

Fogg's Model

Behaviors occur on a Dot, Span, or Path

The identification of a behavior to change can be simplified through categorizing how long this behavior is or is desired to be performed for. Consider Dot (One time), Span (over a period of time), and Path (from now on).



Changing a behavior is not usually as easy as tearing a piece of paper, but identifying the duration of the target behavior can be a good first step on the road from "I can't" to "I can."

Ask Yourself

Do I want to start, stop, increase, or decrease a new or familiar behavior?

Do I want to perform this behavior once, over a certain period of time, or from now on?

Design Quest

Find a partner and take turns interviewing one another about healthy and unhealthy behaviors.

Collect responses on 3 healthy and 3 unhealthy behaviors, and for each behavior generate 1 target behavior duration.

Fogg's Model

Behaviors occur on a Dot, Span, or Path



Take a vitamin to improve your health.

Perform regular intake of vitamins for 1 month.

Maintain vitamin use to have a longer lifetime of better health.

The More You Know

"The Behavior Wizard not only provides a common approach to categorizing behavior, but we believe **its components allow for deeper understanding** of the winning patterns of behavior change." (Fogg & Hreha, 2010).

Author

Pierre Delcourt

Source

Fogg, B. J., & Hreha, J. (2010). Behavior wizard: A method for matching target behaviors with solutions. Lecture Notes in Computer Science (Including Subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics), 6137 LNCS, 117–131. https://doi.org/10.1007/978-3-642-13226-1_13.

Fogg's Model

Break habit formation process into smaller pieces

By asking users questions to learn the intensity, duration, and type of target behavior they are trying to achieve, it's possible to take a systematic approach to behavior change - increasing the duration of the behavior as success is achieved.



Break the process of habit formation down into smaller, more tractable pieces. First focus on the “one time” behavior, eating one apple slice once, this will then flow into a behavior over a set period of time, eating a few apple slices everyday for a week, then finally after enough repetition become a “forever” behavior, eating an apple everyday.

DOs

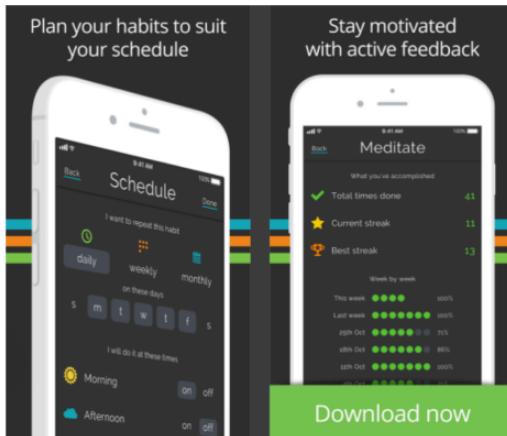
- Start having the users perform (or stop) the behavior one time before proceeding
- Reference Fogg's Behavior Grid for more info on each behavior type

DON'Ts

- Ignore your target audience/user as this helps determine behavior type
- Restrict to health/environment domains

Fogg's Model

Break habit formation process into smaller pieces



Productive is a habit tracker that lets you create new routines and habits that are easy to follow because you can build a flexible schedule. You can set a goal for 1 day only, or set it for every morning for a week, or set a reminder to complete the behavior indefinitely.

Fogg's research has shown that once users are given a thinking system, they are much better at articulating their target behavior. Once you learn intensity, duration, and type of target behavior, you can start with behavior one time and **achieve success initially** before moving into setting a specific duration for the behavior, and **eventually moving into a permanent change**.

Ethics: Potential ethics issues may arise depending on the behavior type – for example, with new behaviors performed just one initial time, it may be easy to fall into using deception and bribery, which does not lend itself to building a long-term habit.

Author

Erika Langhauser

Images

Shutterstock

Productive – App Store

References

Fogg, B. J., and Jason Hreha. "Behavior Wizard: A Method for Matching Target Behaviors with Solutions." Persuasive Technology Lecture Notes in Computer Science, 2010, pp. 117–131., doi:10.1007/978-3-642-13226-1_13.

Fogg's Model

Identify Cycle Behaviors to Understand Triggers

After classifying what your target behavior is, one way to trigger users is through "cycle behaviors." A cycle behavior happens on a regular and predictable schedule.



Steps within our morning and night routines are examples of cycle behaviors. Although we don't always wake up, shower, or brush our teeth at the exact same time everyday, people do this most mornings.

DOs

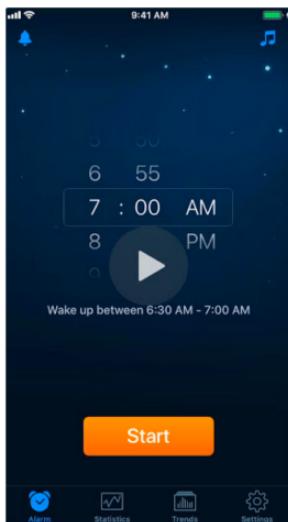
- Identify the desired target behavior
- Identify the users' regular cycle
- Design the target behavior to trigger within the routine

DON'Ts

- Don't ignore the trigger behavior
- Mistake cycle behaviors with cue behaviors

Fogg's Model

Identify Cycle Behaviors to Understand Triggers



The Sleep Cycle app is focused on helping users improve their sleep quality (target behavior).

Because sleep is a "cycle" behavior (predictable schedule), this app is used before slumber, and wakes you up at the end of slumber. It also informs the user of the ways that they're improving their quality of sleep, they are incentivized to sustain their behavior based on positive feedback.

“

One trigger option we call a “Cycle” Behavior. This means the target behavior happens on a predictable schedule. It could be daily, weekly, and so on.” (Fogg and Hreha 2010)

Authors.

Gary Hsieh. faculty.washington.edu/garyhs/
Lucas Colusso. lucascolusso.com
Sami West. www.medium.com/@samiwest

Reference

Fogg, B. J., & Hreha, J. (2010). Behavior Wizard: A Method for Matching Target Behaviors with Solutions. *Persuasive Technology Lecture Notes in Computer Science*, 117-131. doi:10.1007/978-3-642-13226-1_13

Goal setting

Set high goals to propel the high performance cycle

High goals build trust in a person's ability to accomplish an action, which, in turn, encourages high task performance. Satisfaction resulting from high achievement further drives this high performance cycle.



Image: times-georgian.com

Child athletes that set high goals sometimes achieve performance levels that are on par with that of adults. Subsequent recognition, rewards, and satisfaction, encourages even higher goal-setting and performance.

