

ABSTRACT OF CAPSTONE

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Morehead State University

November 11, 2022

MOVE!– DEVELOPMENT OF A WELLNESS PROGRAM FOR 18–24-YEAR-
OLD ADULTS

Abstract of Capstone

A capstone submitted in partial fulfillment of the
Requirements for the degree of Doctor of Education in the
College of Education
At Morehead State University

By

Tonia M. Socha-Mower

Moneta, Virginia

Committee Chair: Dr. Daryl R. Privott, Associate Professor

Morehead, Kentucky

November 11, 2022

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MOVE!– DEVELOPMENT OF A WELLNESS PROGRAM FOR 18–24-YEAR-
OLD ADULTS

A review of related literature was conducted to develop a proposal for the creation of a comprehensive health program that can be led by a trained exercise professional that integrates medical, nutritional, psychological, and exercise science. Research from these disciplines was studied to develop sample modules of a wellness program to address gaps in existing programs to better support adults actively trying to lose weight. This study provides an examination and review of the decline of health in America and how a different educational approach could facilitate change and make a positive impact in the United States by focusing on behavior changes in the 18–24-year-old population. Historically healthcare experts have practiced independently leaving medical, nutritional, kinesiological, and psychological providers to practice in silos.

Keywords: health, nutrition, exercise, psychology, adult learning

Candidate Signature

Date

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OLD ADULTS

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DEDICATION

I am dedicating this project to my best friend and life partner, Richard Socha-Mower. Rich has taught me to enjoy the unanticipated twists and turns that life throws at us and to find ways to make challenges more fun. He has supported me every step of my lengthy educational journey and dedicated much time to brainstorming improvements in my final work products. He has made my life better for the last 25 years and is my inspiration to try to make similar differences in the lives of my students, clients, and colleagues.

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Dr. Michael Kessinger, Committee Member, who demonstrates flexibility and a positive attitude are important keys to success.

Mr. Austin Klei, owner of Glance Software, who educated me about learning management systems and helped me identify the ideal platform to launch the Move! program.

Dr. Daryl R. Privott, Committee Chair, who inspired my creativity with his infectious energy and curiosity which helped move my project forward.

Ms. Jill Schultz, a healthcare education administrator whose collaboration over the years helped shape the vision of the MOVE! program.

Dr. Shannon Smith-Stephens, Committee Member, whose support, leadership, and encouragement taught me that great things can come from unplanned adventures.

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EXECUTIVE SUMMARY

What is the core of the capstone?

The Centers for Disease Control and Prevention (2021a), otherwise known as the CDC, finds obesity-related conditions such as heart disease, type 2 diabetes, strokes and some cancers are among the leading causes of premature and preventable deaths in the United States. Although many weight management programs are growing in popularity, obesity continues to plague the people of the United States. In fact, a Harvard study estimates that half of the U.S. adult population will be obese and about a quarter will have severe obesity by the year 2030 (Ward et al., 2019).

Even though many steps have been made to improve healthy living, the overall health of American adults continues to decline. The health equation is complex and contains multiple variables. However, as a lifetime member of WW (formerly Weight Watchers), past graduate of Noom and Jenny Craig®, and a personal training client, existing wellness programs and services only focus on a few facets of health, leaving many participants confused about the other aspects that influence health and wellness.

Frustration and uncertainty can result when divergence of practices exist between various programs. Accordingly, the time has come for health coaches and practitioners to educate more comprehensively. Integrating principles of positive psychology, nutrition, exercise physiology, and medical science to enhance wellness programs to improve learning outcomes and positively impact participants' health is needed to help our communities.

This executive summary will present four learning modules to integrate psychology, exercise science, nutrition, and biology to offer a pathway for those 18-24 years of age to improve their lives as they embark on their health journey. Consequently, this capstone will present a sample curriculum for a wellness program for participants who want to lose weight to lead a healthier lifestyle. This curriculum is called MOVE! to help encourage forward momentum in the lives of the participants and emphasize the importance of activity. MOVE! is different from other programs as it integrates the psychology, nutrition, exercise, and biology expertise which currently is practiced in silos (Johnson et al., 2018). The author worked with Fiverr® (personal communication, 2022) to develop the following logo to illustrate the overlap between the various elements of health.



Who is the capstone meant to impact?

This capstone will create the first phase of a wellness program for 18 to 24-year-old participants who want to lead a healthier lifestyle. Johnson et al. (2018) note the challenges in the current approaches in healthcare which generally operate in silos. This is problematic because this approach is depriving patients and clients of essential support, information, and collaboration that leads to successful health outcomes.

To be consistent with public health approaches, this executive summary's intended audience are young adults in the 18 to 24 age range. The Institute of Medicine and National Research Council (2015) has studied this population and concludes efforts are well invested since they hold promise to improve health and wellness outcomes both during their young adult years and beyond as major contributors to the workforce and responsible for the healthy development of future generations as parents. Therefore, more positive outcomes would result throughout society by targeting young adults. According to the CDC (2018), 73.6% of Americans over the age of 20 are overweight or obese. Therefore, this research is targeting young adults because the need exists at this age and they are faced with multiple decisions at this point in their lives that will shape their futures. Since the target audience is composed of future community leaders and heads of households, the knowledge would have significant impact as it could be passed on to other generations. Therefore, by educating young adults about what makes them healthier and happier, this foundational knowledge could then be passed on to future

generations. Consequently, educating young adults could ultimately lead to better-educated communities that could allow the research to provide a greater impact.

How will the capstone project be implemented?

This capstone will create four introductory modules for a wellness program targeting 18 to 24-year-old participants who want to lead a healthier lifestyle.

Ultimately, the capstone will be the foundation for developing 12 months of daily lessons. Learning objectives being considered for the lessons under development include the following:

1. Identify risk factors associated with being overweight or obese.
2. List diseases associated with being overweight or obese.
3. Discuss the transtheoretical model as it relates to behavioral change.
4. Discuss the social cognitive theory as it relates to motivation.
5. Discuss the self-determination theory as it relates to behavioral change.
6. Discuss the health belief model as it relates to motivation.
7. Discuss the decisional balance theory as it relates to behavioral change.
8. Discuss self-efficacy as it relates to behavioral change and motivation.
9. Define and develop SMART goals.
10. List genetic, biological, and environmental factors that contribute to weight status.

11. Explain the differences among the various methods used to measure body composition.
12. Discuss the current evidence-based practices for the assessment and treatment of weight management.
13. Explain the evidence-based nutrition practices guidelines.
14. List the behaviors predictors of successful weight management.
15. Define the public health guidelines for moderate and vigorous activity.
16. Design an exercise regimen incorporating cardio and strength exercises working opposing muscle groups.
17. Calculate your resting metabolic rate.
18. Discuss the guidelines for safe weight loss.
19. Calculate your ideal body weight.
20. Define anorexia nervosa, bulimia nervosa, and binge-eating disorder.
21. Identify techniques to assist with behavioral change.
22. Identify practices to help motivate.
23. Execute a behavioral contract.
24. Identify sources of social support.
25. Identify enjoyable activities that can support one's goals.
26. Discuss how gratitude practices can improve one's outlook.
27. Discuss how the practice of meditation can influence one's health.
28. Calculate macronutrients in foods.
29. Discuss the prevalence and impact of obesity.

30. Discuss how to read a nutrition label.
31. Discuss the physical activity guidelines for Americans.
32. Discuss the benefits of physical exercise.
33. Discuss the activity guidelines for improved health.
34. Discuss the guidelines for cardiorespiratory exercise.
35. Discuss the benefits of resistance training.
36. Discuss the advantages of stretching.
37. Discuss special considerations for those with asthma, diabetes, hypertension, osteoporosis, pregnancy, and arthritis.
38. Discuss the problems associated with overtraining.
39. Discuss key influences on one's motivation.
40. Discuss the essential nutrients for health.

The daily lessons will be module-based and offered through an electronic learning management system (LMS).

The MOVE! wellness program is distinctive because it integrates individual in-person training with exercise applications, in-person group sessions to discuss common challenges, and content curriculum accessible virtually. Accordingly, this hybrid program is designed so participants will meet at least once a week individually with a personal trainer to get personalized guidance to help clients achieve their health and wellness goals and clients can ask questions about the online content. Individual sessions are 50 minutes in duration where participants will exercise. Trainers will lead a combination of cardiovascular activities and weight-lifting

sessions based on a participant's fitness level and goals determined at the client's first meeting with his or her trainer. Clients will also participate in weekly group meetings led by a facilitator to address common challenges and identify solutions together to create a community of support.

Additionally, daily modules and homework can be accessed through the electronic learning management system. Homework is customized based on the goals of the client. For example, if a client is working on becoming more active, the LMS may ask a client to log their steps in daily. Thus, the learning format of the MOVE! program leverages the benefits of individual training, energy and momentum from group learning, with improved access and accountability integrating the LMS platform.

The MOVE! program is designed to be an educational resource for as long as a client needs the support and will ultimately have 12 months of lessons before reviewing important concepts and repurposing content. Some have heftier goals than others so some will find they need the program for longer periods than other clients. Others will find they have a system that is working for him or her so may choose to continue to participate although they have reached the maintenance stage of their wellness journey. Some may find they have learned what they needed in a few short months and may graduate when ready.

Why were this capstone and related strategies selected?

Although the United States is one of the wealthiest countries in the world, we are among the unhealthiest nations (American Public Health Association, 2021).

Severe obesity was once a rare condition in the United States. However, severe obesity is now forecasted to be the most common Body Mass Index (BMI) classification by the year 2030 (Ward et al., 2019). Over the last 40 years, America has also been ranked as having the highest obesity rate among high-income nations (American Public Health Association, 2021). Additionally, Americans have the highest prevalence of diabetes in adults (American Public Health Association, 2021). The Center for Disease Control and Prevention (2021a) finds that 60% of adults in the United States have a chronic disease and 40% of adults have two or more chronic diseases. The CDC (2021a) continues to note that poor nutrition and lack of physical activity are some of the lifestyle risk factors for chronic disease. Therefore, weight loss and wellness are a public health concerns that this capstone is working to address.

