necessary to produce specific performance attainments. People want to know, “Can I do it? Will I be successful?”
- **Need for certainty:** People crave certainty and are more likely to take action if specific information is available.
- **Aggregation of gains & losses:** Multiple small losses are more painful than one large loss. Multiple small gains are more pleasurable than one large gain.

Perceived Control 

Behavioral Psychology learnings:

- **Reactance:** When our autonomy is threatened, we feel constrained by our lack of choices and often rebel against doing the new behavior.
- **Limited Choice:** People are more likely to make a choice when there are fewer options.

Perceived Control 💪

This Girl Can … believes that there's no "right" way to get active. However you jiggle, kick, lift, stretch, or sprint, it's time to get moving how you damn please.

https://www.thisgirlcan.co.uk/#main

Perceived Control 

“This Girl Can”

The campaign addressed motivation and social norms but focuses heavily on perceived control by …

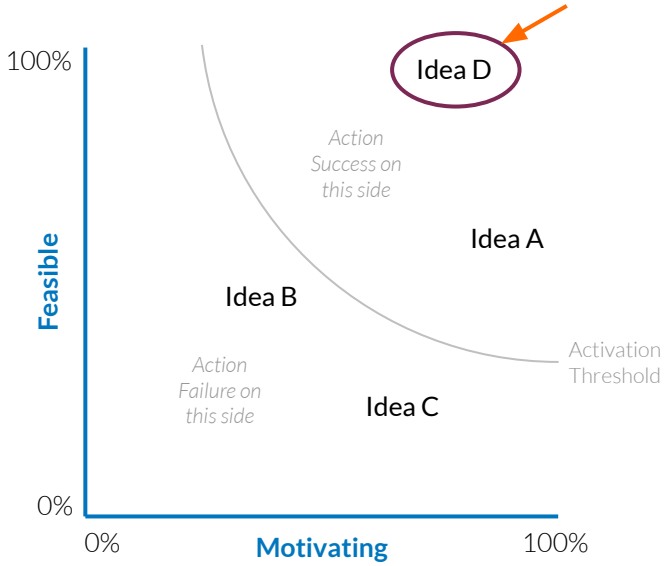
- Inspiring confidence
- Reassuring being active will be a positive experience
- Showing that average women can do sports/exercise
- Making it *easy* for women to get involved
  - Right time, right place, right gear

Perceived Control 💪

How to Hack Perceived Control:

Start by …

1. Making a list of behaviors that will help reach the habit goal
2. Make them more specific
3. Decide which ones are most motivating and most feasible
    a. Graph them, motivating on the x-axis, feasible on the y-axis



*Page content credit to *Tiny Habits*, by BJ Fogg

Perceived Control 

How to Hack Perceived Control:

Then ask “what is making this hard?”

1. Do you have enough time to do it?
2. Do you have enough money?
3. Are you physically capable?
4. Does the behavior require a lot of mental or creative energy?
5. Does the behavior fit into your current routine or does it require adjustments?

Ability is only as strong as the weakest factor.

*Page content credit to *Tiny Habits*, by BJ Fogg

Perceived Control 

How to Hack Perceived Control:

2 ways to make things easy

1. **Starter step**. Begin with the most basic approximation of a habit.
    a. Example: Put on your running shoes.
2. **Scaling back.** Make it as ridiculously easy as possible *so that not doing it isn't an option*.
    a. Example: 1 push up. Floss 1 tooth. Meditate for 1 breath.

WebMD health services

*Page content credit to *Tiny Habits*, by BJ Fogg

3-MINUTES

The WebMD Behavior Change Model

The Care Model Specifics: **INTENTION!**

Intention

- Coaching
- Daily Habits*

*Not personalized

WebMD health services

Intention 

Requirements:

- Make a habit plan
- Preferably a SMART Goal
  - Specific
  - Measurable
  - Action-oriented
  - Realistic
  - Time-bound

Intention 🤓

Ways to Support Intention:

- **Conditioning theory:** a needed action is paired (happens at the same time) with a wanted action.
- **Operant Conditioning:** behavior that is rewarded is likely to be repeated, and behavior that is punished will rarely occur
  - "People change best when they feel good." -BJ Fogg
  - It's important to find the version of the habit they can be successful at.
  - It's important to acknowledge & praise their success.

The WebMD Behavior Change Model

The Care Model Specifics: **CUE!**

Cue

- Coaching*
- Daily Habits

*Help user to set up their own cues

WebMD health services

Cue the Action 📣

Requirements:

There must be something reliable that reminds completion of a new habit and it must …

- Be timely
- Not be easily ignored

Cue the Action 

Be Creative with Cues:

Type of Cues

- Verbal
  - (example: someone reminds them)
- Environmental
  - (example: sign stating “Am I really hungry?” on the fridge)
- Physical
  - (example: learning to use tense muscles as a cue to engage in meditation)
- Behavioral
  - (example: Use an existing behavior to cue the new behavior) (prompt anchor)

The WebMD Behavior Change Model

The Care Model Specifics: **ACTION!**

Action

- We don’t do anything!