DOs

- Set high but achievable goals
- Pair high performance with commensurate rewards or recognition

DON'Ts

- Make goals too easy or unachievable
- Fail to reward or recognize achievements

Goal-setting

Set high goals to propel the high performance cycle

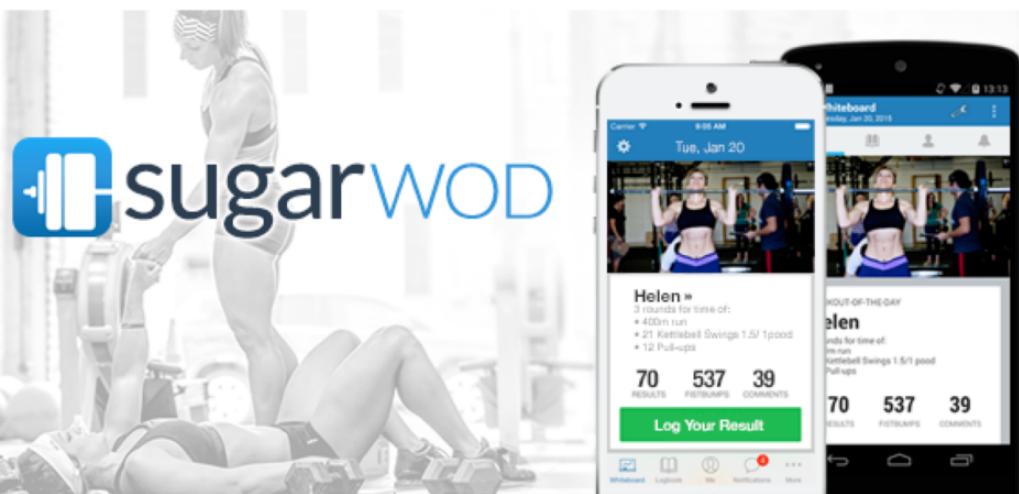


Image: SugarWOD.com

The same Crossfit WODs (workouts of the day) are assigned to expert practitioners and newbies (though novices can take more time to complete their sets). Setting high goals builds Crossfit practitioners' confidence in their abilities and encourages high performance.

"The high-performance cycle explains how high goals leads to high rewards, such as recognition and promotion. Rewards result in high satisfaction as well as high self-efficacy regarding perceived ability to meet future challenges through setting of even higher goals." [1]

Goal-setting

Encourage Sharing Goals

Encouraging someone to make a public commitment toward a goal encourages success in reaching the goal. This is because it makes actions a matter of personal and social integrity.



When you speak to an audience, you are accountable for the things that you say. In order to maintain integrity, you should follow through on promises and intentions in a meaningful way. We can simulate this experience through social media technology by enabling people to share their goals and intentions toward behavior change publicly.

DOs

Provide a way for users to share their goals with their social circle

DON'Ts

Share goals with others without explicit user agreement

Goal-setting

Encourage Sharing Goals



HabitShare allows you to share goals and progress toward your goals with your friends.

The app also makes it easy for friends to message you with words of encouragement and praise.

A study by Hollenbeck, Williams & Klien, it was found that students who set GPA goals that were public to their peers were **significantly more committed** to achieve the goals over time than students who had private GPA goals.

It is not advised to use this design strategy when sensitive information is involved. People might be wary of sharing certain types of information, and it's important to keep such information confidential.

Authors.

Gary Hsieh. faculty.washington.edu/garyhs/

Lucas Colusso. lucascolusso.com

Elise Livingston: eliselivingston.design

Reference

Locke, E., Latham, G. (2002). Building a Practically Useful Theory of Goal Setting and Task Motivation. American Psychological Association, Vol. 57, No.9.

Goal-setting

Set specific goals

Setting specific goals leads to higher performance than encouraging people to do their best.



The image of the bullseye represents the setting of a specific goal, which results in higher performance than being told to do one's best.

DOs

- Set objective goals
- Set goals that are measurable
- Encourage people to set their own goals

DON'Ts

- Don't set ambiguous goals
- Don't set goals that are too easy or too difficult

Goal-setting

Set specific goals

Marathon Training Schedule: Intermediate 2

WEEK	MON	TUE	WED	THU	FRI	SAT	SUN
1	Cross	3 m run	5 m run	3 m run	Rest	5 m pace	10
2	Cross	3 m run	5 m run	3 m run	Rest	5 m run	11
3	Cross	3 m run	6 m run	3 m run	Rest	6 m pace	8
4	Cross	3 m run	6 m run	3 m run	Rest	6 m pace	13
5	Cross	3 m run	7 m run	3 m run	Rest	7 m run	14
6	Cross	3 m run	7 m run	3 m run	Rest	7 m pace	10
7	Cross	4 m run	8 m run	4 m run	Rest	8 m pace	16
8	Cross	4 m run	8 m run	4 m run	Rest	8 m run	17
9	Cross	4 m run	9 m run	4 m run	Rest	Rest	Half Marathon

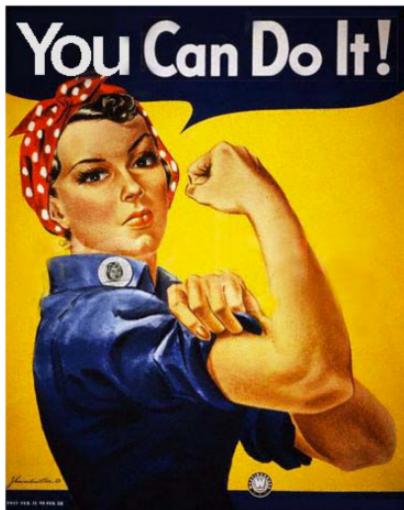
Hal Higdon, a former professional runner and a long-time contributor to *Runner's World* magazine, is famous for his marathon training plans (pictured above) which provide specific running goals for people training to run a marathon.

There is strong evidence to support the effectiveness of setting specific goals. Locke and Latham write:

"We found that specific, difficult goals consistently led to higher performance than urging people to do their best. The effect sizes in meta-analyses ranged from .42 to .80 (Locke & Latham, 1990). In short, when people are asked to do their best, they do not do so."

Empowering Effectiveness

Including empowerment strategies in design will result in higher levels of self-efficacy in safe decision making.



Building confidence early on leads to self efficacy. Providing communication and negotiation suggestions creates situational empowerment. Reminders of effective communication tactics and negotiation skills can improve self-efficacy over decision making.

DOs

- Offer suggestions for communication or refusal in risky situations.
- Create and practice scenarios.
- Remind of self-confidence and value.
- Enforce equality.
- Demonstrate desired behaviors.

DON'Ts

- Exclude members of the LGBTQ community or those who do not identify with gender norms in creating scenarios.
- Exclude multi and interracial groups.
- Forget context.

Empowering Effectiveness



Using in app affirmation reminders will improve user confidence. While having access to communication tactics tailored to specific situations will develop self-efficacy.