The reader should note that the concept of weight loss and wellness are treated synonymously throughout this project since weight reduction is a major motivator with initial wellness programs (National Exercise Trainers Association, 2018). The author knows that long-term success is more likely to come if participants focus on their healthy behaviors, which are in their control instead of their weight, which can be dictated by biology some weeks. Thus, the MOVE! trainers will ultimately help participants with the psychological shift in time but clients are generally focused on weight loss when they first ask for wellness support and want to focus on weight loss their first few weeks.

Additionally, it should be noted that targeting young adults was a purposeful strategy. Nutrition inadequacies and overconsumption for 18 to 24-year-old participants is common at this life stage so these topics will be explored in the modules of this capstone. However, one should note that metabolisms slow as we age so interventions at this phase of life could be timely before weight loss needs become overwhelming with reductions in caloric expenditures and poor eating habits. Furthermore, the implementation of small behavior changes can be more easily sustained in the long-term versus waiting to later stages in the life span (National Exercise Trainers Association, 2018). Therefore, based on multi-disciplinary best practice principles of public health, nutrition, biology and psychology, young adults are the target of the MOVE! wellness program.

Programs such as the Noom and WW focus on the role of positive psychology in improving eating behaviors for long-term success. Noom advertises its program as a “weight-loss program designed by psychological experts that use scientifically proven techniques to create real results” (Noom, 2022). In other words, Noom focuses on the psychology of food choices and less on the science of nutrition. Noom is a subscription-based application one can access through his or her electronic device. Thus, participants do not have regular in-person engagement with the experts but access lessons through a learning management system or communicate through their private social media platform. Conversely, WW provides its members with more flexibility. The researcher has studied the WW program and concludes participants can now access their group leaders through in-person meetings, zoom meetings, the

WW website, application, and/or their private social media platform. Therefore, one can have an in-person engagement with their group leader but the guidance is not truly customized since time is limited to a few minutes before or after the group meeting. The WW plan focuses more on nutrition but discusses many aspects of positive psychology. Many wellness programs already exist which incorporate principles of psychology into aspects of the health equation, but these programs are deficient.

Therefore, after studying the most popular wellness programs over the last 25 years such as Jenny Craig®, Nutrisystem®, Trifecta, WW, and Noom, it became evident to the researcher that content gaps excluding important aspects of the wellness equation exist. This capstone's comprehensive curriculum will have learning outcomes that address the major aspects of the wellness formula including biochemistry, nutrition, exercise science, and psychology with both individual and group support while leveraging the advantages of electronic platforms and in-person facilitation in both individualized and group learning models.

In summary, the purpose of this project is to use educational principles to address some of the deficiencies of the American healthcare system. Subsequently, learning concepts established by Gagne (1965) influenced the approach to the development of the MOVE! wellness program. For example, the reader will see clearly stated learning objectives at the beginning of modules as recommended by Gagne (1965). Furthermore, the researcher used video content to engage the learner as Gagne (1965) suggested. Moreover, Gagne (1965) discusses the importance of

using visual images and integrating performance assessments which have been integrated into the MOVE! program. Thus, Gagne was a major influence in the execution of this capstone.

When will the capstone be implemented?

The MOVE! program will launch in the winter of 2023 after more modules are added to the capstone's content. A learning management system will house the online components of the program. The program will be led by the author of this capstone and additional group leaders and trainers will be hired as the program grows.

Impact of the capstone

The journey to becoming healthier is not a new trend. In fact, the word "diet" can be traced all the way back to Ancient Greece and Rome as a derivative of "diaita" which indicates wellness (Khawandanah & Tewfik, 2016). Additionally, it has been documented that Lord Byron promoted a vinegar and water diet dating back to 1820 (Khawandanah & Tewfik, 2016). Fast forward to the current environment with online health coaches, virtual trainers, and smartphone diet applications where dieters regain at least 80% of the weight they lost back within five years (Hall & Kahan, 2018). This is one of the reasons the National Weight Control Registry (NWCR), the largest prospective research project studying the behaviors of over 10,000 participants who have lost 30 or more pounds for at least a year, was developed (Brown Medical School, 2022). Therefore, the weight loss methods we have been employing throughout history are not working for the majority of the population. When the diet does work, the weight loss is temporary (Brown Medical School, 2022). Thus, a new

approach like MOVE! is needed to help make weight loss efforts more effective and successful in the long-term.

After studying the weight loss programs on the market for the last 20 years, one of the challenges for consumers is clear... many of the resources currently available excel in a few aspects of the wellness equations but leave much to be desired. Noom has mastered the psychological principles to help guide a healthy relationship with food but lacks in providing a long-term nutrition and exercise plan. WW offers a sustainable nutritional program based on a balanced lifestyle and integrates a few basic psychological principles and exercise resources but many need more guidance. Beachbody®, Peloton™, Mirror, and Tonal have developed mechanisms to deliver exercise guidance to the masses through virtual smart gym platforms but lack individualized accountability. Numerous health clubs and in-person trainers offer exercise guidance and personalized attention but the nutritional guidance tends to be vague.

The MOVE! program, is different from other wellness programs because it is the most comprehensive approach to becoming healthier available to date integrating the major components of weight loss and educating participants about the science of nutrition, biology, psychology, and exercise physiology. One of the major impacts of the MOVE! program is it applies the advantages of technology and in-person learning and training through a hybrid delivery model so it can be embraced by various learning styles.

Another major difference in the MOVE! curriculum is the emphasis placed on positive psychology. Mental wellness is an aspect of weight loss that is often overlooked but important because it is associated with a better quality of life, less sickness, and more professional and personal success (Evans & Soliman, 2017). Miller (2021) concludes one's positive outlook is 50% genetic, 10% life circumstances, and 40% how a subject responds to life. Since positivity is a skill that can be learned according to Boniwell et al. (2016), some cutting-edge weight loss programs such as Noom have tried to focus on positive psychology fundamentals in their programs to combat emotional eating and re-establish a healthy relationship with food. However, Noom falls short in other important aspects of wellness with unsustainable calorie constriction and a lack of personalized exercise guidance.

Consequently, the MOVE! program will impress the importance of psychological principles to help build a healthier relationship with food similar to Noom but also invest time educating about other significant aspects of the wellness equation to address deficiencies in the programs currently on the market. Ultimately, MOVE! will impact participants by providing them with the tools to help them reframe circumstances to set themselves up for success with their health journeys.

Since obesity is linked to many conditions that can threaten one's life, MOVE! can also improve health outcomes for participants. This is a significant contribution considering the American Medical Association officially recognizes obesity as a disease (Gardner, 2021). Obesity in America has become a public health crisis where 72% of Americans over the age of 20 are considered overweight or obese

(Gardner, 2021). Approximately 11 million people die every year from poor nutrition across the world (Global Burden of Disease 2017 Diet Collaborators, 2021). Experts predict obesity rates will continue to rise in America (Ward et al., 2019). Ward et al. also note the economic burden placed on society with high obesity rates. Therefore MOVE! has the potential to positively impact the community by improving health and reducing healthcare costs for the community.

In conclusion, MOVE! educates the participant using a thorough approach than other weight loss programs by integrating exercise, psychology, nutrition, and medical sciences through a hybrid learning platform. The students in this program will have access to evidence-based practices however, they will also receive individual personal training sessions to incorporate exercise to improve health outcomes. Although exercise is encouraged in the other programs, Noom and WW participants do not have access or guidance from exercise experts who can answer questions in person or have live training sessions through the programs. Individual attention provides the opportunity to customize plans and builds a layer of personal accountability to help students achieve their personal goals.

As an American Council of Exercise (ACE) fitness trainer, the importance of nutrition, mechanics of movement, and studies on behavior change and motivation are the foundations of the training. However, personal trainers generally do not have contact with their clients outside of their appointments. The proposed program is a ground-breaking model because it closes the gaps in the industry supporting student outside of the exercise facility and is a more inclusive and comprehensive approach to

health. This is important because currently if one goes to their healthcare provider and is found to have a high BMI, generally the patient is simply told to lose weight. Patients are told to eat "healthy" and "exercise". However, without a specific strategy, support, and integrated approach the desired outcome is unlikely. Therefore, MOVE! is a unique program developed to educate young adults and reduce the confusion around the behaviors that set one up for health. After all, approximately one in five adults over the age of 20 have attempted some type of weight loss plan (CDC, 2020).

Limitations of the study

There are limitations to any project and this capstone is no different. First, this project is limited in scale as it is initially designed to be offered at one fitness studio in rural southwest Virginia in the town of Moneta. Therefore, the reach of the program is limited geographically. However, many nutritional choices and attitudes about exercise are influenced regionally so having someone facilitate the discussions who understands the local barriers to success will be important.

Additionally, to leverage the advantages of both face-to-face learning and virtual learning, MOVE! is designed as a hybrid learning model. Consequently, a portion of the program is designed to be administered in person. With public health concerns surrounding the global pandemic, participation may be limited if face-to-face meetings are a requirement.

Reflections

Deliberating on this six-year journey to develop this capstone, many lessons have been learned. As is true for many educators, numerous lessons stemmed from the pandemic. Although I previously discussed how a pandemic could impact the delivery model of the MOVE! program, one of the unanticipated aspects from the initial onset of COVID-19 was the virus' impact on the mental health and general health of uninfected community members as everyone moved to virtual work. With the changes in activity, sleep patterns, food sources, and overall daily practices, weight gain was inevitable. However, in March of 2020, many people believed the changes were short-lived and not long-term consequences. Ultimately, the behavior changes that resulted because of the coronavirus made the MOVE! program even more relevant.

Weir (2021) found that 42% of U.S. adults reported an average of 29 pounds of unwanted weight gain since the onset of the pandemic. After all, the lockdown limited access to healthy foods. Thus, the public health crisis of the pandemic has helped exacerbate the obesity and mental health crises in America. In addition to all the elevated disease risks associated with weight gain that were previously discussed, being overweight also increased one's risk for COVID-19 complications. Therefore, the MOVE! program could help address these concerns.

