Healthy Living and Fitness Program with Adults with an Intellectual Disability

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The procedures in this staff training manual/workshop are meant to be used by agency staff, as part of the broader services they provide, or under supervision of agency staff.
DEDICATION

I dedicate this thesis to all of my friends and family who have supported me along the way. Without my family to give me gentle pushes to keep going I would have never been able to accomplish this paper. My friends have been my source for letting go of stress and venting about my frustrations. I am happy to have just amazing people in my life who have encouraged me to succeed.
ABSTRACT

A Healthy Living and Fitness Workshop was created for six adults with an intellectual disability. A manual was developed to outline a teaching method to target healthy living skills that included healthy eating, preparing healthy snacks, and aerobic fitness. The workshop took place once a week for six weeks for approximately two hours. The purpose of the workshop was to decrease participants’ resting heart rate and body mass index, while improving healthy food choices and amount of physical activity each participant engaged in, along with increasing their knowledge related to healthy living. Findings indicated that there was no clinically significant difference made in body mass index, and resting heart rate. There were small increases in the amount of physical activity reported by the end of the study and participants also reported an increase in healthy food choices. The post test completed at the end of the study demonstrated an increase in the participants’ knowledge of healthy living, when compared to the pre test results.
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# TABLE OF CONTENTS

DEDICATION ................................................................................................................................. ii
ABSTRACT ..................................................................................................................................... iii
ACKNOWLEDGMENTS ........................................................................................................ iv
TABLE OF CONTENTS ........................................................................................................ v
LIST OF TABLES ................................................................................................................ vi
LIST OF FIGURES ................................................................................................................ vii

CHAPTER
I. INTRODUCTION .................................................................................................................. 1

II. LITERATURE REVIEW ......................................................................................................... 3

III. METHODOLOGY .............................................................................................................. 13

Participants ................................................................................................................................ 13
Materials ..................................................................................................................................... 16
Design ........................................................................................................................................ 18
Settings ...................................................................................................................................... 20
Procedures ............................................................................................................................... 20

IV. RESULTS ........................................................................................................................... 26

V. CONCLUSION/DISCUSSION .............................................................................................. 34

Strengths and Limitations ........................................................................................................ 34
Contribution to the Behavioural Psychology Field ................................................................. 39
Recommendations for Future Research .................................................................................... 40
Impact and Insights .................................................................................................................. 41
Multilevel Challenges .............................................................................................................. 44

REFERENCES .......................................................................................................................... 46

APPENDICES ........................................................................................................................... 48

Appendix A: Healthy Living and Fitness Manual ................................................................... 48
Appendix B : Consent Form ..................................................................................................... 88
Appendix C : Daily Food Logs ................................................................................................. 94
Appendix D : Daily Activity Log ............................................................................................. 95
Appendix E: BMI and Heart Rate Log .................................................................................... 96
Appendix F: Questionnaire ..................................................................................................... 97
Appendix G: Healthy Living and Fitness Questionnaire ........................................................ 98
Appendix H: Individual Food Graphs ..................................................................................... 101
LIST OF TABLES

Table 1. The Changes in Self Reported Data...............................................................26
Table 2. Weekly Body Mass Index..............................................................................27
Table 3. Scores on the Healthy Living Pre and Post Test........................................31
LIST OF FIGURES

Figure 1. Resting Heart Rate.................................................................27
Figure 2. Daily Activity Log.................................................................31
CHAPTER I – INTRODUCTION

Healthy living and fitness have become a trend in our society. More and more people are beginning to live healthier lifestyles in an effort to increase their life span and minimize their risk of disease and health complications (Todd, & Reid 2006). Today living a healthy lifestyle consists of having positive physical and mental health, to which healthy eating and daily exercise all contribute (Heart and Stroke Foundation of Ontario, 2012).