There was a **significant decrease** in risky behaviors among young female adolescents who received an intervention focusing on self-efficacy.¹

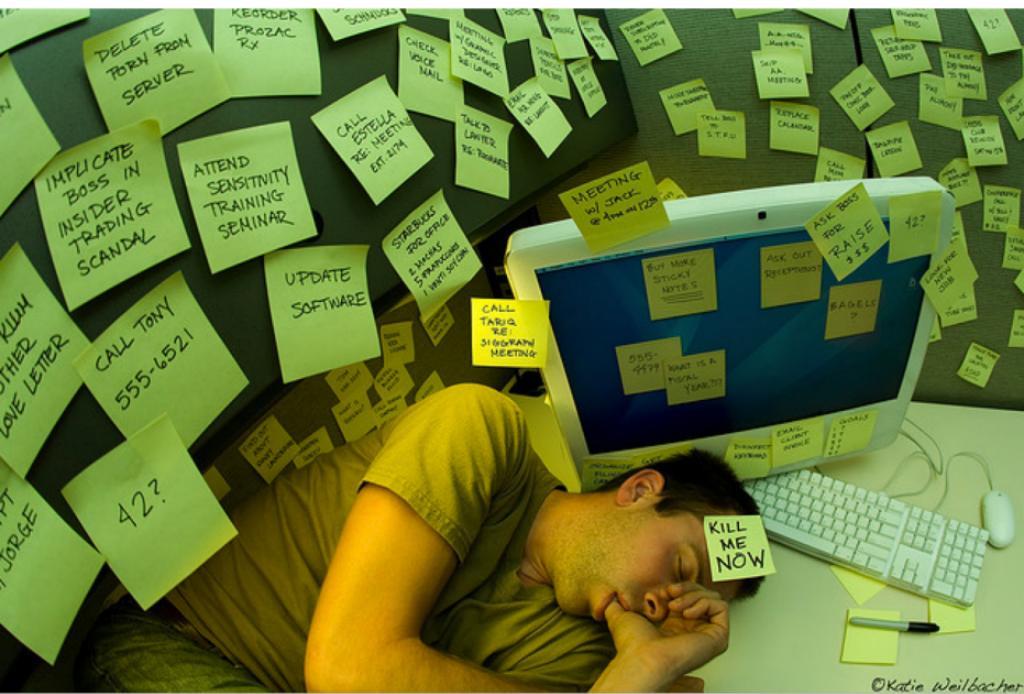
Self-efficacy is the common thread that seems to increase intervention effectiveness.¹

Ethical notation : Do not forget context. Consider social and economic situations that may differ between use cases. Design for a broad population remember minority groups while developing scenarios.

Health Belief Model - Cues to Action

Optimize on Reminders to Engage with the Intervention

Reminders to remain engaged with a digital health intervention can be good cues to action. However, these reminders may be more effective if they are only sent to people who disengage (versus a weekly reminder that goes out to everyone to stay engaged) and if they address other barriers such as perceived barriers, perceived benefits, and/or self-efficacy.



©Katie Weilbacher

<http://addspace to your life.com/organizing-sticky-notes-organizing-kitchen-gadgets/>

People get too many reminders, often for things that aren't relevant or important to them, leading them to ignore important reminders.

DOs

- Send reminder messages when relevant
- Use reminder messages to address other barriers to change by targeting self-efficacy and perceived barriers

DON'Ts

- Send "reminder to use our product" messages to everyone

Health Belief Model - Cues to Action

Optimize on Reminders to Engage with the Intervention

Hi Noreen,

We noticed you haven't logged into MyWebQuit in 8 days, we miss you! Did you know people who log in at least once a week are more likely to quit for good?

We know it can be easy to forget logging in. We also want you to have the best chances of reaching your goal to have a smoke-free life! Hope you come back soon!



"Even though I really wanted to quit, I kept forgetting to login to practice the tools and track my progress. Life just got too busy with my two teenage boys. I decided to bookmark the site and put on on my phone. That really helped! It's been six months since I quit smoking and I still go back and log my progress so I can see how much money I've saved by not smoking. It's so nice to see!"

-Shonda, from Tennessee,
smoked for 35 years

This is an example of an email that could serve as a relevant cue to action to someone who has stopped logging in to a web-based smoking cessation intervention.

It addresses perceived benefits of logging in.

It also provides a brief "user story" where User X states that s/he was feeling overwhelmed and finding it difficult to find time and remember to log in to the website. It goes on to indicate what she did about it and how that was helpful (addresses perceived barriers).

<http://adage.com/article/cmo-strategy/shonda-rhimes-dove-work-feel-commercial/309084/>

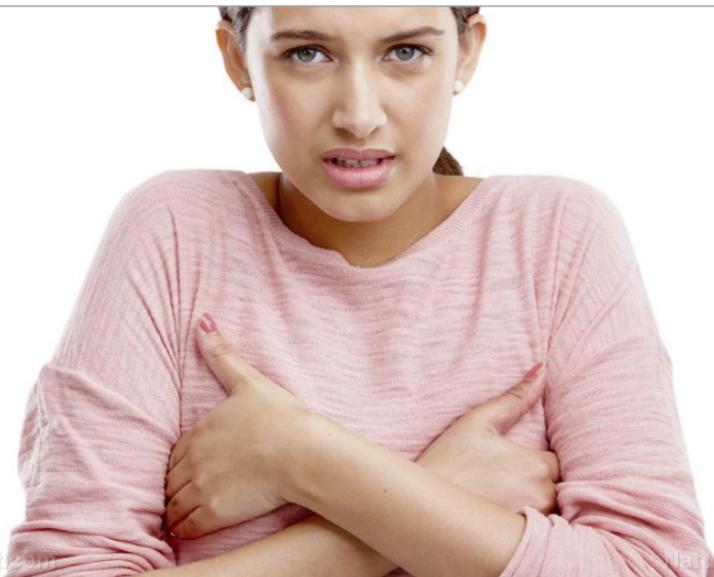
"Cancer screening studies have used reminder letters or postcards as an intervention and found that, for many participants, this intervention is significant... Researchers have found that simple reminders may be all that is needed for women who have already had a mammogram or are contemplating getting another (Saywell and others, 2003)."

NOTE: If messages are being pushed out to users, users should always have ways of turning them off or to opt out of receiving them.

Health Belief Model (HBM)

Provide support and reassurance to overcome perceived barriers

Barriers to behavior change may include misinformation, social stigma, cost, inconvenience or other issues. Interfaces that enable social support and accurate information may allow users to overcome perceived barriers.



NewsTarget.com

naturalNews.com

<https://hubpages.com/health/Bra-that-Can-Detect-Breast-Cancer>

Women may avoid scheduling regular breast exams because of concerns about modesty, cost, scheduling, or discomfort. If their specific concerns can be addressed through social support or accurate information, women are more likely to follow through on getting regular mammograms.

