



DISRUPTING UNHEALTHY HABITS WITH ENVIRONMENTAL MODIFICATIONS

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INTRODUCTION

Health and wellness professionals and personal trainers are often sought after by individuals who desire to live healthier lifestyles through nutrition and exercise interventions. The desire to change is reflected by good intentions to adopt new behaviors. However, unhealthy habits may easily override an individual's good intentions. Habitual behavior is distinct from non-habitual behavior in that little information is required to make decisions, intentions are insufficient to predict behavior, and behavior is activated by environmental cues (3,9,12). A habit is the inclination to repeat certain behaviors given a stable context. Habits are measured as the multiplicative function of contextual stability and behavioral frequency. Strong habits are performed frequently in the same context whereas weak habits are performed irregularly and in varying contexts (1). Furthermore, habits are characterized by the automaticity which occurs when a behavior is efficient. A habit can be viewed as a route by which a stimulus automatically creates an urge towards action that is based on learned stimulus-response relations (3).

Cognitive associations for strong habits are contextually linked and are likely goal-independent (3,7). A specific environment may prompt certain behaviors such as physical inactivity or unhealthy eating even in the face of intention to avoid these behaviors. As a habit becomes stronger, the influence of intention on actual behavior will decrease. For example, if an individual intends to eat healthy but has a strong habitual tendency to snack on unhealthy food, the intention they formed may have minimal influence on behavior (13). Since strong habits do not share a relationship

with behavioral intention, attempting to change intention alone may not be the most effective strategy to alter behavior. For individuals with good intentions but unhealthy habits, the environment may be the mediator to actual behavior. Because habits are contextually linked, it is reasonable to suggest that modifying the environment may disrupt the habit process and allow conscious intention to guide behavior. This article focuses on providing practical recommendations to aid individuals with intentions to exercise and eat healthy to reach their goals in the face of undesirable habits.

HABIT AND THE ENVIRONMENT

Only a small percentage of people recognize the impact that the environment has on food consumption (17). Furthermore, people often underestimate the number of food-related decisions they make on a daily basis. That is to say, most of these decisions happen automatically or without conscious intention (16). Components of the environment that might trigger the habit response consist of location, preceding actions in a sequence, particular people, or internal feelings or thoughts (8). For example, individuals who scored high for habitually smoking in bars were more likely to find themselves lighting up cigarettes in the bar even after a law was passed that made smoking in bars illegal (8). In this instance, the environment and possibly the sequence of actions played a role in unintended behavior. Another common example is popcorn consumption during movies where eating is automatically triggered by the context. Individuals who have a strong habit for popcorn consumption during movies will eat similar amounts regardless of the taste of the popcorn or how hungry they actually are (6).

However, this consumption pattern may be dependent upon context. For example, individuals with a strong habit to consume popcorn during a movie eat just as much as those with a low habit when the context is changed. People who have a strong habit for eating popcorn eat less by switching to eating with their non-dominant hand. These contextual changes presumably work by removing the automaticity of the task which generates some level of intentional control (7). This disruption in automaticity is also known to occur when individuals move to new locations (14,18). For example, Heatherton and Nichols report that 35% of individuals who made successful life changes reported that they had moved, whereas only 12% of unsuccessful changers moved (4). An environmental disruption such as a move can be taken advantage of by allowing behavior to come under goal-directed intention (14). Of course, it is usually not plausible to suggest that an individual move to a different neighborhood just to change their behavior. However, simple modifications to the home or kitchen environment based on habitual behavior may disrupt these unhealthy habits. This disruption can help intention and goal-guided behavior.

MODIFYING THE ENVIRONMENT

EXERCISE HABITS

It is far easier to engage in sedentary pursuits than physical activity. Furthermore, bad habits such as unhealthy eating provide instantaneous reinforcement while healthy eating and exercise requires a long-term commitment to realize benefits. The purpose of changing the environment is to make undesired habits less likely to happen. Modifying the environment to increase the convenience of physical activity while decreasing the convenience or appeal of sedentary behavior may help to disrupt habits. When physical activity alternatives are convenient compared to inconvenient sedentary activities, people spend increased time being physically active (10). For example, televisions should be placed in locations without comfortable furniture to decrease the appeal of sedentary behavior. Furthermore, televisions should not be in close proximity to food. An individual who watches television close to a kitchen or pantry area will likely eat more while watching television than the person watching in the basement further away from food. Increasing the convenience for exercise should also be a part of behavioral modification interventions.