The WebMD Behavior Change Model

The Care Model Specifics: **REWARD!**

Rewards

- Challenges
- Community*
- Daily Habits
- Rewards

*Potentially

WebMD health services

Rewards 🏅

Requirements:

- Must happen within a very short time of the new habit
  - If it is too long afterwards (or before) it's not a reward, it's an incentive and isn't habit forming.
- Must create good feelings
  - Therefore must be personalized

Rewards 

Behavioral Psychology learnings:

- **Status Quo Bias:** People tend not to change an established behavior unless the incentive to change is compelling.
- **Skinner's Operant Conditioning:** Behavior followed by a reward will be more likely to happen again, rather than a behavior being followed by a punishment.
- **Anticipation:** Studies of the brain reveal that what draws people to act is not the sensation they receive from the reward itself, but the need to alleviate the craving for that reward.
- **Temporal Discounting:** People will favor small immediate rewards over larger future ~~rewards~~ *incentives*.

Rewards 

Intrinsic Rewards:

- Gamification:
  - **Epic Meaning:** Give your habit meaning (ex: Don't just exercise, help pick up trash in your park)
  - **Empowerment of Creativity:** Using creativity to problem solve a problem or to build something. (ex: De-stress by coloring)
  - **Social Influence:** Activities inspired by what other people think, do, or say. (ex: Teaching someone to do something is the best way to learn it and make it a habit; also group exercise classes)
  - **Unpredictability & Curiosity:** People are more engaged when the unexpected happens. (ex: Try switching up the habit or reward, aka variable reward)

Rewards 

Intrinsic Rewards:

- Gamification con't:
  - **Loss & Avoidance:** The drive to not lose something or to not miss out on something. (aka FOMO; best when paired with something else: Don't lose your streak, don't miss your run group)
  - **Scarcity & Impatience:** People naturally desire things that are perceived as exclusive or belonging to a select few. (aka limited access)
  - **Ownership & Possession:** People like to collect and own, but also to personalize and customize. (ex: Pokemon Go)
  - **Development & Accomplishment:** People like to progress, develop skills, & overcome challenges. (ex: challenges, earning points/badges, streaks; Trackers naturally fit in here and work well with Loss & Avoidance)

Rewards 

Trying to Simplify Rewards:

- Really enjoying a habit is the ideal reward
- BJ Fogg encourages simply celebrating in the moment (Woo hoo!, I did it! Or ‘fist pump’)

The WebMD Behavior Change Model

The Care Model Specifics: **EVALUATION!**

Evaluation

- Coaching
- Daily Habits*

*Not personalized

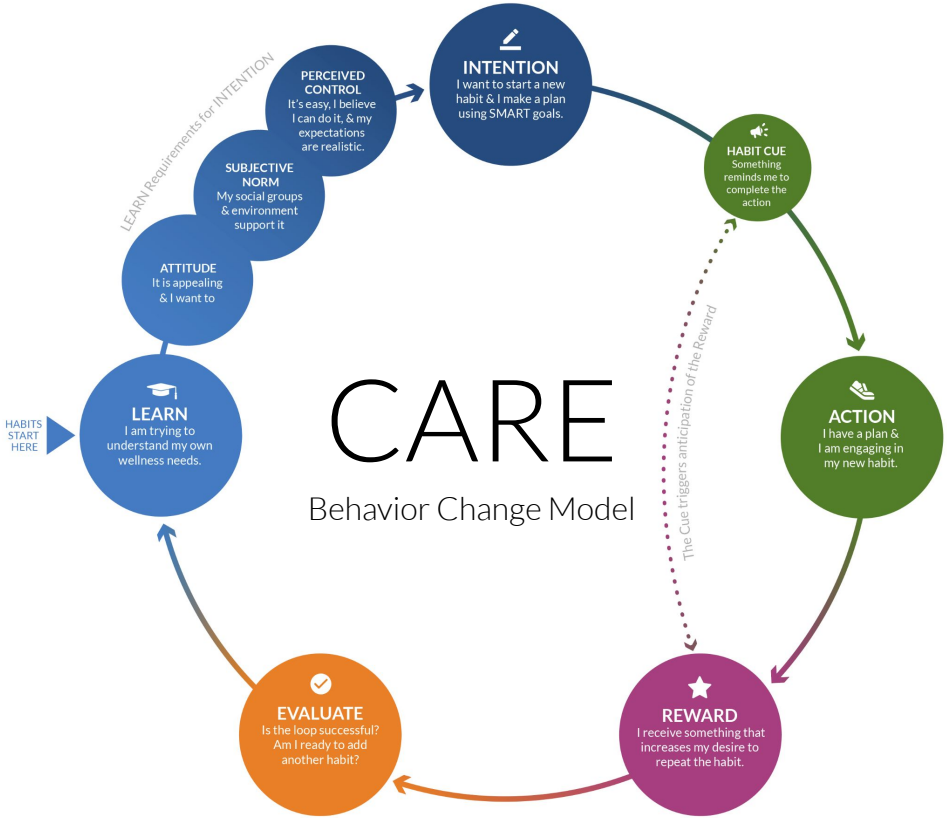
WebMD health services

Evaluation 

Requirements

- Ask, “Is the habit consistent?”
  - An occasional miss is ok
  - Regular misses means the habit needs to be changed and it’s time to go back to LEARN and reevaluate.

Evaluation



Final Thoughts

1. Behavior Change is not linear. It is more like a bird leaving the nest. People who win at habit change are the persistent ones.
2. Repetition doesn't make habits. Good feelings do. Repetition makes habits automatic.
3. Habits need flexibility. What is the backup plan when it rains? On vacation? If the schedule really can't budge?
4. Fresh starts (think New Years, a new job, a move, a new month, a birthday, etc) are times of disruption. They are conducive to new habits but can be destructive to existing ones.

Behavior Change