Upon reflection about the future of the MOVE! program, more modules reinforcing the concept that weight gain is a normal reaction to abnormal circumstances would be appropriate. Furthermore, since weight gain contributes to

depression, anxiety, emotional hardship, and disordered eating, more psychological lessons are in order. The researcher realizes more modules will be needed to sustain the MOVE! program since losing weight is a long journey for many with health experts recommending safe weight loss occurs at a rate of one to two pounds per week (WW, personal communication, 1997). However, considering the lessons learned from COVID and the knowledge obtained throughout the program development process, the direction of the psychology lessons should be broadened to include managing isolation, anxiety, and the challenges of virtual work to help manage our long-term behaviors that have been influenced by the pandemic.

Another issue to be ultimately addressed through the MOVE! program is the inequitable burden of disease experienced by disadvantaged populations of the community. One of the issues brought to the surface throughout COVID-19 was the higher infection and death rates from marginalized populations (CDC, 2020). Higher amounts of weight gain were also realized in these communities (CDC, 2022). Pre-COVID, nutritionists commonly discussed the concept of "food deserts" and how economically disadvantaged communities did not have the access to fresh foods that exist in other areas of the country.

The lockdown only worsened this problem and food insecurity can trigger disordered eating complicating eating behaviors. Furthermore, pre-pandemic public health experts discussed how limited access to parks as found less affluent communities is associated with higher body mass indexes (Ghimire et al., 2017).

Finally, economically disadvantaged workers have less flexibility in their work schedules since they are more dependent on their income. Therefore, the level of stress is heightened as they try to juggle staying safe as they leave their home and caring for family while daycares and educational institutions were not open. With the integration of lessons addressing nutrition, activity, and anxiety challenges, MOVE! participants would be better supported to make healthier choices so MOVE! is uniquely positioned to help with the combination of individualize attention and online access making participation more convenient.

Upon reflection of this project, the author would like to see MOVE! offered on college campuses as the program develops since 40 percent of 18 to 24-year-old adults in the United States are in college (U.S. Department of Education, 2022), grant funding becomes an option to help offset educational expenses, and the mission of MOVE! can align with the goals of some institutions of high education and state community development departments.

COVID-19 also has increased the need for a wellness program with my target population. As explained, the author wants to reach the young adult population because they are future community leaders. Pre-pandemic trends identified decreases in childhood obesity in some populations. However, the Children's Hospital of Philadelphia Care Network calculated an increase from 13.7% to 15.4% in 2020 (Jenssen et al., 2021). Therefore, a larger amount of overweight children will enter adulthood who will need to lose weight to lower their risk for preventable diseases.

Aside from the pandemic, the author of this project has been reflecting on the best way for data-driven participants to measure their progress. Trainers tend to like the concept of "weighing in" using a scale, fat loss monitor, taking measurements, and/or skinfold analysis to determine body composition and one's percentage of body fat along with before and after photos. However, the frequency intervals for this evaluation vary from trainer to trainer. Furthermore, WW uses a scale to weigh in once a week and Noom advises participants to weigh in daily.

Upon contemplation, the researcher believes it is best to only conduct the assessments once a month since the numbers can be influenced by many things such as hydration level, time of day, and/or recent salt intake. Numbers on a scale do not always reflect the healthy behavior changes and can be demotivating for some participants. Therefore, even if a person has made progress, it may not show in a significant way to the participant if assessments are taken too often and can counteract the progress and demotivate clients. MOVE! is focused on developing healthy behaviors which are in one's control unlike the numbers which can be influenced by so many outside factors.

Accordingly, MOVE! ultimately recommends a BodyComp™ analysis only once a month to measure weight, BMI, muscle, and fat since it is a quick, accurate, and comprehensive assessment. Originally MOVE! considered using body mass index calculations since the CDC (2022) reports this as a straightforward and reasonably accurate way to correlate body fat. However, after more subject matter investigation and content development, the clinical limitations of the scale are

concerning. MOVE! wants to document changes in body fat, not just weight which can be multifactorial. Thus, BodyComp™ was determined to be a more appropriate assessment tool for MOVE! participants at the end of this capstone and the curriculum was modified accordingly.

The next step for the author is to launch the MOVE! program. Applying the lessons learned throughout this journey in addition to experience as a WW leader, personal trainer, group fitness instructor, and Biomedical Sciences faculty will help with the creation of future modules.

Capstone Project

The MOVE! wellness program was developed to integrate the dimensions of wellness that are currently practiced in silos. The MOVE! program is distinctive because it integrates individual in-person training with exercise applications, and in-person group sessions, complemented with easily accessed virtually based medical, psychology, nutrition, and exercise sciences content to produce a hybrid wellness program. The current market offers experts that excel in a limited scope of wellness and refers to other programs for additional services to address the other dimensions of wellness. However, conflicting guidance often leaves people in a state of confusion. Therefore, the MOVE! program was designed to integrate the aspects of the wellness equation that significantly impact one's health.

This section outlines four modules developed for the MOVE! program. Module one focuses on the psychological principles of goal setting and establishing a starting point by documenting health indicators. Module two compiles important forms to collect health information for the trainer to develop a safe exercise plan. Module three explains the fundamentals of metabolic science. Module four discusses the best practices in nutritional science for a healthy lifestyle.

Module One: The Psychology of Achievement***Learning Objectives:***

1. Describe why weight management is important to you.
2. Explain how MOVE! is different from other programs.
3. Establish a baseline data set and explain what information you learned from your BodyComp™ analysis.
4. Explain how BodyComp™ works and why BMI calculations alone are inadequate.
5. Determine your daily SMART goal(s).

Reading Content:

Congratulations on taking action to make yourself healthier. The MOVE! program integrates the benefits of working out with a personal trainer, the positive psychology principles to support yourself on this journey, and the nutritional and health guidance to set participants up for success.

The weight loss industry in the United States is estimated to be a \$72.6 billion business (Research & Markets, 2022). In fact, the National Exercise Trainers Association finds that “the achievement and maintenance of a healthy body weight is perhaps the most common goal among those seeking the services of a fitness professional” (National Exercise Trainers Association, 2018, p. 119). Therefore, many want to lose weight. Although some want to lose a few pounds for vanity, the reality is carrying around extra weight can have many significant health complications such as cancer, type 2 diabetes, cardiovascular disease, hypertension,

dyslipidemia, and gall bladder disease (National Exercise Trainers Association, 2018).

Application:

1. Why do you want to lose weight?
2. How will the extra weight impact your quality of life if you do not intervene and make changes to your lifestyle?
3. How does the extra weight make you feel?

Reading Content:

In order to set clients up for success, an individualized education plan needs to be developed to establish a pathway for improvement. To be effective, clients and the MOVE! trainers need to work together to gather baseline data and work together to develop one's goals. Some in the fitness community will refer this part of a program as "weighing in" however it may be more helpful to think about this as simply documenting a starting point since people may find weighing in comes with harmful unanticipated consequences (Pacanowski et al., 2015). Group leaders and health coaches often find it helpful for those trying to lose weight to track progress and prepare for the challenges that lie ahead. Customized plans will help with these efforts. The first step is to determine where you are now with your health indicators so MOVE! can help you get where you want to be and guide your progress.

There are many techniques that one can employ to assess progress such as scales, skinfold calculations, body measurements, progress photos. However, BMI

calculations are one of the most popular methods used by nutritionists and medical providers and provides a quantifiable measurement determined by dividing your weight by the square of your height. The U.S Department of Health and Human Services advises using the following scale to evaluate one's health (2022):

BMI Calculation	Weight Classification
< 18.5	Underweight
18.5-24.9	Normal
25-29.9	Overweight
30 or greater	Obese

Body Mass Index calculations are popular assessments used by the medical and healthcare community in clinical practice but have limitations. For example, when clients are trying to become healthier, they are generally trying to reduce fat and increase muscle mass which is not incorporated into the feedback from the scale. Therefore, if fat loss is canceled out by gain in muscle, the progress may not be registered and can disrupt progress. Additionally, those with more muscle mass, such as athletes, will be found to have a higher BMI based on the formula although they may be considered healthy by practitioners. Consequently, BMI calculations can be problematic when one is trying to become healthier. This is why the MOVE! program uses Inbody's BodyComp™ analysis as a tool to gauge a participant's body composition since it offers more comprehensive data registering BMI in addition to

other important health indicators.

Another reason to use BodyComp™ technology as pictured below is its ease of use. Clients step on an apparatus as pictured below that looks like a scale where electrodes emit electrical currents throughout the body (InBody, 2022). This painless process allows BodyComp™ software to read the impedance data where resistance measurements from the currents helps the computer determine one's body composition (Berndt, 2018).