The majority of North American citizens have the skills needed to live a healthy lifestyle if they choose to do so, and are also capable of understanding the risks of being obese and not physically active. There is however, a minority that is unfortunately overlooked when it comes to making healthy decisions and understanding the sometimes fatal consequences of not living a healthy lifestyle. This minority is people with an intellectual disability who are already a vulnerable population in regards to things that are out of their control. For example, this population often relies on their care takers to provide the necessary support for daily living and help them make decisions that affect their life (Rimmer, Heller, Wang, & Valerio, 2004). However, learning to live a healthier lifestyle is a skill they can develop to have control and not be at risk for obesity-related diseases. The skills required to make healthy choices around eating and fitness need to be taught and practiced with people who have an intellectual disability (Rimmer, Heller, Wang, & Valerio, 2004).

Healthy living and fitness programs that combine teaching the skills to make healthy choices along with a fitness component have not been thoroughly examined in previous studies. This study was designed to examine the effect of a healthy living and fitness program on a group of adults with an intellectual disability and demonstrate a difference in healthy eating knowledge,
making healthy eating choices, increasing exercise, decreasing body mass index, and resting heart rate. This includes individuals learning how to make healthy food choices and incorporating daily physical exercise into their lives. A Healthy Living and Fitness manual was created to provide a guide for the counselor and a teaching resource to teach these skills. This guide can be viewed in Appendix A. If individuals continue to use the skills taught during the workshop after the workshop is completed, they should be able to maintain a healthy mind and body.

This thesis will examine literature written about healthy living workshops that have been conducted with people who have an intellectual disability and will be divided into sections providing support for the techniques chosen in this study. It will include sections concerning information on obesity and obesity related measures, solutions to obesity, obesity reduction strategies, and teaching skills to individuals with an intellectual disability. The method section includes information on each of the participants who were selected to participate in the study. The design and setting where the study took place are described. The procedure will be outlined in this section and include what was used to conduct the study and collect baseline and intervention data. A results section will summarize and explain the results of the baseline and intervention data collected. These results will then be further discussed and analyzed in a conclusion and discussion section.
CHAPTER II – LITERATURE REVIEW

*Obesity*

There has been an increased effort to reduce the obesity rate that continues to rise at an alarming rate across North America, particularly since obesity was named a major contributor to other chronic and preventable diseases (Temple, Frey, & Stanish, 2004). Obesity affects children, adults, and elderly not only in United States of America but in all developed countries including Canada (Rosenfield et al., 2011). According to Eisenburg (2011) the Canadian Health Measures Survey conducted in 2009 revealed 37% of Canadian adults are overweight, and 24% are obese. These numbers are not as drastic as the USA statistics which revealed in 2010 that 33.8% of adults were obese (Centers for Disease Control and Prevention [CDC], 2011). However, if little effort is made to educate people on the risks of obesity and how to prevent it, Canadians will only see an increase in the obesity rate.

Adults who are obese have a reduced life expectancy by 10 years (Rosenfield et al., 2011). The increasing obesity rates are expected to pass smoking as the number one cause of preventable mortality (Eisenberg, 2011). Not only is obesity a risk to a person’s health but it also puts a financial strain on the country’s health care system, with a cost of 3.96 billion dollars a year spent on assisting those who are classified obese (Eisenberg, 2011). Adults and children alike need to learn how to make better choices and live a healthier, more active life to help fight the obesity epidemic.

There are many health risks associated with obesity which have been scientifically shown. The health risks associated with obesity include serious diseases and conditions that can
also cause other significant implications to a person’s health (Health Canada, 2006). The most serious and commonly associated conditions that have been linked to obesity are hypertension (i.e., high blood pressure), coronary heart disease, type two diabetes, stroke, and several types of cancer (Health Canada, 2006). These conditions can have a long term effect on health, and it can take many years after returning to a healthy weight to have overall good health again (Health Canada, 2006). Other issues caused by being overweight that are not as commonly known or frequently discussed include gallbladder disease, osteoarthritis, sleep apnea, breathing problems, low self-esteem, depression, and anxiety (Health Canada, 2006). All of these conditions and diseases can be prevented or controlled if a proper diet and exercise routine is followed daily (Heart and Stroke Foundation of Ontario, 2011). Obesity not only has an effect on physical health, but mental health as well. It has been shown that individuals who are overweight or obese are likely to have low self-esteem and depression (Health Canada, 2006). Obesity rates are the highest ever with serious and sometimes deadly consequences. This is why giving people the skills they need to manage their weight is so crucial.

