

FOOD FIGHT

WHY IT WORKS

GAME EFFECTIVENESS FOR HEALTHY LIFESTYLE CHANGE

Serious digital games can be effective at promoting healthy lifestyle change^{1,2}. For example, a meta-analysis of 54 studies of health-promoting serious games found that lifestyles improved significantly ($g=0.260$, 95% CI 0.148; 0.373), as did clinical outcomes ($g=0.079$, 95% CI 0.038; 0.120).² Games having a sound theoretical foundation in behavioral change and effective game design was most effective.² Combining immersive, attention-maintaining properties of stories and fantasy, the engaging properties of interactivity, and behavior-change principles of tailored messages and goal setting all contributes to game effectiveness.

EFFECTIVE GAME DESIGN

Game design components shown to be the most effective at producing healthy lifestyle change can be adopted and combined to increase the likely effectiveness of a new game. The following components have been described as being effective in games for obesity management and prevention:

1. Provide a foundation of knowledge and skill for behavior change³
2. Encourage personal mastery and offer avatars to personalize the experience³
3. Demonstrate the desired change for observational learning³
4. Have players make a personal plan for changing their behavior⁴
5. Make the game fun! This most important element includes dramatic tension, humor, and challenge³
6. Emphasize increasing good behavior over decreasing bad behavior, because the latter is more difficult to achieve²

TAILORING THE EXPERIENCE

Tailoring the game experience is another game component that is important in serious games for a lifestyle change. Tailoring to the individual helps to attract player attention and support information processing. Serious game experiences should be tailored according to:

1. The player's specific need for lifestyle change^{1,2}
2. The player's game skill level^{1,2}
3. The player's individual preference^{1,2}



An example of tailoring to the individual player is providing game messages according to the player's personal information or personal goals, set before playing.³ In *Food Fight*, for example, future versions will allow the user to tailor their experience according to the specific diet they wish to follow, such as low-carbohydrate or the Paleo diet.

HOW FOOD FIGHT WORKS

Food Fight utilizes two components of behavioral therapy in order to achieve lifestyle change – Refusal Skills Practice and Counter Conditioning.

1. **Refusal Skills Practice** is a component of Cognitive Behavioral Therapy (CBT) that has been used effectively in addiction treatment⁵. In Refusal Skills Practice, individuals learn how to respond rapidly with a clear, assertive “No” in response to an offer of a substance that they are trying to quit⁶. Applying this approach to enhancing healthy eating, players in *Food Fight*, refuse foods by throwing them back, which corresponds to saying “No” in Refusal Skills Practice.
2. In **Counter Conditioning**, an unwanted behavior is replaced with a positive action and the new behavior is rewarded⁷. In *Food Fight*, the habitual, unwanted (but pleasantly rewarding) behavior of eating high calorie, unhealthy foods is counter-conditioned by receiving game rewards for rejecting these foods and throwing them back. Visuals showing the unhealthy foods being destroyed, as they are rejected, add to feeling empowered to resist tempting foods. Repeating these actions many times through repeated play has a rehearsal effect, which helps build new habits.

References

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