

Analytic Framework Description: Digital Health and Telephone Interventions to Increase Healthy Eating and Physical Activity among Students at Institutions of Higher Education

The analytic framework depicts postulated causal pathways through which interventions aim to increase healthy eating and physical activity among students at institutions of higher education using digital health (e.g., websites, mobile apps, text messages, emails, or one-on-one telephone calls). These digital health interventions include educational information and also coaching or counseling; self-monitoring to record healthy eating, physical activity, or weight; or goal setting or computer-generated feedback that provides tailored information to students interested in improving these behaviors. Interventions may also include additional strategies such as social support from peers through social media, internet forums, or discussion groups; and motivational strategies that include incentives, rewards, and gaming techniques. These interventions may increase awareness, knowledge, and skills regarding physical activity and healthy eating, and improve psychosocial outcomes such as self-efficacy. This may lead to improvements in diet, increased physical activity, reduced sedentary behaviors, and improved sleep habits. Further, there may be improved weight-related outcomes for people with overweight or obesity, weight gain prevention for people with healthy weight, or improved clinical outcomes, or improved quality of life. These changes could potentially lead to reduced mortality.

One potential benefit of digital health interventions to increase healthy eating and physical activity would be the development of healthy behaviors. Another potential benefit is the increased convenience of delivering digital interventions. A potential harm of digital health interventions to increase healthy eating and physical activity is the increased risk of musculoskeletal injuries due to increased activity.

Key potential effect modifiers include differences in the intervention content and activities, the type of digital device (i.e., computer, mobile, telephone) and digital mode of delivery (i.e., website, app, text message), and population demographic characteristics (e.g., age, baseline dietary habits, physical activity, and weight status, SES, race/ethnicity, gender, population density; health literacy).