People with an intellectual disability have a higher obesity rate compared to the general population (Geller & Crowley, 2009). In 2000 a National Health Interview survey discovered that 34.6% of adults who had been diagnosed with an intellectual disability were obese (Geller & Crowley, 2009). Temple and Walkley (2007) also reported that individuals with an intellectual disability have a lower fitness rating compared to the general population. Research also indicates that people with an intellectual disability have poor eating habits that include high calorie, high fat diets and nutritional deficits (Raspa, Bailey, Bishops, Holiday, & Olmsted, 2010). This shows
the importance and need to introduce a healthy living and fitness program to those who have an intellectual disability to help find solutions that work. It is also important for people with an intellectual disability to be aware and understand what consists of having good health in order for them to understand their own quality of health. Appropriate steps can then be taken to begin introducing an active healthy lifestyle.

Measuring Obesity and Fitness

An important part of living a healthy lifestyle and maintaining a healthy body is for people to know if they are a healthy weight for their age and height. A scale is used universally in Canada to measure if a person is obese or at risk, called the Body Mass Index (BMI) (Health Canada, 2003). The BMI is calculated by dividing a person’s weight in kilograms by the square of a person’s height measured in meters (Health Canada, 2003). The BMI is used to identify if an adult is underweight, normal weight, overweight or obese. A person is considered to be a normal weight if BMI is between 18.5 and 24.9, and a BMI less than 18.5 is classified as underweight (Health Canada, 2003). There are 3 classes of obesity. A person is considered obese (class 1) when their BMI is between 30.0 and 34.9 (Health Canada, 2003). To be considered obese (class 2) BMI needs to be between 35.0 and 39.9, and a BMI greater than 40.0 is considered class 3 obesity (Health Canada, 2003).

A measurement of a person’s pulse or heart rate is also used to determine how active and fit a person is. This can be calculated using a heart rate reading monitor or by counting the number of times the heart pulses in a minute. Resting heart rate is a way to determine if someone is at risk for health problems. A heart rate between 60 and 90 beats per minute when at rest is considered normal (Heart and Stroke Foundation, 2011). Typically people who are physically
active for the recommended 30 minutes a day have a low resting heart rate (Heart and Stroke Foundation, 2011). Once a person begins living a healthier lifestyle they should begin to see a decrease in their resting heart rate.

Solution to Obesity

According to Poynor (2008) the health risks caused by being obese are preventable. By being physically active and eating a healthy diet people can avoid many of the health risks as well as experience an increase in energy, attention, and decrease in stress (Temple & Walkley, 2007). If people can become more physically active by taking part in a 30 minute workout session daily consisting of even brisk walking they will see a decrease in their resting heart rate and body mass index (Temple & Walkley, 2007). This moderate physical activity will also help protect against the risk factors mentioned previously and have been shown to help reduce anxiety and depression as well (Todd, & Reid 2006).

The majority of North American citizens have the skills to live a healthy lifestyle if they choose to do so. However, a minority of people are often over looked, who need assistance in developing and maintaining a healthy lifestyle so they are not affected by the consequences of being overweight. The skills needed to make healthy choices concerning eating and fitness is something that needs to be taught and practiced with people who have an intellectual disability throughout their life (Rimmer, Heller, Wang, & Valerio, 2004).

Geller and Crowley (2009) reported that cardiovascular programs completed in the past with individuals who have an intellectual disability proved to be effective for reducing weight but only for a short period of time. This suggests that perhaps fitness programs need to be combined with teaching healthy eating skills for weight loss to be sustained and maintained. A
good fitness program will teach proper nutrition and healthy eating which is defined by eating the correct portions of a variety of foods as instructed by the Canada Food Guide (Fragala-Pinkham, Bradford, & Haley, 2005). Teaching participants to eat and prepare foods that are low in saturated fat, sugar, salt, and high in fiber, and vitamins will prepare them for a healthy lifestyle and should aid in weight loss (Fragala-Pinkham, Bradford, & Haley, 2005).