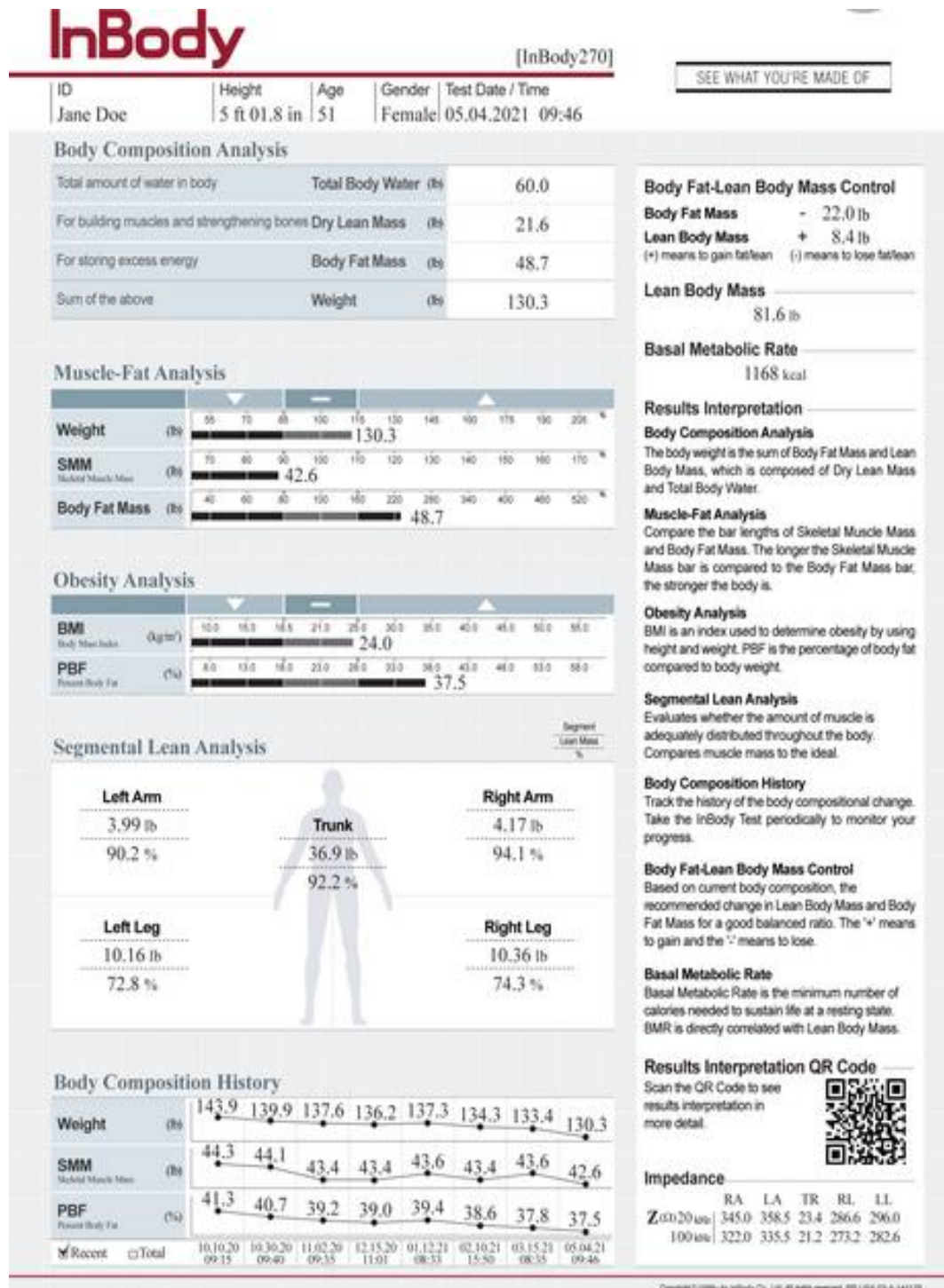


Finally, MOVE! provides healthcare providers and clients more detailed information to help clients to become healthier versions of themselves. First,

BodyComp™ feedback includes a body composition analysis section where it details weight of body water, lean body mass, and body fat mass. This is helpful for trainers to identify if weight gain or loss is helping clients get closer or farther from reaching his or her goals.

Secondly, the muscle-fat analysis compares one's skeletal muscle mass (SMM) and body fat mass to help one evaluate his or her strength. Thirdly, the obesity analysis section compares both BMI and perfect body fat (PBF) since BMI alone can be misleading and progress can be evaluated more accurately (Berndt, 2018). Since BMI only takes into consideration height and weight, the MOVE! trainers feel BMI alone is not adequate. Conversely, PBF is a key indicator to study if the goal is to lose fat.

Fourthly, the body scan generates graphical feedback highlighting trends in weight, SMM and PBF gains and losses. Finally, one of the most valuable data points from the report is the basal metabolic rate (BMR) calculation which is an indication of the number of calories a client burns when in a resting state. This is another key indicator that will be further discussed when you meet with your trainer. Therefore, at your next appointment with your trainer, you will receive a report similar to the one pictured (InBody, 2022).



Video Content:

<https://www.youtube.com/watch?v=-zwAYct6COs> (InBody, 2015).

Application:

1. Describe what you want to learn from baseline data.
2. Calculate your BMI by inputting your height and weight into the empty fields:

https://www.nhlbi.nih.gov/health/educational/lose_wt/BMI/bmicalc.htm.

(U.S. Department of Health and Human Services, 2022). Do you feel that classification is accurate in your case? Explain.

3. Upload a before photo to help measure your progress throughout the program.
4. Schedule your in-person session with your trainer and develop a list of questions for your trainer.

Reading Content:

Now that you have a baseline and have your starting point, the time has come to establish a goal for this week. There is an art and science to creating goals to set yourself up for success. Keep in mind you want your goals to be specific, measurable, achievable, relevant, and time-limited, otherwise known as SMART (Iraola et al., 2021). SMART goal templates can help by supporting behavior changes in nutrition, psychology, physical, and social interactions (Iraola et al., 2021). Watch this video to learn more about how SMART goals can help you in developing healthy behaviors (Lifehack, 2020):

Video Content:

<https://www.youtube.com/watch?v=VZXcKyevXKM> (Lifehack, 2020).

Application:

1. Enter your goal for this week so it is specific, measurable, achievable, relevant, and state the timeline (SMART) to set yourself up to be successful.

Module Two: Time to MOVE!

For most, the advantages of exercise outweigh the risks. Sedentary lifestyles are associated with chronic diseases, reductions in quality of life, increases in economic costs and outweigh the immediate dangers associated with physical activity (NETA, 2018). Nevertheless, health professionals have a responsibility to thoroughly screen clients to encourage safe participation before inviting them to join a wellness program that encourages exercise. Therefore, this section includes important forms for those interested in joining the MOVE! program through the informed consent, Physical Activity Readiness Questionnaire for Everyone (PAR-Q+), a Health Risk Appraisal (HRA), and a Health and Lifestyle Questionnaire (HLQ). The information collected by the health professional will help identify past and current medical conditions, lifestyle behaviors, risk factors, and signs and symptoms of diseases. This information will help the MOVE! trainers determine which individuals need medical clearance before starting the program because they are at higher risk for exercise-related sudden cardiac death and/or acute myocardial infarction.

Informed Consent

Completing the informed consent form is an important step to ensure all participants understand the inherent risks associated with starting an exercise program. Although the risks are minimal for most and the benefits usually far surpass the potential dangers, exercise professionals need to document a participant's informed consent both legally and ethically. The American College of Sports

Medicine (ACSM, 2018) has shared sample informed consent forms and guidelines which were used as the basis of the informed consent for the MOVE! Program.



**INFORMED CONSENT FOR PARTICIPATION
IN A HEALTH AND FITNESS TRAINING PROGRAM**

NAME: _____ DATE: _____

1. PURPOSE AND EXPLANATION OF PROCEDURE

I hereby consent to voluntarily engage in an acceptable plan of personal fitness training. I also give consent to be placed in personal fitness training program activities which are recommended to me for improvement of dietary counseling, stress management, and health/fitness education activities. The levels of exercise I perform will be based on my cardiorespiratory (heart and lungs) and muscular fitness. I understand that I may be required to undergo a graded exercise test before the start of my personal fitness training program in order to evaluate and assess my present level of fitness.

I will be given exact personal instructions regarding the amount and kind of exercise I should do. A professionally trained personal fitness trainer will provide leadership to direct my activities, monitor my performance, and otherwise evaluate my effort. Depending upon my health status, I may or may not be required to have my blood pressure and heart rate evaluated during these sessions to regulate my exercise

within desired limits. I understand that I am expected to attend every session and to follow staff instructions with regard to exercise, stress management, and other health and fitness regarded programs. If I am taking prescribed medications, I have already so informed the program staff and further agree to inform them promptly of any changes which my doctor or I have made with regard to the use of these. I will be given the opportunity for periodic assessment and evaluation at regular intervals after the start of the program.

I have been informed that during my participation in the above described personal fitness training program, I will be asked to complete the physical activities unless symptoms such as fatigue, shortness of breath, chest discomfort, or similar occurrences appear. At this point, I have been advised that it is my complete right to decrease or stop the exercise and that it is my obligation to inform the personal fitness training program personnel of my symptoms, should any develop.

I understand that during the performance of exercise, a personal fitness trainer will periodically monitor my performance and, perhaps measure my pulse, blood pressure, or assess my feelings of effort for the purposes of monitoring my progress. I also understand that the personal fitness trainer may reduce or stop my exercise program when any of these findings so indicate that this should be done for my safety and benefit.

I also understand that during the performance of my personal fitness training program physical touching and positioning of my body may be necessary to assess my muscular and bodily reactions to specific exercises, as well as to ensure that I am

using proper technique and body alignment. I expressly consent to the physical contact for the stated reasons above.

2. RISKS

It is my understanding and I have been informed that there exists the remote possibility of adverse changes during exercise including, but not limited to, abnormal blood pressure, fainting, dizziness, disorders of heart rhythm, and in very rare instances heart attack, stroke, or even death. I further understand and have been informed that there exists the risk of bodily injury including, but not limited to, injuries to the muscles, ligaments, tendons, and joints of the body. Every effort, I have been told, will be made to minimize these occurrences by proper staff assessments of my condition before each personal fitness training session, staff supervision during exercise, and by my own careful control of exercise efforts. I fully understand the risks associated with exercise, including the risk of bodily injury, heart attack, stroke, or even death, but knowing these risks, it is my desire to participate as herein indicated.

3. BENEFITS TO BE EXPECTED AND ALTERNATIVES AVAILABLE TO EXERCISE

I understand that this program may or may not benefit my physical fitness or general health. I recognize that involvement in the personal fitness training sessions will allow me to learn proper ways to perform conditioning exercises, use fitness equipment and regulate physical effort. These experiences should benefit me by

indicating how my physical limitations may affect my ability to perform various physical activities. I further understand that if I closely follow the program instructions, I will likely improve my exercise capacity and fitness level after a period of 3-6 months.

4. CONFIDENTIALITY AND USE OF INFORMATION

I have been informed that the information which is obtained in this personal fitness training program will be treated as privileged and confidential and will consequently not be released or revealed to any person, to the use of any information which is not personally identifiable with me for research and statistical purposes so long as same does not identify my person or provide facts which could lead to my identification. Any other information obtained, however, will be used only by the program staff to evaluate my exercise status or needs.

5. INQUIRIES AND FREEDOM OF CONSENT

I have been given an opportunity to ask questions as to the procedures. I have read this Informed Consent form, fully understand its terms, understand that I have given up substantial rights by signing it, and sign it freely and voluntarily, without inducement.

Participant's Signature

Participant's Name (Printed)

Witness's Signature

Date

Form adopted from the American College of Sports Medicine's *Guidelines for Exercise Testing and Prescription* (National Exercise Trainers Association, 2018).

