

Behavioral Approaches to Increase Intake of Whole Grains

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In the era of smart phones, tablets, and whatever is coming up next, behavioral change programs are in real need of a makeover. Is it just a perception or a fact that the same behavior change program content simply changes format throughout different types of modern media but is essentially the same? As individuals, we are drawn to new technology as a result of our basic common human preferences: social connectivity, entertainment, a tendency toward excesses, and multitasking opportunities. Therefore, to be effective, behavior change programs must capitalize on what will really attract and engage individuals, instead of being simplistic and rational.

Successful Behavior Change Programs Require the Integration of Multiple Theories

Behavior change is multi-layered. Like a Matryoshka doll (i.e., a Russian nesting doll), each layer interacts and affects the other layers in a complex manner. Behavior change takes time and only happens after several barriers are overcome; it is only sustained if enough variables are maintained in place. There are several challenges in measuring behavior change, which means it's often not precisely possible to track back to all the factors that influenced the changes. In the case of measuring eating behaviors, it is burdensome, time-consuming, and imprecise. Even with modern technology like online trackers and phone applications, measuring eating behaviors poses a great burden for individuals. It often lacks enough efficiency and precision, and individuals do not always engage in tracking for a long enough period to properly monitor their behavior change.

In an attempt to increase the precision in measuring outcomes and to prevent individuals from becoming overwhelmed, behavior change programs tend to focus on one or just a few key behaviors. However, since behaviors happen concurrently, it is unnatural to try to isolate them. Most programs also address individual barriers, but they rarely go deep enough to encompass all levels, such as individual, organizational, cultural, community, and policy barriers.

Although behavioral change theories have greatly helped us understand the processes that lead to the behaviors studied, each theory has its own limitations. To actually encompass the

wide range of layers involved in behavior change requires the combination of various concepts, processes, and theories—such as self-efficacy, social liberation, and diffusion theory, to name just a few. The integration of multiple behavior change theories in multiple behavior change interventions appears to be a promising strategy that could potentially lead to more robust and successful behavior change programs (4).

Consumer Decisions and Educational Strategies: Merging the Rational and Emotional Minds

We have traditionally considered humans to be different from other animals due to our ability to rationally analyze the facts, transcending our feelings, instincts, and impulses. However, modern neuroscience has discovered that, “A brain that can't feel can't make up its mind.” Our emotions are an essential part of our decision-making process (2). Consider healthy eating. When we look at the behavior from a rational perspective, it would make sense that a person would choose to eat healthy—after all, it is better for you. However, if we were to strictly use our rational analytical mind, and all the possible variables involved, we would have a hard time making decisions. We would also overanalyze the variables to the point of not necessarily coming to a conclusion of what is really the healthiest option to consume. Rather, it is our emotions that eventually help us narrow down choices about what we really want to eat. We are simply wired that way.

When developing educational strategies to help consumers make behavior changes around healthy eating, we often structure them rationally, providing information on nutrition information, nutrients, and health benefits. However, that's not how people make decisions on what's for dinner! Individual decisions are actually driven by the rational mind in combination with the emotional mind. Therefore, behavior change programs cannot focus solely on rational content. Instead of a rational-only approach, we must help individuals achieve a state of balance in how they approach healthy eating so that it is normal, natural, and sustainable. For that, The Satter Eating Competence Model (ecSatter) works. According to research published in the fall 2007 *Journal of Nutrition Education and Behavior*, people who have high “eating competence” show indicators of better nutrition, healthier body weights(3), higher HDLs, and lower blood pressures, even when stress-tested. They also have fewer of the components of “sticky plaque,” today's high-tech approach to predicting the tendency to develop cardiovascular disease (5). Remarkably, they are also

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healthier emotionally and socially. People with high eating competence feel more effective, are more self-aware, and more trusting and comfortable both with themselves and with other people (3).

Could we partner among our different sectors to create behavior change programs that would help individuals to become competent eaters? Could we expand behavior change programs to the point that we objectively take into consideration the hidden persuaders of eating behaviors—such as emotional state, cultural beliefs, color, packaging, lighting, and decor on and around foods? Could we move entire communities “from mindless eating to mindlessly eating better?”

Hearts Beat Back: The Heart of New Ulm Project (HONU)—Changing Norms in an Entire Community

HONU is a 10-year demonstration project aimed at reducing heart attacks and coronary heart disease (CHD) in a rural Minnesota community (New Ulm, MN). The long-term goal is reduction of acute MI and the moderate-term (five-year) goal is to reduce modifiable heart disease risk factors at a community level.