DOs

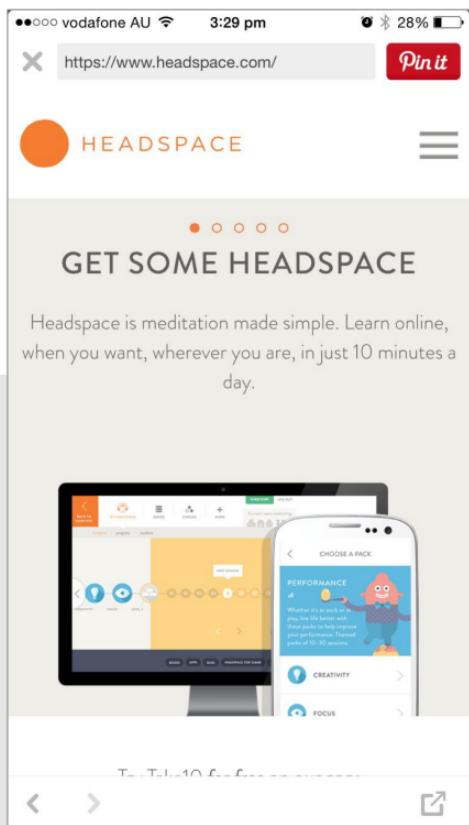
- Remind people of benefits of the target action that relate to the perceived barriers
- Address barriers specific to the target behavior and population

DON'Ts

- Provide misleading or inaccurate information

Health Belief Model (HBM)

Provide support and reassurance to overcome perceived barriers



<https://i.pinimg.com/originals/41/96/67/419667c5efd31674bbd9d9979c4562a9.jpg>

The home screen of the headspace website immediately addresses possible concerns about meditation, such as time commitment and difficulty.

Perceived barriers were the most powerful single predictor across all studies and behaviors.

A critical review of HBM studies conducted between 1974 and 1984 combined new results with earlier findings to permit an overall assessment of the model's performance (Becker, 1974; Janz and Becker, 1984)

ETHICAL NOTE: It may be tempting to overstate the perceived benefits or severity of a behavior to help people overcome barriers, but it would be unethical to do so.

Authors.

Samantha Muscat-Scherr, <http://sms.design>

Reference

Champion, V. L., & Skinner, C. S. (2008). The health belief model

Incentives

Offer lottery-style rewards to incentivize creativity

Individuals with high openness-to-change values have an overall higher level of innovativeness and an overall higher correlation with creative accomplishment. These individuals can provide more creative and diverse contributions in tasks that require it.



High risk preference is present in individuals who gamble and align to stimulation and self-direction values. Individuals with these values tend to be more creative, therefore if creativity is a desired goal of a task, offering lottery-style rewards will attract participants/users that will provide more diverse and innovative ideas.

DOs

- Identify if the kind of output required for the task or activity is creativity.
- Set the minimum reward size to that which will attract enough participants.

DON'Ts

- Offer too large rewards—it will attract participants interested in the reward rather than the activity.
- Be overly complicated with the reward structure.

Offer lottery-style rewards to incentivize creativity

The Mechanical Turk **Categorization App** makes it simple to get fast, accurate results on your Categorization project!

- ✓ Quick and easy HIT design
- ✓ Pre-qualified workers
- ✓ Start receiving results in minutes

[Create a Categorization Project](#)



Using Mechanical Turk to obtain labels for images, benefits highly from large numbers of labels and original, diverse thinking. The type of Turkers that can provide this kind of thinking, are more likely to be attracted by lottery-style rewards

“(...) [participants of a brainstorm activity] who chose the lottery rated ~2 times more additional ideas”
(Hsieh, Kocielnik, 2016).

“participants who chose lottery reward generated ideas that were more original (...). They also generated a more diverse set of ideas in terms of thematic categories”
(Hsieh, Kocielnik, 2016).

Authors.

Gary Hsieh. faculty.washington.edu/garyhs/
Lucas Colusso. lucascolusso.com
José Lara Silva. malvenko.net

References

Hsieh, Gary; Kocielnik, Rafal, *You get who you pay for: The impact of incentives on participation bias*. Proceedings of the ACM Conference on Computer Supported Cooperative Work, CSCW. Vol. 27 Association for Computing Machinery, 2016. p. 823-835.
Images: Casino1Club.com, mturk.com.

Incentives

Let the User Pick Their Incentives

People are driven by different preferences and values. Let the user choose the right incentive for themselves.



The best incentive often is not the one with the highest monetary value. For example, a \$10 Starbucks giftcard easily translates to a coffee and a snack. Sometimes, it may not even involve money, such as a digital badge or bragging rights. Offering choice allows the user to select what is most valuable for themselves.

DOs

- Offer a diverse set of incentives for the user to choose from
- Use incentives that appeal to different values or contexts

DON'Ts

- Do not offer incentives that can insult the user (such as a gym membership after a diet study)

Incentives

Let the User Pick Their Incentives

Time for a
#studentWIN

GET A FREE
CHEESEBURGER,
McFLURRY® ORIGINAL
OR MAYO CHICKEN:



SHOW

Your UNiDAYS® ID
or Student ID



BUY

Any Extra Value Meal
or Wrap Meal



GET

A FREE Cheeseburger,
McFlurry® Original
or Mayo Chicken

This advertisement, promoting the UniDays app, lets the user choose which snack they prefer for using the app in-store.

[Join UNiDAYS to enjoy this offer >](#)

[Tell your friends](#)

Study

A study on the impact of incentives on participation bias proved that, people were motivated more by some incentives than others, depending on their personality.

This includes:

- Participants who were categorized as “open to change” performed best with no pay or a lottery entry than fixed pay or a charity donation
- Participants who were categorized with “self-transcendence values” performed best with fixed pay

Authors.

Blake Tsuzaki ([baddaboo.github.io](https://github.com/baddaboo))

Reference

Hsieh, G., Kocielnik, R. (2016). You Get Who You Pay for: The Impact of Incentives on Participation Bias. In Proceedings of the 2016 ACM CSCW. <https://dl.acm.org/citation.cfm?doid=2818048.2819936>

Social Cognitive Theory

Provide progressive training and feedback

Expose the intervention behavior in a learning experience that allows the user to make and receive feedback on choices. Training through a progression of such exercises will allow the user to master the behavior and increase optimistic self-beliefs.



2008



2010



2016

Becoming a skilled artist takes repeated practice and tutelage from a master in order to hone the skill. Visible skill advancement increases the artist's motivation and confidence. Imagine that you are a master craftsman and you are tutoring an apprentice.

DOs

- Create exercises that advances the user through a progression of steps
- Provide positive or constructive feedback responses to the user as they progress

DON'Ts

- Avoid using a training format that the user is unfamiliar with
- Don't train about substance interventions without also encouraging a decrease in substance abuse

Social Cognitive Theory

Provide progressive training and feedback



EXAMPLE

Children's health education

Tapping on items that cross the screen will cause positive or negative changes in the health progress indicators. This trains the user on what types of choices are more nutritious and improves confidence that the user can eat healthy.