Physical Activity Readiness Questionnaire for Everyone (PAR-Q+)

The MOVE! program uses the Physical Activity Readiness Questionnaire for Everyone, otherwise known as the PAR-Q+, as an evaluation tool developed by the Canadian Society for Exercise Physiology (National Exercise Trainers Association, 2018). This is an important step to onboard new participants since it is the phase where fitness professionals identify those participants with elevated risk factors who need to consult with a medical professional before participating in MOVE!'s exercise program. Although numerous self-screening resources are available, NETA has found the PAR-Q+ has been validated and produces fewer false positives and delays participation compared to other screening tools (2018). It should be noted that the PAR-Q+ Collaboration, partner organizations, and their agents assume no liability for persons who exercise and/or make use of their content. The MOVE! trainers may also recommend consulting a medical provider prior to physical activity.

PAR-Q+

The Physical Activity Readiness Questionnaire for Everyone
The International Standard for Pre-Participation Screening

**2022 PAR-Q+****The Physical Activity Readiness Questionnaire for Everyone**

The health benefits of regular physical activity are clear; more people should engage in physical activity every day of the week. Participating in physical activity is very safe for MOST people. This questionnaire will tell you whether it is necessary for you to seek further advice from your doctor OR a qualified exercise professional before becoming more physically active.

GENERAL HEALTH QUESTIONS

Please read the 7 questions below carefully and answer each one honestly. Check YES or NO.

- 1) Has your doctor ever said that you have a heart condition OR high blood pressure?

__YES __NO

- 2) Do you feel pain in your chest at rest, during your daily activities of living, OR when you do physical activity?

__YES __NO

- 3) Do you lose balance because of dizziness OR have you lost consciousness in the last 12 months?

__YES __NO

- 4) Please answer NO if your dizziness was associated with over-breathing (including during vigorous exercise).

__YES __NO

- 5) Have you ever been diagnosed with another chronic medical condition (other than heart disease or high blood pressure)?

__YES __NO

PLEASE LIST CONDITION(S) HERE:

- 6) Are you currently taking prescribed medications for a chronic medical condition?

__YES __NO

PLEASE LIST CONDITION(S) AND MEDICATIONS HERE:

- 7) Do you currently have (or have had within the past 12 months) a bone, joint, or soft tissue (muscle, ligament, or tendon) problem that could be made worse

by becoming more physically active? Please answer NO if you had a problem in the past, but it **does not limit your current ability** to be physically active.

PLEASE LIST CONDITION(S) HERE:

8) Has your doctor ever said that you should only do medically supervised physical activity?

☐ YES ☐ NO

If you answered NO to all of the questions above, you are cleared for physical activity.

- Please sign the PARTICIPANT DECLARATION. You do not need to complete pages 2 and 3.
- Start becoming much more physically active - start slowly and build up gradually.
- Follow Global Physical Activity Guidelines for your age (<https://www.who.int/publications/i/item/9789240015128>).
- You may take part in a health and fitness appraisal. If you are over the age of 45 years and NOT accustomed to regular vigorous to maximal effort exercise,

consult a qualified exercise professional before engaging in this intensity of exercise.

- If you have any further questions, contact a qualified exercise professional.

PARTICIPANT DECLARATION

If you are less than the legal age required for consent or require the assent of a care provider, your parent/guardian, or care provider must also sign this form.

I, the undersigned, have read, understood to my full satisfaction, and completed this questionnaire. I acknowledge that this physical activity clearance is valid for a maximum of 12 months from the date it is completed and becomes invalid if my condition changes. I also acknowledge that the community/fitness center may retain a copy of this form for its records. In these instances, it will maintain the confidentiality of the same, complying with applicable law.

NAME

DATE

WITNESS SIGNATURE

SIGNATURE OF PARENT/GUARDIAN/CARE PROVIDER

Delay becoming more active if:

- You have a temporary illness such as a cold or fever; it is best to wait until you feel better.
- You are pregnant - talk to your health care practitioner, a qualified exercise professional, and/or complete the ePARmed-X+ at www.eparmedx.com before becoming more physically active.
- Your health changes - answer the questions on Pages 2 and 3 of this document and/or talk to your doctor or a qualified exercise professional before continuing with any physical activity program.

Copyright © 2022 PAR-Q+ (National Exercise Trainers Association, 2018).

Health and Lifestyle Questionnaire

Although the PAR-Q+ offers important information, a more comprehensive analysis is needed to thoroughly assess the health status of clients. Therefore, a health and lifestyle questionnaire will be administered to potential participants to determine if exercise is appropriate or if a referral to a medical provider is in the best interest of the MOVE! candidate. The National Exercise Trainers Association recommends the following form (2018):

NETA Health and Lifestyle Questionnaire

Instructions: Please complete the entire questionnaire, respond to all the requested information and provide as much detail as possible. Indicate “N/A” for those items that are not applicable.

Name: _____ **Date:** _____

Home Phone: _____ **Work Phone:** _____

DOB: _____ **Address:** _____

Age: _____ **E-mail Address:** _____

Employer/Occupation: _____

How many hours do you work per week?

___<35

___35-40

___40-45

___45-50

___>50

What are the primary physical requirements of your job?

☐ Phone/computer

☐ Sitting

☐ Standing

☐ Lifting

☐ Travel

Please rate your level of stress on the following scale (circle one):

Home: Low Stress 1 2 3 4 5 High Stress

Work: Low Stress 1 2 3 4 5 High Stress

Please list a relative whom we may contact in case of an emergency.

Name: _____ **Relation:** _____

Home Phone: _____ **Work Phone:** _____

Please complete the information for your personal health care provider.

Name of provider: _____

Clinic Name: _____

Address of Clinic: _____

Office Phone: _____ **Office Fax:** _____

Family Health History

Please indicate if you have any primary relatives who have any of the following conditions. Check all that apply.

☐ Asthma

☐ Arthritis

☐ Obesity

☐ Cancer

☐ Diabetes

☐ Stroke

☐ Hypertension

☐ Heart Disease

☐ High Cholesterol

☐ Osteoporosis

☐ Other

Please provide a brief explanation for any of the above that have been checked. _____

Personal Health History

Please indicate if you have any of the following conditions. Check all that apply.

☐ Asthma

☐ Arthritis

☐ Obesity

☐ Cancer

☐ Diabetes

☐ Stroke

☐ Hypertension

☐ Heart Disease

☐ High Cholesterol

☐ Osteoporosis

☐ Other

Please provide a brief explanation for any of the above that have been checked. _____

Please indicate if you have had any joint injuries or surgeries that may limit or effect your ability to exercise.

☐ Neck

☐ Shoulder

☐ Elbow

☐ Hip

☐ Knee

☐ Low Back

☐ Wrist/Hand

☐ Ankle/Foot

☐ Other

Please provide a brief explanation for any of the above that have been checked.

Please indicate any medications currently used.

Type of medication	Purpose
_____	_____
_____	_____
_____	_____
_____	_____

Do you smoke cigarettes? ☐ Yes ☐ No

If yes, how often? _____

Are you a past smoker? ☐ Yes ☐ No If yes, when did you quit?

Do you drink alcoholic beverages? ☐ Yes ☐ No If yes, how much, how often? _____

Are you presently dieting or on a weight control program? ☐ Yes ☐ No

If so, please provide a brief

explanation. _____

Do you have any past or present medical conditions, not already addressed, which may influence your ability to safely participate in an exercise program? If yes, please explain.

Please provide a brief explanation of your current exercise program. Include types of activity and frequency.

What are your current health and fitness goals? Please be as specific as possible.

Do you foresee any barriers that may prevent you from adhering to a regular exercise program?

How do you rate your level of motivation and commitment to achieving your goals? Circle one.

Low 1 2 3 4 5 High

Have you worked with a personal trainer in the past? __Yes __No

When are you available to meet with a trainer?

__Morning

__Day

__Evening

__Other

Do you prefer to work with a male or female trainer?

__Female

__Male

__No preference

How did you hear about our Personal Training services?

- | | |
|---|--------------------------------|
| <input type="checkbox"/> Brochure/Flyer | <input type="checkbox"/> Staff |
| <input type="checkbox"/> Promotional offer | <input type="checkbox"/> Other |
| <input type="checkbox"/> Referral from friend | |
| <input type="checkbox"/> Website | |

Health Risk Appraisals

Exercise professionals find the Physical Activity Readiness Questionnaires, including the most recent upgraded version (PAR-Q+), are the minimum standards of practice in the industry. Accordingly, ethically and legally MOVE! will administer the following health risk appraisal in addition to the health and lifestyle questionnaire. The following is the template endorsed by the National Exercise Trainers Association (2018):



Health Risk Appraisal

Major signs and symptoms suggestive of Cardiovascular, Pulmonary, or Metabolic Disease

Do you experience pain or discomfort (tightness, constriction, squeezing, burning) in the chest, neck, jaw, arm, and other areas that may result from the lack of adequate blood supply?

☐ Yes ☐ No

Do you experience shortness of breath at rest or with mild exertion?

☐ Yes ☐ No

Do you experience shortness of breath while at rest in a reclined position that is relieved promptly by sitting upright or standing?

☐ Yes ☐ No

Do you experience shortness of breath beginning usually 2-5 hours after onset of sleep, which may be relieved by sitting upright on the side of the bed or getting out of bed?

☐ Yes ☐ No

Do you have regular swelling of the ankles?

☐ Yes ☐ No

Do you experience heart palpitations (an unpleasant awareness of the forceful or rapid beating of the heart) or the sensation of a “racing” heart?

☐ Yes ☐ No

Do you experience muscle pain when walking that goes away after 1-2 minutes after stopping exercise?

☐ Yes ☐ No

Has your doctor ever said that you have a heart murmur?

☐ Yes ☐ No

Do you experience unusual fatigue or shortness of breath with usual daily activities?

☐ Yes ☐ No

Do you ever experience unexplained dizziness or loss of consciousness?

☐ Yes ☐ No

Risk Factors for CVD

Positive Risk Factors (+1 for each “Yes”)

Age

Men 45 years or older; Women 55 years or older?