TABLE 1. EXAMPLES OF HOW TO DISRUPT UNHEALTHY HABITS

HABIT	ENVIRONMENTAL DISRUPTION
Sedentary behavior	Place exercise clothing on the couch
	Put exercise equipment (e.g., stationary bicycle) where the client engages in sedentary behavior
	Join a gym that is located between work and home
Overconsumption of soda	Do not put more than one soda in the refrigerator at a time
	Store soda containers in inconvenient and less noticeable locations
	Buy single-serving cans rather than one-liter bottles
Overconsumption of alcohol	Store alcohol out of sight, such as in a garage refrigerator
	Reduce time spent with heavy drinkers
	Drink wine in tall skinny glasses to reduce consumption

Stationary bicycles or exercise equipment could be placed in bedrooms to serve as a convenient reminder to exercise.

To supplement increased convenience, keeping a consistent schedule and making exercise enjoyable may help to increase habit strength. Kaushal and Rhodes suggest that, along with keeping a consistent workout schedule, strength and conditioning professionals should focus on keeping workouts fun and skill appropriate to increase the likelihood that exercise will become a habit. The rationale is that this will decrease the cognitive demands for exercise and thus help exercise become more habitual (5).

FOOD HABITS

Unhealthy food can be made less convenient as well. For example, Wansink and colleagues observed that candy consumption among secretaries decreased as the ease of access to the candy decreased (15). When candy was located within hands reach and in a clear jar, participants ate more than if the candy was far away and in an opaque jar (15). In this instance, reaching for candy may have been habitual (learned through repetition and unchanging context). By making a small modification to the location of the candy, eating may have come under intentional goal-directed control.

Personal trainers should ask clients to identify the actions that commonly lead up to eating unhealthy food and then suggest ways to disrupt the habit process. For example, an individual may always walk through the kitchen door after work and open the pantry where at eye level lies a bag of chips. Every day they enact this behavior which is stimulated by several environmental cues. The personal trainer could encourage the client to walk through a door that does not lead into the kitchen or place the bag of chips in an inconvenient location. Additionally, instead of eating from a full bag of chips, the client could purchase single-serving packages or pre-serve the snack into a bowl to avoid excessive eating. Any change in action that precedes the behavior may disrupt the habit process. However, it is important to remember that prescribing nutrition plans or diet plans is beyond the scope of personal trainers. A list of suggestions for disrupting unhealthy habits can be found in Table 1.

DISRUPTING UNHEALTHY HABITS WITH ENVIRONMENTAL MODIFICATIONS

TABLE 1. EXAMPLES OF HOW TO DISRUPT UNHEALTHY HABITS (CONTINUED)

HABIT	ENVIRONMENTAL DISRUPTION
Snacking	Create a pantry that is not near the kitchen or television
	Place snacks in single-serving baggies
	Pick one single place to snack that is not in front of the pantry or television
	Make healthy snacks more noticeable than unhealthy snacks
Overeating meals	Leave serving bowls on the stovetop rather than on the dinner table
	Reduce the size of dinner plates and bowls

REPLACING BAD HABITS WITH HEALTHY HABITS—THE ROLE OF SELF-REGULATION

Personal trainers should not only help clients disrupt unhealthy behaviors but also replace these behaviors with healthy ones. For example, the goal of decreasing sedentary activity is tantamount to increasing physical activity. New exercisers may benefit from exercising regularly at the same time of the day (environmental time cueing) to form an exercise habit (11). For example, a person may plan to exercise every day after work at a nearby fitness center. This planning of the “when” and the “where” is an example of self-regulation. Self-regulation serves as the basis for purposeful action. Self-regulatory processes mediate the relationship between intention and actual behavior (2,8). This increased behavioral repetition in a consistent context may help to form new health habits.

CONCLUSION

The environment may be the deciding factor as to whether a habitual urge does or does not occur. The environment may also be a moderating factor as to whether a good intention to exercise or eat healthy will overcome sedentary and poor eating habits. Personal trainers should help clients think of creative ways to modify their environment to help disrupt unhealthy habits. These modifications may help prevent unwanted behaviors and encourage healthy ones.

