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Designing Sustainable Behavior Change With Habit Design

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Health promotion has failed to generate sustained engagement for the critical health behaviors that matter the most. A new Mayo Clinic study, based on the CDC's largest national health survey, revealed virtually all Americans (97.3%) have failed to achieve "the four basic healthy lifestyle habits"—healthy eating, regular physical activity, smoking cessation, and ideal body fat percentage[1] —and 80% of heart disease, 80% of diabetes, and 40% of cancers could be prevented if Americans mastered just the first three.[2]

Yet, given how long it takes to form lasting habits, traditional health promotion strategies run out of gas. Research shows it takes much longer than the mythical "21 days" to form the kind of healthy habits that make a dramatic impact on well-being; in reality, it can take at least 66 days.[3] Artificially boosting motivation or willpower through fitness challenges, wearables, gamification, incentives, and so on, spur episodic, temporary changes yet quickly wane: roughly 80% of us still quit our resolutions within just 6 weeks.[4] Simply relying on health promotion to carry the day has not been enough.

Habits: The Fulcrum of Behavior Change

Although motivation gets you started, it is habit that keeps you going. Public health research has finally begun to realize the importance of habit formation. McKinsey & Company, a global management consulting firm, determined that the majority of health interventions genres are driven "largely by subconscious, or habitual, behaviors" including "workplace wellness."[5] Although these largely subconscious interventions drove the majority (67%) of total health impact, they were underdeployed, accounting for only 40% of intervention budgets (Exhibit 1).

"By removing the need for willpower from the equation," McKinsey concluded, "subconscious interventions have a greater chance of succeeding, have greater impact, and are also more cost-effective."[5]

Clinically testing evidence-based behavior change techniques from over 100 published behavioral scientists has enabled the translation of the neuroscience of habit formation into practical, practicable, personalized, and sustainable behavior change protocols. Some key insights gleaned from those tests are given below.

Designing Habits

It is imperative to have an accurate scientific understanding of how habits form (emphasis our own):

> "A habit is a learned, reflex-like behavior that is **triggered unconsciously** by **familiar cues** in a person's **context** (eg, physical setting, other actions in a sequence, time of day). Most habits began as actions that were a function of rational consideration and were **first performed with intentionality** and some awareness of their consistency with personal goals . . . . Once formed, a habit may substitute for, or override, conscious decision making in a relevant situation."[6,7]

Training new habits begins with "implementation intentions" or "behavioral action plans." Highly underutilized in wellness programs, implementation intentions address intention–behavior gaps by specifying particular contexts and behaviors for individuals to carry out their intentions to achieve their goals (eg, "At time X, I will do Y, in place Z") and have been shown to correlate strongly with physical activity.[8-12] However, behavioral action plans alone do not exert ongoing effects: they must be complemented by both repetition and automaticity to become habitual.

Our Habit Design Model, derived in part from Fogg's Behavior Model,[13] describes 3 key ingredients that must converge in a consistent context and circumstance for an implementation intention to become a subconscious, or nearly subconscious, habit: an effective trigger, a small incremental dosage of the habit's routine (eg, "running just 1 additional block each week") followed immediately by a reward. These steps also must occur immediately after one another. A habit fails then when at least one of these is missing, insufficient, too difficult, or is interrupted (Exhibit 2):

Work with organizations applying this formula to design habits has revealed additional intriguing insights:

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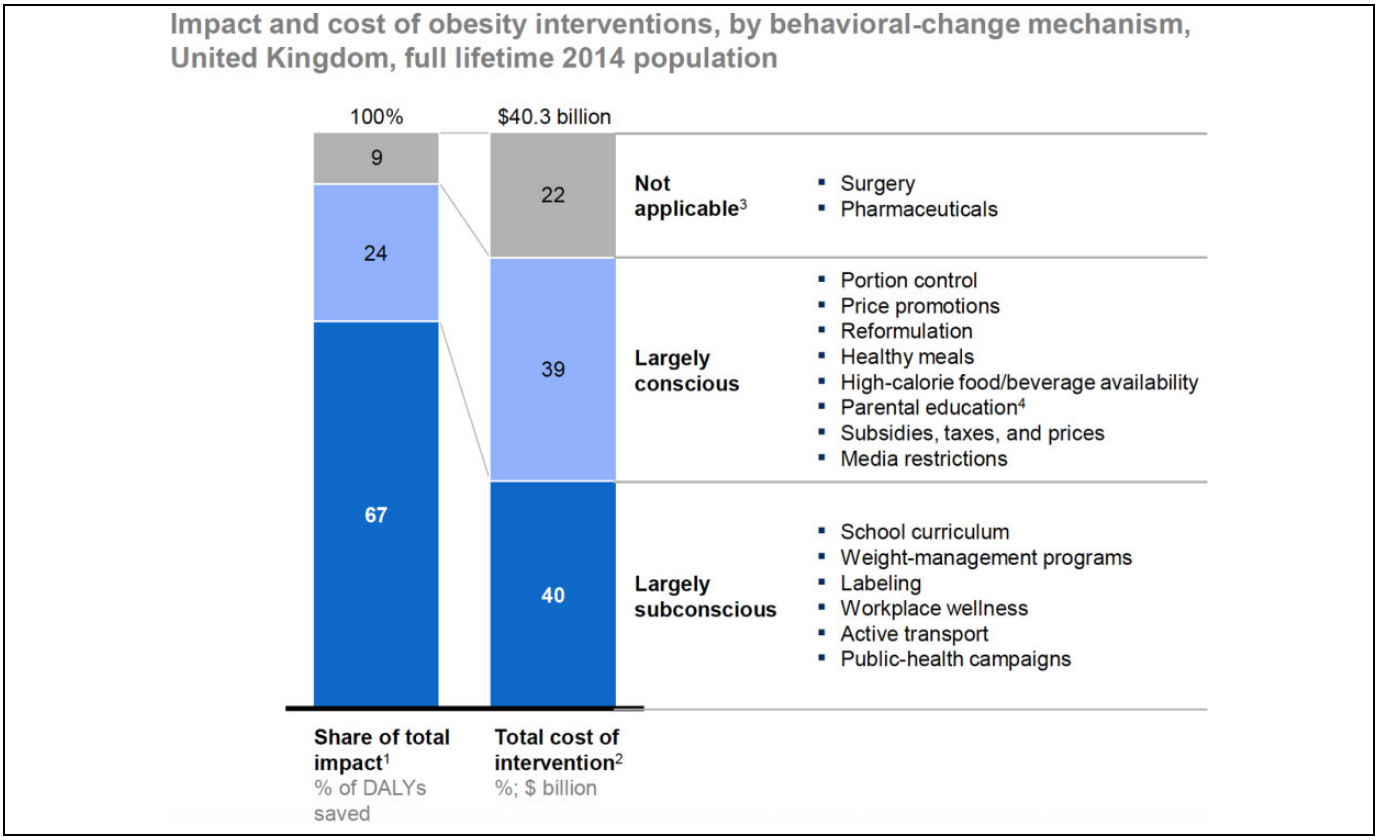