☐ Yes ☐ No

Family History

Myocardial infarction, coronary revascularization, or sudden death before 55 years of age in father or other male first-degree relative, or before 65 years of age in mother or other female first-degree relatives?

☐ Yes ☐ No

Cigarette Smoking

Current cigarette smoker or those who quit within the previous six months, or exposure to environmental tobacco smoke?

☐ Yes ☐ No

Hypertension

Systolic blood pressure greater than or equal to 140 mmHg and/or diastolic pressure greater or equal to 90 mmHg, confirmed by measurements on at least two separate occasions, or on antihypertensive medication?

☐ Yes ☐ No

High Cholesterol

LDL-C is greater than or equal to 130 mg/dL or HDL-C is less than or equal to 40 mg/dL, or on lipid-lowering medication. If total serum cholesterol is all that is available, use greater than or equal to 200 mg/dL?

☐ Yes ☐ No

Diabetes

Fasting plasma glucose is greater or equal to 126 mg/dL or 2-hour plasma glucose values in oral glucose tolerance test (OGTT) is greater or equal to 200 mg/dL or HbA1c is greater or equal to 6.5%?

___Yes ___No

Obesity

Body Mass Index (BMI) is greater than or equal to 30 kg/m² or waist circumference is greater than 102 cm (40 inches) for men and greater than 88 cm (35 inches) for women?

___Yes ___No

Sedentary Lifestyle

Not participating in at least 30 minutes of moderate-intensity physical activity on at least three days per week for at least three months?

___Yes ___No

Negative Risk Factor (-1 for “Yes”)**HDL Cholesterol**

HDL-C is greater than or equal to mg/dL?

___Yes ___No

Net Total Number of Risk Factors Identified in the Health Risk

Appraisal_____

The information I have provided in the questionnaire is true and accurate to the best of my knowledge. I understand that this information is necessary for the purpose of developing and implementing a safe and effective exercise program. The information I have provided is to remain confidential. I agree to provide updated health information when it is relevant to the ongoing safety and effectiveness of my personal exercise program.

Signature**Printed Name****Date**

Medical Clearance for Participation

When the MOVE! Leadership determines a medical clearance is in the best interest of the client, the NETA Medical Clearance for Exercise Participation form will be completed (2018):

NETA Medical Clearance for Exercise Participation

To:

Name: _____

Clinic: _____

Address: _____

Phone: _____

Fax: _____

From:

Name: _____

Title: _____

Facility: _____

Address: _____

Phone: _____

Fax: _____

Email: _____

Date: _____

Dear _____ (Health Provider's Name)

Your patient, _____ (DOB)

_____, has applied for enrollment in the MOVE! Health program. The exercise program involves cardiorespiratory activities, body composition analysis, flexibility tests, and muscular strength and endurance activities. The exercise programs are designed to start easy and become progressively more difficult over a period of time. A more detailed description of the fitness testing protocols and exercise programs is available upon request. All health/fitness programs will be guided by a qualified fitness professional holding a nationally accredited personal training certification as well as certifications in cardiopulmonary resuscitation (CPR) and the use of an automated external defibrillator (AED).

By completing the box below, however, you are not assuming any responsibility for our administration of the health/fitness activities and/or exercise programs. If you know of any medical or other reasons why participation in the fitness testing and/or exercise program by this applicant would be unwise, please indicate so on the form.

If you have any questions, please feel free to call me at 804-274-8984.

Report of Health Care Provider

___ I know of no reason why the applicant may not participate in the exercise program.

___ I believe the applicant may participate, but I recommend the following guidelines and precautions are observed:

___ The applicant should not engage in the following activities:

___ I recommend that the applicant NOT participate at this time.

Signature of Health Care Provider

Date

I hereby consent to the release of pertinent health information to Move! Wellness Programs for the purpose of designing a safe and effective exercise program. I understand that this information will be kept confidential and only persons involved in the design and implementation of my exercise program will be viewing this information.

Signature of applicant

Date

Module Three: The Physiology of Weight-Loss***Learning Objectives:***

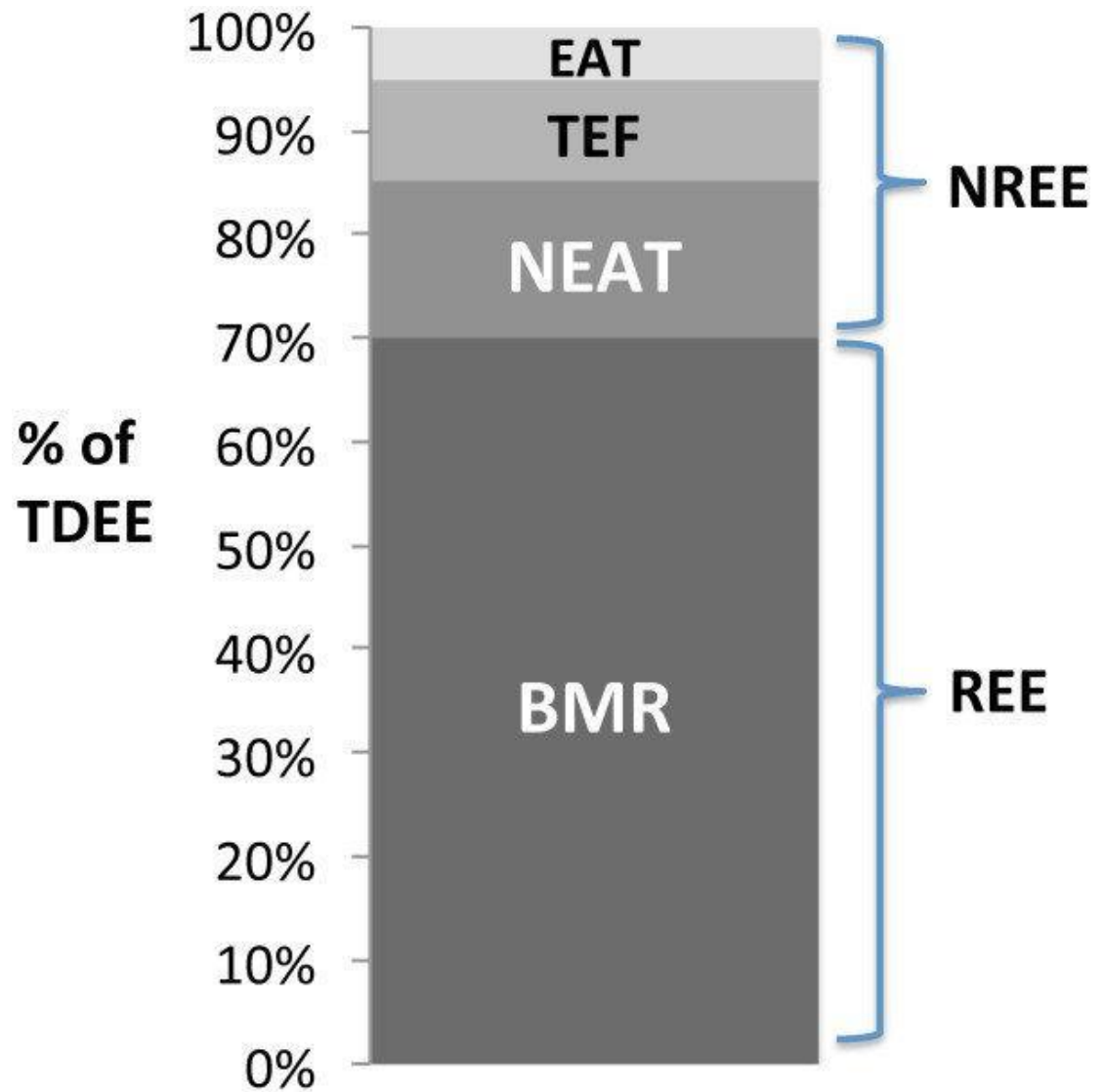
1. Describe the major factors that influence one's metabolism.
2. Explain the caloric formula for weight loss.
3. Understand the importance of BMR and develop a plan with your trainer to increase the rate of calories used to sustain life.

Reading Content:

Health is defined as “a state of complete physical, mental, and social wellbeing and not merely the absence of disease or infirmity” (World Health Organization, 2022, p. 1). Accordingly, there are many important factors and habits that can prevent or encourage the onset of diseases such as sleep, hydration, quality of food/drink choices, and activity. Interestingly, all these behaviors can influence one's weight and one's weight can influence these factors. Therefore, this module will concentrate on calorie consumption which drives one's metabolism and body composition.