DID YOU KNOW...

"Personal mastery experience, such as practising a behaviour, is most effective for self-efficacy enhancement because it provides observable evidence for goal attainment (Connor, M., Norman, P. (2005)."

CONSIDER THIS

If practicing a behavior related to substance abuse, consideration should be made to dissuade the increase of substance usage. If educating users on sterilization of intravenous drug application, a possible negative consequence is sterilized, safer but more frequent drug abuse.

Authors

Alice Lin. [linkedin.com/in/uxalice/](https://www.linkedin.com/in/uxalice/)

References

Connor, M., Norman, P. (2005). Social Cognitive Theory: Predicting Health Behavior. McGraw-Hill Education (UK).

Image Credits: Twitter.com/Pritch_Art, TheToonPlanet.com

Social Cognitive Theory

Communicate Negative Consequences

Outlining or demonstrating the consequences of an action will enable users to set clear expectations before performing it, and allow users to perform better cost-benefit analysis before choosing to perform an action.



Image: Kathryn Berry

<https://www.nytimes.com/2018/01/25/science/plastic-coral-reefs.html>

Plastic waste contributes to ocean pollution. While the impact of pollution may not be experienced by most individuals, visualizing the impact of improper disposal can drive behavioral change by encouraging alternative options, such as recycling.

DOs

- Communicate the time horizon of the expected outcome (short or long term).
- Communicate whether the consequences are negative or positive.
- Communicate the type of consequence (e.g., negative financial impact).

DON'Ts

- Do not exaggerate the potential negative outcome.
- Do not obscure the element of self efficacy in reaching positive results or avoiding negative outcomes.

Social Cognitive Theory

Communicate Negative Consequences

How interest adds up over time

Tell us your average balance and the interest rate on your card, and see how much the interest could be costing you. Then see how much you could save by paying down your balance.

Average balance

1000



Enter the credit card balance you carry in a typical month.

Interest rate (APR)

20%



Choose the rate closest to the rate on your card.

Your current monthly interest charge is

\$16.67

Interest over 1 year

\$200.04

Interest over 5 years

\$1,000.20

This credit card interest calculator clearly demonstrates the negative consequences of maintaining a balance with a high interest rate card.

This awareness can drive behavior change by encouraging credit holders to maintain a lower balance or seek cards with lower interest rates.

Image: <https://www.nerdwallet.com/blog/credit-cards/credit-card-apr-matter/>

Two factors that drive change are the perceived severity of the negative consequence, as well as the perceived susceptibility to experience the negative outcome. For example, despite knowing that smoking is harmful to one's health and may lead to long term negative consequences, it may not deter the action (i.e., smoking) if the person feels that he or she is not susceptible to the negative health impacts.

Ethical implications of this approach is the lack of an opportunity to critique the negative consequence. For example, misinformation about the severity of the negative impact may drive people into behaviors that they do not need to perform, or can be harmful in the long term.

Authors.

Haruka Jones

Reference

Victoria L. Champion, Celette Sugg Skinner. The Health Belief Model.

Social cognitive theory

Foster self-efficacy by providing behavioral models

Self-efficacy (the confidence in one's ability to meet situational demands) is critical to initiating and maintaining behavioral changes. Encourage its growth by showing models of the desired activity.



Image: www.autism-speaks.com

A method for teaching skills to children with autism uses video of similarly-aged children reading. The child's confidence in his own ability to read grows through his vicarious experience of the goal activity.

DOs

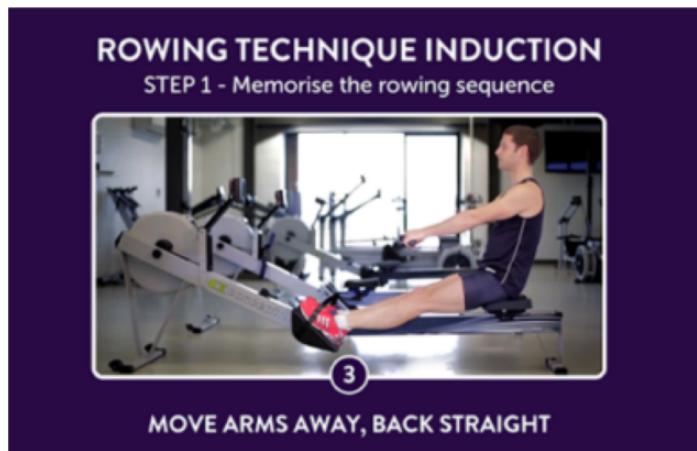
- Use people for vicarious experience models that are similar and relatable
- Provide experience models that show barriers being surmounted

DON'Ts

- Use dissimilar models
- Use experience models showing no barriers; later encounters with barriers not previously shown may undermine self-efficacy

Social cognitive theory

Foster self-efficacy by providing behavioral models



The RowActiv mobile interface builds the user's self-efficacy by providing video demonstrations of proper rowing technique (providing vicarious experience for the user).

Image: britishrowing.org

Vicarious experience models boost perceived self-efficacy through social comparison; when models, who appear similar to the individual, and are shown successfully overcoming challenges they instill confidence that the user can also overcome those challenges.

"A study on patients after coronary artery bypass graft surgery showed that an intervention in which former patients exemplify the physically active lives they lead after the surgery can affect post-operative exercise. Patients who received the intervention developed stronger self-efficacy than controls five days after surgery, and they reported more walking and stair climbing and a higher level of general activity. Four weeks after surgery, patients who participated in vicarious experience intervention reported a more active lifestyle" [1]

Self-Determination Theory

Bond with those you'd like to adopt a desired behavior

According to Self-Determination Theory (SDT), showing people that a certain behavior is important to others to whom they feel connected motivates them to do things that aren't inherently interesting.



In the image above, a dog trainer instructs dogs to behave a certain way. The trainer is assumed to have bonded with the dogs, and that bond increases his effectiveness at teaching them. Similarly, people that want to influence others will do so more effectively if they form a personal connection with those they want to influence.

DOs

- Do encourage people to build relationships with those that have a positive influence on them

DON'Ts

- Don't nudge people to form bonds with those that will drive them to adopt negative behaviors

Self-Determination Theory

Bond with those you'd like to adopt a desired behavior

The screenshot shows the homepage of the YouthWise Mentoring website. At the top, there's a dark header bar with the address "1 ST, #402 SEATTLE, WA 98107" and a phone icon. Below the header are navigation links: "ABOUT", "EVENTS", "LOGIN", and "MENTORING". In the center is a large green circular logo with the text "YouthWise" at the top and "Mentoring" at the bottom, flanked by two stylized figures holding hands. The background of the page features a scenic image of a mountain range under a clear sky.