Exhibit 1. Habits, the Fulcrum of Behavior Change.

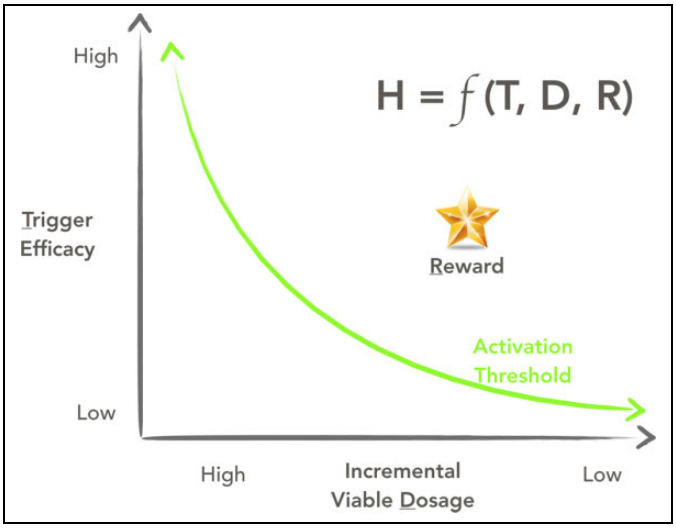

Exhibit 2. Habit Design Model (©Habit Design).

- "No pain, no gain" is a dangerous, self-destructive myth. Radically reducing the routine's incremental intensity down to a "babystep" (eg, "walk just 1 block") is a critical way to avoid an acute stress response (a.k.a. "burnout" or "fight-or-flight"). Not all habits fit under this incremental approach (eg, those related to medication adherence) but many healthy habits do.
- Triggers, or stable contextual cues that immediately precede the routine (eg, "When I exit the lobby of my office building for lunch"), vary greatly in specificity, robustness, and therefore, "quality." Several factors improve a trigger's efficacy, including availability, observability, incumbency, and binariness.
- Each time a reward is introduced immediately after the action plan is performed, the implementation intention becomes increasingly solidified as a new neural pathway. However, not all rewards are created equal. Several characteristics define successful rewards for habits, including immediacy, socialization, intrinsic motivation, and reinforcement of the routine's sustainability (eg, "high-five the receptionist").

Applications

Habit-based interventions have already yielded clinically significant results for wellness. In one study, individuals following this protocol lost significantly more weight (mean: 2.0 kg) at 8 weeks; among those who remained in the study at 32 weeks, average weight loss was 3.8 kg, with 54% losing at least 5% of their body weight.[14] In another study, overweight participants undergoing a multifaceted habit formation treatment continued to lose weight (twice as much as the control group) during several months following a 12-week intervention, whereas participants using a more standard weight loss program relapsed over time.[15] The habit strength of exercise instigation has also been demonstrated to be the only predictor of exercise frequency.[16]

In another study conducted through a corporate wellness program, 41% (n = 4152) participated in a 12-week habit-training program. Of these, 78% reported performing their habit at least 3 out of 5 weekdays every week. Eighty-two percent of these (n = 2655) reported having successfully habituated their target behavioral sequence within the first

5 weeks. Seventy-two percent of participants reported an increase in other wellness activities not directly associated with their target habits. No financial incentives were used.

A New Frontier of Behavior Change

Research on habit formation points to a promising path for organizations who desire to effect sustainable behavior change and greater Return on Investment (ROI) by going beyond health promotion and training the rather simple—yet underdeployed—discipline of making their healthy choices not just easy but automatic. We call this ''mastering the force of habit'' and look forward to participating in this new frontier of behavior change.

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