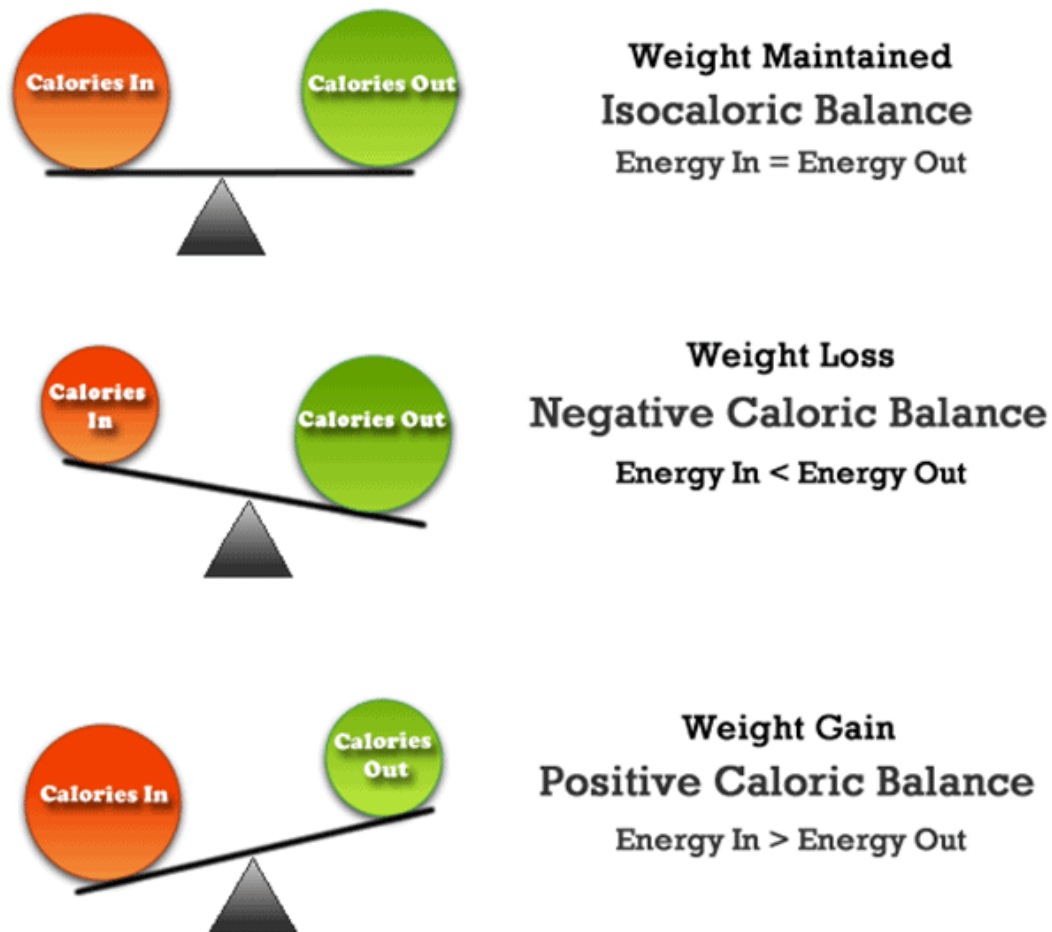
Metabolism is the biochemical mechanism that processes macronutrients into the energy required to live (NETA, 2018). Metabolism and nutrition labels typically use calories as the unit of measurement for the transfer of energy. A calorie is defined as the amount of energy required to increase the temperature of one gram of water one degree Celsius (NETA, 2018). Weight can successfully be managed by understanding one's metabolism. Components of one's total daily energy expenditure (TDEE) include one's basal metabolic rate or resting metabolic rate (BMR); non-

exercise activity thermogenesis (NEAT), thermic effect of food (TEF), and exercise activity thermogenesis (EAT), resting energy expenditure (REE), and non-resting energy expenditure (NREE) as illustrated by Trexler et al. (2014).



Understanding the process of digestion, metabolism, and calorie expenditure provide the tools necessary for one to manage his or her weight. The process of

weight gain or weight loss can be simplified into caloric balance. Therefore, this image is important because it emphasizes the components of metabolism that one can control, exercise for example, so one can focus their efforts. After all, losing weight, gaining weight, or maintaining weight can all be simplified into a calories in/calories out equation as highlighted below (Kendall, 2020).



Thus, one needs to understand his or her calorie expenditure before determining a daily caloric target. The Harris-Benedict equation is endorsed by the American

College of Sports Medicine and the Academy of Nutrition and Dietetics as one of the more accurate calculations to estimate (Raynor et al., 2016).

Video Content:

<https://www.youtube.com/watch?v=VEQaH4LruUo> (Bryce, 2015).

Application:

1. Your InBody report included a basal metabolic rate specific to your biologic indicators. Now that you have a better understanding of the importance of the BMR, what is your plan to manage your metabolism?
2. According to the Harris-Benedict calculator below, what should your total calorie goal for consumption be to help you reach your fitness goals? Does this goal seem high, low, or reasonable to you?

Online Caloric Calculator: <https://www.omnicalculator.com/health/bmr-harris-benedict-equation> (Zajac & Mateusz, 2022).

3. How does your calorie goal compare to your eating behavior in the last few days? Have you been exceeding the suggested calorie intake suggested for you? Have you constricted your caloric intake too much? How have any changes to your diet impacted your hunger? Are you feeling satisfied?

Module Four: Applying Nutritional Science for Success***Learning Objectives:***

1. Identify preventable diseases that are associated with poor nutrition.
2. Identify the food groups that young adults are generally not consuming adequately.
3. Discuss the components of food that young adults tend to overconsume.
4. Explain the four guidelines recommended by the U.S. Department of Agriculture and Health and Human Services to live a healthier lifestyle to help prevent disease.
5. According to MOVE! and MyPlate, explain how you should organize your plate for meals.

Reading Content:

Our food and beverages choices either feed our bodies or feed diseases. Approximately one in two American adults have at least one preventable chronic disease such as hypertension, cardiovascular disease, poor bone health, type two diabetes and/or cancer (NETA, 2018). The U.S. Department of Health and Human Services and the U.S. Department of Agriculture (2020) highlighted the prevalence of some of these diseases that are related to poor nutritional choices in this infographic:

Facts About Nutrition-Related Health Conditions in the United States

HEALTH CONDITIONS	STATISTICS
Overweight and Obesity	<ul style="list-style-type: none"> About 74% of adults are overweight or have obesity. Adults ages 40 to 59 have the highest rate of obesity (43%) of any age group with adults 60 years and older having a 41% rate of obesity. About 40% of children and adolescents are overweight or have obesity; the rate of obesity increases throughout childhood and teen years.
Cardiovascular Disease (CVD) and Risk Factors: <ul style="list-style-type: none"> Coronary artery disease Hypertension High LDL and total blood cholesterol Stroke 	<ul style="list-style-type: none"> Heart disease is the leading cause of death. About 18.2 million adults have coronary artery disease, the most common type of heart disease. Stroke is the fifth leading cause of death. Hypertension, high LDL cholesterol, and high total cholesterol are major risk factors in heart disease and stroke. Rates of hypertension and high total cholesterol are higher in adults with obesity than those who are at a healthy weight. About 45% of adults have hypertension.^a More Black adults (54%) than White adults (46%) have hypertension. More adults ages 60 and older (75%) than adults ages 40 to 59 (55%) have hypertension. Nearly 4% of adolescents have hypertension.^b More than 11% of adults have high total cholesterol, ≥ 240 mg/dL. More women (12%) than men (10%) have high total cholesterol, ≥ 240 mg/dL. 7% of children and adolescents have high total cholesterol, ≥ 200 mg/dL.
Diabetes	<ul style="list-style-type: none"> Almost 11% of Americans have type 1 or type 2 diabetes. Almost 35% of American adults have prediabetes, and people 65 years and older have the highest rate (48%) compared to other age groups. Almost 90% of adults with diabetes also are overweight or have obesity. About 210,000 children and adolescents have diabetes, including 187,000 with type 1 diabetes. About 6-9% of pregnant women develop gestational diabetes.
Cancer^c <ul style="list-style-type: none"> Breast Cancer Colorectal Cancer 	<ul style="list-style-type: none"> Colorectal cancer in men and breast cancer in women are among the most common types of cancer. About 250,520 women will be diagnosed with breast cancer this year. Close to 5% of men and women will be diagnosed with colorectal cancer at some point during their lifetime. More than 1.3 million people are living with colorectal cancer. The incidence and mortality rates are highest among those ages 65 and older for every cancer type.
Bone Health and Muscle Strength	<ul style="list-style-type: none"> More women (17%) than men (5%) have osteoporosis. 20% of older adults have reduced muscle strength. Adults over 80 years, non-Hispanic Asians, and women are at the highest risk for reduced bone mass and muscle strength.

^a For adults, hypertension is defined as systolic blood pressure (SBP) ≥ 130 mm Hg and/or a diastolic blood pressure (DBP) ≥ 90 mm Hg.

^b For children, hypertension was defined using the 2017 American Academy of Pediatrics (AAP) Clinical Practice Guideline.

^c The types of cancer included here are not a complete list of all diet- and physical activity-related cancers.

Accordingly, HHS and the USDA started collaborating in 1980 to produce *Dietary Guidelines for Americans* (DGA) with the purpose to educate policymakers, and health/nutrition/exercise professionals on emerging science and best practices (NETA, 2018). The current version of the DGA, the ninth edition, is notable because

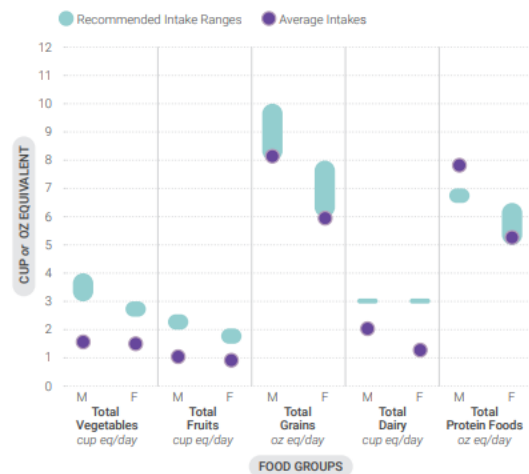
it is the first educational approach that specifies guidance based on life stages (U.S. Department of Agriculture & U.S. Department of Health and Human Services, 2020). Since MOVE! is targeting young adults, chapter 4 is particularly informative since it highlights young adults are generally not consuming enough fruit, vegetables, and dairy products and overconsuming added sugars, sodium, and saturated fats (U.S. Department of Agriculture & U.S. Department of Health and Human Services, 2020).

Current Intakes

Figure 4-1

Current Intakes: Ages 19 Through 30

Average Daily Food Group Intakes Compared to Recommended Intake Ranges



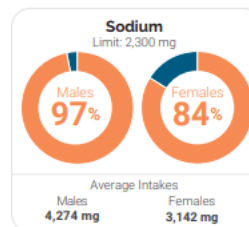
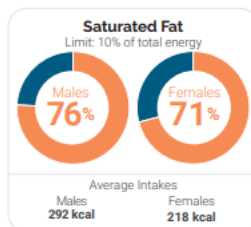
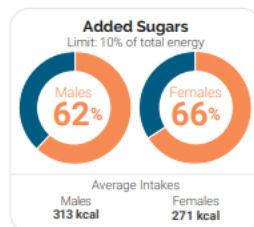
Healthy Eating Index Score (on a scale of 0-100)

56



Percent Exceeding Limits of Added Sugars, Saturated Fat, and Sodium

Exceeding Limit Within Recommended Limit



Data Sources: Average Intakes and HEI-2015 Scores: Analysis of What We Eat in America, NHANES 2015-2016, day 1 dietary intake data, weighted. Recommended Intake Ranges: Healthy U.S.-Style Dietary Patterns (see [Appendix 3](#)). Percent Exceeding Limits: What We Eat in America, NHANES 2013-2016, 2 days dietary intake data, weighted.