Interventions are delivered through worksites, health care, and the community. Methods range from individual behavior change, education, and clinical care to environmental reengineering, social marketing, and policy implementation. Sample program components include community heart health screenings, health promotion programs targeting residents, partnerships with restaurants to increase healthy offerings, clinic-based phone coaching program for high-risk patients, and consultations with worksites to assist in the development or improvement of employee wellness programs and policies.

HONU screening data from 2009 (total of 3,119 residents screened in the 56073 zip code) showed that 73% were overweight or obese. Fruit and vegetable consumption was low; 82% of people reported eating less than 5 daily servings, with an average of 2.9 servings per day, and 57% of participants indicated an intention to improve their lifestyle habits over the next six months.

In terms of public interest, a phone survey conducted in 2010 revealed that many New Ulm residents would like to see the HONU Project focus on the food environment. Selected results based on a random sample of 200 people showed that 70% would be interested in a neighborhood farmers market, 66% wanted information on how to eat healthy on a budget, and 49% wanted neighborhood potlucks with healthy foods.

In terms of the food environment, HONU has made it a priority to focus on education of healthful eating as well as access to healthier options. It has cultivated partnerships with many local food service providers (e.g., restaurants, grocery stores, convenience stores, and agricultural commodities producers) to increase access to fruits and vegetables, healthy fats, and smaller portions. The project is conducting an ongoing community-wide assessment of local food service providers' environments to help determine where such efforts are needed most and how food environments may change over time.

The strength of the project lies in its power to interconnect programs, resources, partners, health professionals, community members, events, and more in ways not previously done. It has achieved success not only by using new technologies, strategic planning, and a centralized approach, but also from extensive community buy-in and involvement from community leaders.

The Food Environment: Barriers and Resources to Increase Whole Grain Consumption

One of the most popular terms in the nutrition field today is “the food environment.” Its importance to eating behaviors lies in the fact that humans, different than all other animals on earth, really do not have a natural habitat. Instead, humans are wired to create their own habitat. As evolution progressed, so did the environment. Our modern food environment is improved (more civilized and hygienic), complete with excesses (more food than needed for some, more diseases than deserved for others) and transformed realities (connections in person or by technology happen faster, cheaper, and better than ever before).

In a small consumer survey conducted by HONU, the main barrier for consumers (33%) in eating more whole grains was that they don't find them available at restaurants or cafeteria. When asked what could be helpful to help them increase their whole grains consumption, the main resource cited (46%) was easy recipes available through the project's website. Changing the food environment is one of HONU's primary activities; the project has already adapted the Nutrition Environment Measures Survey (NEMS) (1, 5) to assess in more detail the whole grain options available at grocery stores and restaurants.

Community Programs and Campaigns: Influencing Every Sector of the Community

As in past community programs for behavior change, HONU is applying strategies and interventions that go beyond improving knowledge about healthy habits. Those familiar with the North Karelia Project (7) know that success there resulted from the community's changes in policies and agricultural subsidies, its reality television show featuring health behavior changes, and the stealthy strategies of women bringing healthier foods into their households, which all led to unnoticed acquired taste for healthier options. Similarly, HONU is invested in influencing every sector of the community so that it ultimately leads to changing the norm in a sustainable and replicable way.

To support effective health behavior change programs, mass media campaigns in the community are an essential element. Campaigns must have enough funding to be frequent and widespread, promote accessible services and products, be maximized by policy changes, be based on sound research of the target group, and have their outcomes assessed and published.

Partnership Opportunities to Increase Whole Grains Intake

The essential ingredient to life is convenience. It is the food industry that is greatly responsible for making healthy eating convenient, affordable, and accessible. In the case of whole grains, research shows that consumption increased after a significant increase in whole grain products entering the market. With the numerous health benefits of whole grains not in dispute, the discrepancies among various research results are mainly related to different methodologies, imprecision in assessing intake, and in the different properties of the various types of whole grains. There is certainly opportunity for public health and research to partner with the food industry to increase the number and quality of behavior change programs focused on increasing consumers' intake of whole grains.

The interconnectedness of resources, programs, profession-

als, services, and individuals is ideal for behavior change programs and should occur more frequently and naturally. By encouraging various sectors, including public health, the food industry, health care, and government, to partner in a more cohesive and integrated way, we can create improved outcomes related to whole grains intake or any other health behavior change.

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