Research shows that kids who have mentors are more likely to:

- Stay in school and improve their grades
- Avoid drugs and alcohol
- Get along with family, authorities, and others
- Feel more self worth
- Make good life choices!

The image above is from the website of YouthWise Mentoring, an organization that pairs young people with mentors. Through this arrangement, mentors build relatedness, an SDT construct. Mentors make mentees feel cared for, and as a result, mentees are more likely to adopt the values of their mentors, increasing their chances of staying in school and away from drugs and alcohol.

According to Ryan and Deci, “because extrinsically motivated behaviors are not inherently interesting and must be externally prompted, the primary reason people are likely to be willing to do the behaviors is that they are valued by significant others to whom they feel (or would like to feel) connected...In support of this, Ryan, Stiller, and Lynch (1994) found that relatedness to teachers (and parents) was associated with a greater internalization of school-related behavioral regulations.”

The implication of this data is that people should bond with those whose behavior they'd like to change.

Author

Christina Mauri

References

Ryan, R., and Deci, E. "Intrinsic and Extrinsic Motivations: Classic Definitions and New Directions," *Contemporary Educational Psychology* (2000).

Self-Determination Theory

Enhance Intrinsic Motivation through Positive Feedback

Intrinsic motivation exists within the relationship between a user and the activity they are performing. Providing positive feedback as one completes a task can help improve their intrinsic motivation, while supporting their feelings of competency at the same time!



Negative feedback about performance can diminish intrinsic motivation, whereas providing positive performance feedback can *enhance* it.

DOs

- Provide positive feedback for a specific task
- Give people a choice for the form their feedback is provided in
- Provide opportunities for self direction

DON'Ts

- Provide the same generic messages – users will become blind to the message
- Provide extrinsic rewards
- Instill a sense of competitive pressure

Self-Determination Theory

Enhance Intrinsic Motivation through Positive Feedback

5:23



Notifications

Messages



Almost there! Get 2,461 steps more to hit your daily goal.

Apr 27, 4:43 PM



Nailed it! You met your step goal for today.

Apr 26, 11:53 PM

The FitBit app provides users with periodic positive feedback to help keep them motivated. Rather than focusing on a goal not being met, they let the user know they're "Almost there!" and help them visualize the positive work they've done towards their goal.

"Several early studies showed that positive performance feedback **enhanced** intrinsic motivation (e.g., Deci, 1971; Harackiewicz, 1979), whereas negative performance feedback diminished it (e.g., Deci & Cascio, 1972)."

"In humans, intrinsic motivation is not the only form of motivation, or even of volitional activity, but it is a **pervasive and important** one." (Ryan & Deci, 2000)

Authors

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Reference

Ryan, R. M., & Deci, E. L. (2000). Intrinsic and Extrinsic Motivations: Classic Definitions and New Directions. *Contemporary Educational Psychology*, 25(1), 54-67.
doi:10.1006/ceps.1999.1020

Theory of Planned Behavior

Leverage social norms for change

The Theory of Planned Behavior (TPB) states that personal action is influenced by three factors: attitude, subjective norm, and perceived control over a behavior. When all three come together, they form a person's intent toward performing that behavior.



Fitting in is a large part of the human condition. How your behaviors measure up to the behaviors of others can play a large role in making positive changes to your current habits. Often when a negative behavior has manifested, things like social awareness coupled with an individual's own beliefs toward a given behavior may influence whether or not an action is taken. Like the image above, this challenges the user to consider whether their current behavior has room to improve.

DOs

- Provide details on how society at large engages with this behavior based on user action.
- Respectfully present risks or alternative outcomes for not engaging in the behavior.
- Integrate personal network circles where possible to increase motivation and accountability.

DON'Ts

- Leverage discouraging or demeaning language if the user decides to not move forward with the "accepted" behavior.

Theory of Planned Behavior

Leverage social norms for change

A



B



C



The app DrinkLess compares your current drinking habits to that of society at large, often calling out when your habits are “outside of the norm” to encourage lower alcohol consumption.

“Because the normative pressure to stay in school is already perceived to be quite strong, only minor effects can be expected if interventions are targeted at these normative beliefs.”

While the quote above refers to minimal efficacy towards leveraging social norms to change some widely-accepted behaviors (as the societal view of staying in school is overwhelmingly strong) it can be leveraged in a variety of ways where opinion is not as strong. In more “socially grey” areas such as alcohol consumption, leveraging societal perceptions and norms to give users a baseline of how they compare can be a motivating factor towards planned behavior.

Ethically speaking, there are some concerns with leveraging societal norms to influence behavior. Often, social constructs can be extremely subjective, and there may not be one “correct” path for a person to take, or a user may feel shamed into a certain action based on the feedback received. It’s important to present the facts in a way that are convincing for the individual, but with the acknowledgement that there could be multiple paths that someone could take.

Authors.

Larry Davis, Icek Ajzen, Jeanne Saunders, and Trina Williams
Nicole VanMeter - @nicoleavanmeter

Reference

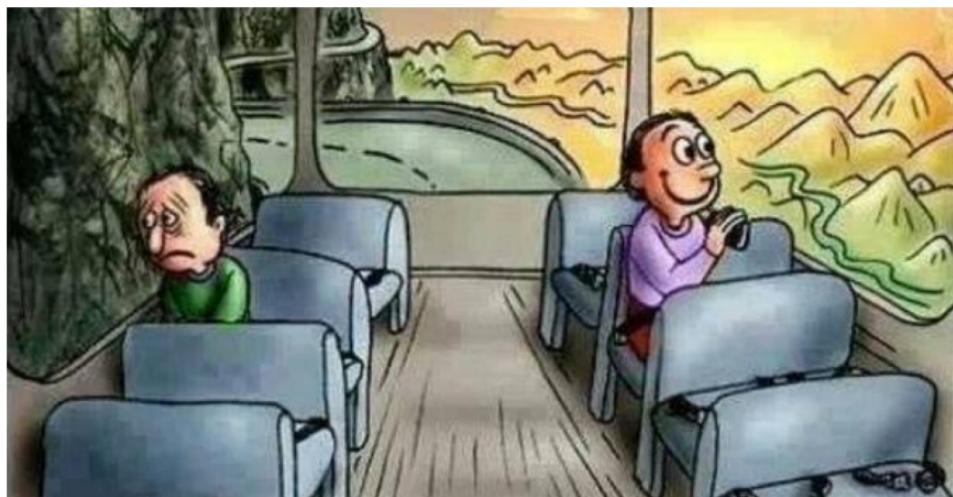
Davis, L. E., Ajzen, I., Saunders, J., & Williams, T. (2002). The decision of African American students to complete high school: An application of the theory of planned behavior. *Journal of Educational Psychology, 94*(4), 810.