REFERENCES

- Danner, UN, Aarts, H, and de Vries, NK. Habit vs. intention in the prediction of future behavior: The role of frequency, context stability and mental accessibility of past behaviour. *British Journal of Social Psychology* 47(2): 245-265, 2008.
- de Bruin, M, Sheeran, P, Kok, G, Hiemstra, A, Prins, JM, and Houters, HJ. Self-regulatory processes mediate the intention behavior relation for adherence and exercise behaviors. *Health Psychology* 1(6): 695-703, 2012.
- Gardner, B. A review and analysis of the use of “habit” in understanding, predicting and influencing health-related behaviour. *Health Psychology Review* 9(3): 277-295, 2015.
- Heatherton, TF, and Nichols, PA. Personal accounts of successful versus failed attempts at life change. *Personality and Social Psychology Bulletin* 20(6): 664-675, 1994.
- Kaushal, N, and Rhodes, RE. Exercise habit formation in new gym members: A longitudinal study. *Journal of Behavioral Medicine* 38(4): 652-663, 2015.
- Neal, DT, Wood, W, Wu, M, and Kurlander, D. The pull of the past: When do habits persist despite conflicting motives? *Personality and Social Psychology Bulletin* 37(11): 1428-1437, 2011.
- Neal, DT, Wood, W, Labrecque, JS, and Lally, P. How do habits guide behavior? Perceived and actual triggers of habits in daily life. *Journal of Experimental Social Psychology* 48(2): 492-498, 2011.
- Orbell, S, and Verplanken, B. The automatic component of habit in health behavior: Habit as cue-contingent automaticity. *Health Psychology* 29(4): 374-383, 2010.
- Ouellette, JA, and Wood, W. Habit and intention in everyday life: The multiple processes by which past behavior predicts future behavior. *Psychological Bulletin* 124(1): 54-74, 1998.
- Raynor, DA, Coleman, KJ, and Epstein, LH. Effects of proximity on the choice to be physically active or sedentary. *Research Quarterly for Exercise and Sport* 69(1): 99-103, 1998.
- Tappe, K, Tarves, E, Oltarzewski, J, and Frum, D. Habit formation among regular exercisers at fitness centers: An exploratory study. *Journal of Physical Activity and Health* 10(4): 607-613, 2013.
- van't Riet, J, Sijtsema, SJ, Dagevos, H, and de Bruijn, GJ. The importance of habits in eating behaviour: An overview and recommendations for future research. *Appetite* 57(3): 585-596, 2011.
- Vernhoeven, AA, Adriaanse, MA, Evers, C, and de Ridder, DT. The power of habits: Unhealthy snacking behaviour is primarily predicted by habit strength. *British Journal of Health Psychology* 17(4): 758-770, 2012.
- Verplanken, B, and Roy, D. Empowering interventions to promote sustainable lifestyles: Testing the habit discontinuity hypothesis in a field experiment. *Journal of Environmental Psychology* 45: 127-134, 2016.
- Wansink, B, Painter, JE, and Lee, YK. The office candy dish: Proximity's influence on estimated and actual consumption. *International Journal of Obesity* 30(5): 871-875, 2006.

16. Wansink, B, and Sobal, J. Mindless eating: The 200 daily food decisions we overlook. *Environment and Behavior* 39(1): 106-123, 2007.
17. Wansink, B. From mindless eating to mindlessly eating better. *Physiology and Behavior* 100(5): 454-463, 2010.
18. Wood, W, Tam, L, and Witt, MG. Changing circumstances, disrupting habits. *Journal of Personality and Social Psychology* 88(6): 918-933, 2005.

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APPLICATION IN MOTION



Variety flavour so cream eu crema mocha, est, carajillo, milk variety single shot body caramelization. Arabica froth, arabica, coffee trifecta aged and seasonal extraction cup, aromatic, aftertaste, cup milk robust to go in seasonal crema. Café au lait seasonal affogato acerbic extraction mug arabica, coffee trifecta aged and seasonal extraction cup, aromat to pumpkin spice, aroma half and half sit frappuccino bar latte dark, sweet seasonal white doppio fair trade half and half.

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