Accordingly, this module focuses on the current guidelines and key recommendations for young adults living in the United States that should be implemented as part of the MOVE! program.

The USDA and HHS recommend four principles to help prevent disease and live a healthier lifestyle (2020). First, one should eat healthy at every stage of life since it is never too premature or too late to start to become healthier in an attempt to avoid the development of illness (USDA & HHS, 2020). Additionally, one will want to evaluate his/her calorie budget and choose nutrient-rich options that include enjoyable options that allows for celebrations (USDA & HHS, 2020). Thirdly, the USDA and HHS (2020) advise one's diet primarily be composed of a combination of vegetables, fruits, grains, dairy, protein, and oils to reach nutrition needs and caloric goals. Finally, MOVE! participants should restrict alcohol, sodium, saturated fat, and added sugars as one can see in the summary infographics below (USDA & HHS, 2020).

The Guidelines

Make every bite count
with the *Dietary Guidelines for Americans*. Here's how:



Please note that this information, as well as the following infographics, are shared with the public and require no permissions to print, reproduce or use them for educational purposes.

The Guidelines

Make every bite count with the *Dietary Guidelines for Americans*. Here's how:

- 1 **Follow a healthy dietary pattern at every life stage.**
At every life stage—infancy, toddlerhood, childhood, adolescence, adulthood, pregnancy, lactation, and older adulthood—it is never too early or too late to eat healthfully.
 - **For about the first 6 months of life**, exclusively feed infants human milk. Continue to feed infants human milk through at least the first year of life, and longer if desired. Feed infants iron-fortified infant formula during the first year of life when human milk is unavailable. Provide infants with supplemental vitamin D beginning soon after birth.
 - **At about 6 months**, introduce infants to nutrient-dense complementary foods. Introduce infants to potentially allergenic foods along with other complementary foods. Encourage infants and toddlers to consume a variety of foods from all food groups. Include foods rich in iron and zinc, particularly for infants fed human milk.
 - **From 12 months through older adulthood**, follow a healthy dietary pattern across the lifespan to meet nutrient needs, help achieve a healthy body weight, and reduce the risk of chronic disease.
- 2 **Customize and enjoy nutrient-dense food and beverage choices to reflect personal preferences, cultural traditions, and budgetary considerations.**
A healthy dietary pattern can benefit all individuals regardless of age, race, or ethnicity, or current health status. The *Dietary Guidelines* provides a framework intended to be customized to individual needs and preferences, as well as the foodways of the diverse cultures in the United States.
- 3 **Focus on meeting food group needs with nutrient-dense foods and beverages, and stay within calorie limits.**
An underlying premise of the *Dietary Guidelines* is that nutritional needs should be met primarily from foods and beverages—specifically, nutrient-dense foods and beverages. Nutrient-dense foods provide vitamins, minerals, and other health-promoting components and have no or little added sugars, saturated fat, and sodium. A healthy dietary pattern consists of nutrient-dense forms of foods and beverages across all food groups, in recommended amounts, and within calorie limits.
The core elements that make up a healthy dietary pattern include:
 - **Vegetables of all types**—dark green; red and orange; beans, peas, and lentils; starchy; and other vegetables
 - **Fruits**, especially whole fruit
 - **Grains**, at least half of which are whole grain
 - **Dairy**, including fat-free or low-fat milk, yogurt, and cheese, and/or lactose-free versions and fortified soy beverages and yogurt as alternatives
 - **Protein foods**, including lean meats, poultry, and eggs; seafood; beans, peas, and lentils; and nuts, seeds, and soy products
 - **Oils**, including vegetable oils and oils in food, such as seafood and nuts

4

Limit foods and beverages higher in added sugars, saturated fat, and sodium, and limit alcoholic beverages.

At every life stage, meeting food group recommendations—even with nutrient-dense choices—requires most of a person's daily calorie needs and sodium limits. A healthy dietary pattern doesn't have much room for extra added sugars, saturated fat, or sodium—or for alcoholic beverages. A small amount of added sugars, saturated fat, or sodium can be added to nutrient-dense foods and beverages to help meet food group recommendations, but foods and beverages high in these components should be limited. Limits are:

- **Added sugars**—Less than 10 percent of calories per day starting at age 2. Avoid foods and beverages with added sugars for those younger than age 2.
- **Saturated fat**—Less than 10 percent of calories per day starting at age 2.
- **Sodium**—Less than 2,300 milligrams per day—and even less for children younger than age 14.
- **Alcoholic beverages**—Adults of legal drinking age can choose not to drink, or to drink in moderation by limiting intake to 2 drinks or less in a day for men and 1 drink or less in a day for women, when alcohol is consumed. Drinking less is better for health than drinking more. There are some adults who should not drink alcohol, such as women who are pregnant.

Video Content:

View this video to learn more about applying these concepts:

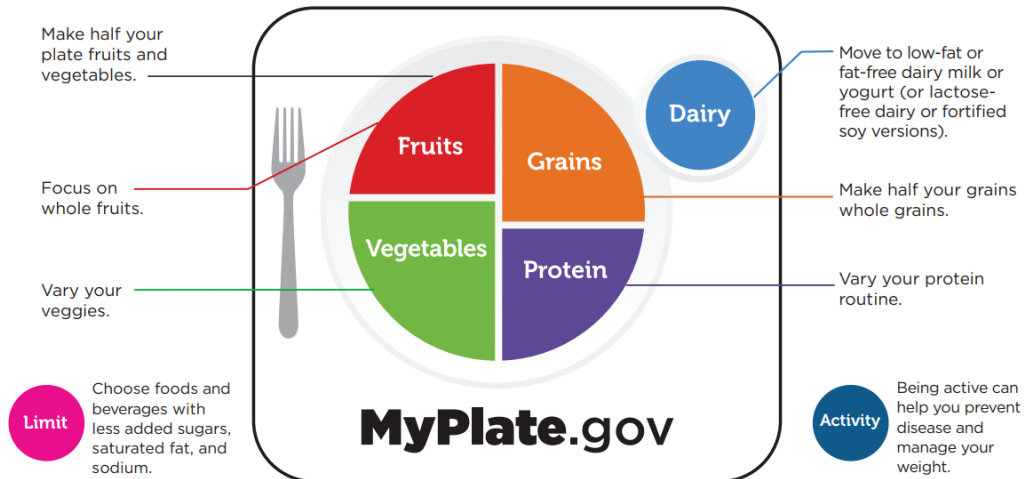
<https://www.youtube.com/watch?v=CsUMzYUMNig> (U.S. Department of Agriculture & U. S Department of Health and Human Services, 2020).

Reading Content:

Making changes to one's lifestyle can be challenging, so MOVE! wants to make this as simplistic as possible. Accordingly, MOVE! endorses the MyPlate dietary principles developed by the USDA. As you can see from the illustrations below, MyPlate is an easy-to-follow plan that applies the principles from the Dietary Guidelines for Americans (DGA) making implementation easier for participants and can be easily understood by the following infographics (USDA, n.d.).

Start *simple* with **MyPlate**

Healthy eating is important at every life stage,
with benefits that add up over time, bite by bite. Small changes matter.



Food and Nutrition Service
U.S. DEPARTMENT OF AGRICULTURE

Start simple
with MyPlate

Start Simple with MyPlate

Healthy eating is important at every age. Eat a variety of fruits, vegetables, grains, protein foods, and dairy or fortified soy alternatives. When deciding what to eat or drink, choose options that are full of nutrients and limited in added sugars, saturated fat, and sodium. Start with these tips:

Focus on whole fruits

Include fruit at breakfast! Top whole-grain cereal with your favorite fruit, add berries to pancakes, or mix dried fruit into hot oatmeal.

Vary your veggies

Cook a variety of colorful veggies. Make extra vegetables and save some for later. Use them for a stew, soup, or a pasta dish.

Vary your protein routine

Next taco night, try adding a new protein, like shrimp, beans, chicken, or beef.

Make half your grains whole grains

Add brown rice to your stir-fry dishes. Combine your favorite veggies and protein foods for a nutritious meal.

Move to low-fat or fat-free dairy milk or yogurt (or lactose-free dairy or fortified soy versions)

Enjoy a yogurt parfait for breakfast made with low-fat dairy milk or fortified soy milk. Top with fruit and nuts to get in two more food groups.

Drink and eat less added sugars, saturated fat, and sodium

Cook at home more often to limit added sugars, saturated fat, and sodium. Read the ingredients lists and use [Nutrition Facts labels](#) to compare foods.

DCA Dietary Guidelines for Americans

Go to [MyPlate.gov](https://www.myplate.gov) for more information.
 USDA is an equal opportunity provider, employer, and lender.

**The benefits of healthy eating
add up over time, bite by bite.**

FNS-905-1
March 2022

Video Content:


View this video to learn more about how to make smart nutritional choices:

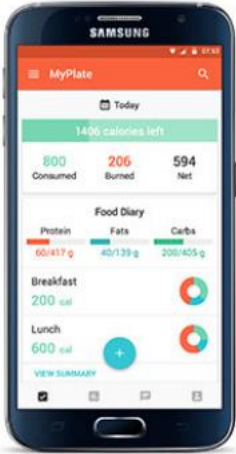
<https://www.youtube.com/watch?v=j7CcaUZrUoE> (U.S Department of Agriculture & U.S Department of Health and Human Services, 2016).

Application:

1. Take the MyPlate quiz found here: https://www.myplate.gov/form/myplate-quiz#question_1 (U.S. Department of Agriculture, n.d.)

2. Explain what you learned about yourself that can help you on your health journey.
3. Download the MyPlate application from the apple/play store and track your next meal. What do you like about this application? Anything you would change if you were to re-design the application?

Welcome to  **MyPlate**




Sign up and set your goal weight to find out how many calories you should eat to achieve your goal.

Start by tracking everything you eat, and in 21 days you will have created a habit that will get you making progress toward your desired weight.

While you're at it, check out the FREE workout videos that are inside the app!

START TRACKING!



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