Images from: DrinkLess and Psychology of Environmental Stewardship

Theory of Planned Behavior

Cultivate a positive attitude

The Theory of Planned Behavior tells us that someone's attitude toward a behavior will influence whether or not they form an intention toward some action. Positive attitudes are more likely to result in behavior change than negative attitudes. Designers should cultivate a positive attitude in order to change behavior.



Positive attitudes and beliefs toward something are predictive of behavior change. If users have a negative attitude toward a behavior change, the change won't be successful. If positive beliefs and attitudes are cultivated about the world we live in, anything is possible.

DOs

- Use positive and encouraging language
- Foster positive community culture
- Remind users about positive long term outcomes of behavior change

DON'Ts

- Use negative language or make users feel bad about making mistakes
- Don't be overly optimistic toward objectives that the user might not be able to achieve

Theory of Planned Behavior

Cultivate a positive attitude

Yay !!!! No wonder I'm so tired today haha



90 5

2 days ago

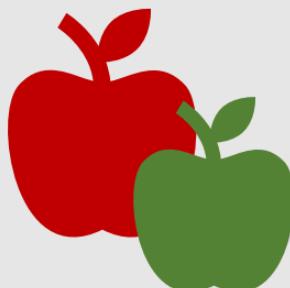
Cheer

Comment

Fitbit rewards users with trophies and allows them to be shared with the Fitbit community. Fitbit fosters positive attitudes within the community by allowing others to "Cheer" on other members.

In a study of healthy eating habits, people with positive attitudes toward healthy eating were more likely to have a healthy diet.

Compared to people with neutral negative attitudes toward healthy eating, people with positive attitudes ate about **2 more servings** of fruits and vegetables every day (Aggarwal 2014).



Authors.

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References

- David, L., Ajzen, I. (2002). The Decision of African American Students to Complete High School: An Application of the Theory of Planned Behavior. *Journal of Educational Psychology*. Vol. 94, No. 2.
- Aggarwal, A., Monsivais, P., Cook, A., Drewnowski, A. (2014). Positive Attitude toward Healthy Eating Predicts Higher Diet Quality at All Cost Levels of Supermarkets. *Journal of the Academy of Nutrition and Dietetics*. Vol. 144, No. 2.

Theory of Planned Behavior

Benevolent peer pressure to promote good outcomes

One of the contributing factors that promotes success in planning for long term goals is positive social reinforcement, and/or strong societal norms.



Normally “peer pressure” is viewed as a negative thing, but in some cases it can help incentivize people to achieve long term goals better than if they had no social reinforcement at all. Benevolent peer pressure, or social reinforcement, could include direct feedback from a person’s immediate social community or include implicit societal norms. For example, a person’s family *and* overall societal norms may both contribute to a person staying incentivized to finish college over a long period of time.

DOs

- Use social reinforcement for positive behavior change
- Align the benefits of the intended behavior with social norms

DON'Ts

- Use negative peer pressure to change behavior
- Make someone feel bad or excluded from social communities

Theory of Planned Behavior

Benevolent peer pressure to promote good outcomes

Today is Election Day

What's this? • close



Find your polling place on the U.S. Politics Page and click the "I Voted" button to tell your friends you voted.

I Voted

01155376

People on Facebook Voted



Jaime Settle, Jason Jones, and 18 other friends have voted.

Facebook encouraged people to vote by highlighting how many other people have voted, both overall Facebook users and their friends and family. Since voting is a strong societal norm, surfacing stats about how many people a user knows that have voted could encourage a person to prioritize voting.

AN INTERVENTION TO GET HIGH SCHOOLERS TO FINISH SCHOOL USING THIS METHOD

"At the end of the study period, 74% of the sample was found to have completed high school. The completion rate in the total initial sample of 262 students was 60%"

It is important to remember that societal values are not universal, so highlighting familial or societal norms is difficult to do for broad audiences or for specific actions. This also has many ethical implications, as using social influence to change behavior forces a strong power dynamic. Finally, if a person doesn't align with social norms and they're made aware of it, this could cause feelings of social isolation, which can be damaging.

This method should be used carefully and thoughtfully.

Authors.

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References.

Davis, Larry E., et al. "The Decision of African American Students to Complete High School: An Application of the Theory of Planned Behavior." *Journal of Educational Psychology*, vol. 94, no. 4, 2002, pp. 810–819.
doi:10.1037//0022-0663.94.4.810.

Transtheoretical Model

Make pros outweigh cons for users to take action

Within the *stages of change*, in order for users to move through the stages from *precontemplation* - no intention to take action within the next 6 months

- into *action* - changed overt behavior for less than 6 months - the pros of changing need to be higher than the cons of change.



The “see-saw” above acts as a beam balance scale, and the stones represent pros (left) vs. cons (right). The single stone weighing more than the 3 stones shows that the effect of single pro or con is not created equal. So while focus should be placed on both increasing pros and decreasing cons, it is necessary that benefits are increasing more.

DOs

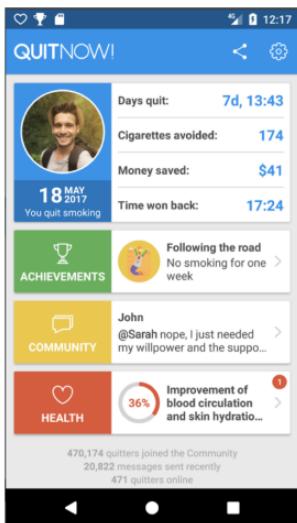
- Emphasize the pros first and foremost
- Try to mitigate the cons (concerns with the behavior change)
- Accurately represent pros/cons

DON'Ts

- Only increase the pros
- Only decrease the cons
- Focus too much on use of this strategy once the user has moved past *action* into *maintenance*

Transtheoretical Model

Make pros outweigh cons for users to take action



A user in the early stages of change of smoking cessation may have downloaded the QuitNow! App. While they wouldn't have started tracking money & time saved (as they haven't yet moved into action), exploring the app's dashboard would reveal that these are just a few of the benefits of smoking cessation along with many health benefits.

The **Strong & Weak Principles** reveal that the “**pros of changing must increase about twice as much as cons must decrease.**” Researchers and designers should place **twice** as much emphasis on raising benefits as on reducing costs to enact recommended behaviors.

Ethics: Placing emphasis on specific pros and cons of changing should be applied carefully. The benefits and costs of a change should be presented so that the user can make an informed choice to proceed to action, if desired. Interventions are never one size fits all, but users should be presented with the same pros/cons so as to not incorrectly influence different demographics.

Author

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Images

Classic Granny Flats

QuitNow!

Reference

Prochaska, James O., et al. “The Transtheoretical Model and Stages of Change.” *Health Behavior and Health Education*.

Transtheoretical Model

Cater to Stages of Change

Identify where your target users exist within the 6 stages of change to help your product work for your target users more effectively.



A



B

Example: **A** is in the Precontemplation stage of practicing a healthy lifestyle. **B** is in the Action stage, and exercises with her friends regularly. When designing a product related to improving personal health, consult the Stages of Change to understand if you are designing for **A** or **B**.

Ask Yourself

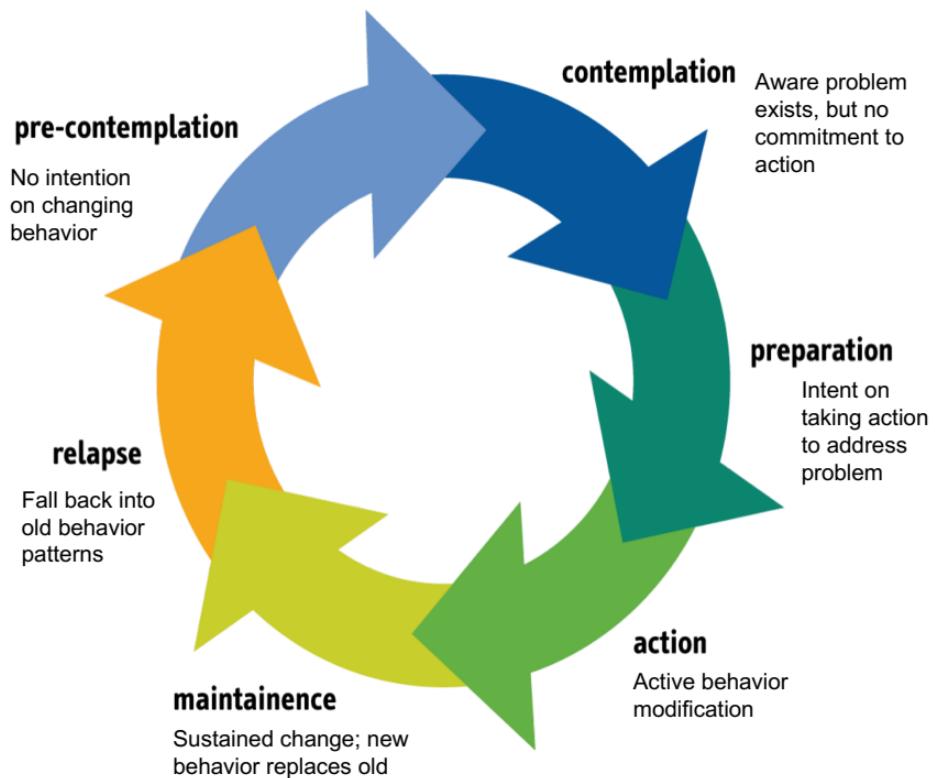
- What sort of behavior will my product affect?
- Which Stage of Change are my target users a part of?
- Which stage will my product help my target users reach?

Design Quest

- *Product X tries to help its users reduce a negative behavior, but these users have relapsed back into the negative behavior.*
- Generate 3 questions & 3 suggestions you would present to the designers of product X.
- **Hint:** Product X and the negative behavior can be anything.

Transtheoretical Model

Cater to Stages of Change



The More You Know

"Early intervention with adolescent smokers using TTM-tailored [Transtheoretical Model] treatments **produced significant abstinence rates** at twenty-four months that were almost identical to rates found with treated adult smokers" (Hollis et al., 2005).

Author

Pierre Delcourt

Source

Hollis, J. F., and others. "Teen REACH: Outcomes from a Randomized Controlled Trial of a Tobacco Reduction Program for Teens Seen in Primary Medical Care." *Pediatrics*, 2005, 115(4), 981–989.

Transtheoretical Model

Social Support Helps Resist Temptation

Temptation defines the intensive urge to engage in a specific behavior in difficult situations. Most commonly, temptation stems from negative affect or emotional distress, positive social situations, and craving.



In a social support group, people with similar aspirations and problems support each other to resist temptation and avoid relapse after termination of bad habits, such as alcoholism, drug abuse, or other.

To design a successful product that people will want to use, you should therefore:

DO...

- Create a safe, anonymous environment where people can talk about their problems and temptations openly, without judgement
- Connect people with experts or other users who experience/d similar temptations
- Allow people to track and/or display their successes to create accountability

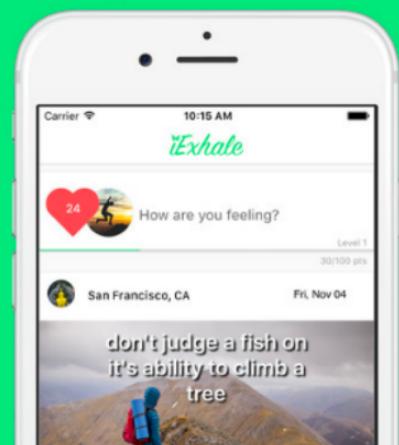
DON'T...

- Allow discouraging and/or disrespectful comments/behaviors from other users
- Use peoples information or data without their approval
- Allow negative affects or enforce cravings

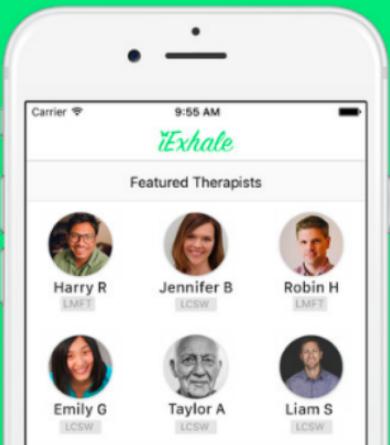
Transtheoretical Model

Social Support Helps Resist Temptation

Share your feelings and messages of hope and support on our anonymous social network



Book an appointment to speak with a therapist via phone call.



The application iExhale allows users to connect to therapists, or share their feelings with others. It gives them a platform to discuss their own problems, or the problems their loved ones are experiencing, to find comfort and help.

The Theory

» Helping relationships combine caring, trust, openness, and acceptance, as well as support for healthy behavior change. Rapport building, therapeutic alliances, counselor calls, and buddy systems can be sources of social support.

The classic pattern in smoking cessation clinics is rapid relapse beginning as soon as the treatment is terminated. Some of this rapid relapse could well be due to the sudden loss of social support or social control provided by the counselors and other participants in the clinic.

Author.

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Reference

Prochaska, J. O., Redding, C. A., Evers, K. E. (n.d.). *The Transtheoretical Model and Stages of Change*.

Images Retrieved From

https://media.recovery.org/wp-content/uploads/recovery-shutterstock289042613-group_acceptance-cta.jpg
<http://www.businessofapps.com/wp-content/uploads/2017/03/iexhale.png>