According to Harvey, Glenney, Kirk, and Summerball (2001) there is a desperate need to address and create effective interventions that focus on weight loss. Despite the need for this there are still very few interventions that have been successful with people who have learning disabilities and at the time of this study only nine studies addressing this need were found. As well adults with an intellectual disability could benefit from learning how to choose and prepare healthy snacks and meals (Poynor, 2008). Since there is limited research found on interventions used to increase healthy eating, a weekly workshop incorporating how to make healthy food choices like having to prepare healthy snacks would be beneficial (Fragala-Pinkham, Bradford, & Haley, 2005). This is why it is so important for research and studies to be completed with people who have an intellectual disability to try and teach the skills required for weight loss and healthy living.

*Obesity Reduction Strategies*

An important part of any weight loss program is teaching the participants why eating healthy and exercising daily is so crucial. If people do not understand why they need to make healthy food choices or why daily exercise is important they will be less likely to actively participate in the program (Seidl, 1998).
One study relating to teaching healthy eating skills focused on nutrition counseling with young children and their parents (Fragala-Pinkham, Bradford, & Haley, 2005). The study reported that nutrition counseling was necessary when conducting a fitness program to teach children how to make healthy food choices and why eating from a variety of food groups is important. The nutrition counseling consisted of sessions set up over a 16 week period with each family. The nutrition counseling included teaching the family how to purchase and prepare healthy food, how to teach children food selection, and the importance of parents being good role models. All the participants including parents kept a food intake diary to keep track of all food consumed each day. The study found no significant change in the reported body mass index between the pre and post test. The study concluded that nutrition counseling and food diaries were effective in increasing healthy eating skills. However, the authors suggested that other studies should increase the number of nutrition counseling sessions to help motivate and reinforce children and parents to continue meeting their goals.

Perhaps if the study’s major focus was the nutrition counseling and encouraging daily fitness, the results would have demonstrated a decrease in BMI. Due to literature supporting that increased fitness and healthy eating are shown to decrease BMI. This study was done with children aged 6-14 who may have not wanted to change their eating habits or understood the negative implications of being overweight. If the participants were adults who signed up to participate and were documented as wanting to change their eating habits maybe the results would have been more positive.

In a study conducted by Todd and Reid (2006), the focus was on increasing physical activity with three males who were between the ages of 15 to 20 years old. All of the participants
had been clinically diagnosed with Autism and were nonverbal. The fitness activities used with these individuals consisted of walking, jogging, and snowshoeing depending on the weather conditions. All activities were performed outside on the school yard. The fitness sessions included 9 sessions of snowshoeing, and 23 sessions of walking or jogging. The sessions took place twice a week for one hour. The participants used a self-monitoring board that was placed at the end of each circuit on the outdoor track field. Reinforcement was used at the beginning of the program in that the participants were given their choice of small candy for every quarter circuit they achieved until they were able to complete a full circuit. Reinforcement was slowly thinned out once participants were able to complete a full circuit without needing verbal prompts. The results of this study demonstrated that all participants increased their amount of completed workout circuits from baseline. This study focused on behavioural supports that were useful in getting individuals with autism physically active by using self-monitoring, edible reinforcement, and verbal praise. This study did not examine weight loss, BMI, resting heart rate, or teaching the participants healthy living skills. However, this study was a good example of how to use self-monitoring effectively to increase target behaviours. In this study the self-monitoring board was used to increase the number of laps each participant completed. This study demonstrated the use of self-monitoring, and verbal prompting to increase healthy behavior in people with intellectual disabilities.

Another study concentrating on improving physical fitness was a 12 week study completed with adults diagnosed with Down’s Syndrome (Rimmer, Heller, Wang, & Valerio, 2004). This study looked at the effectiveness of an exercise training program (Rimmer, Heller, Wang, & Valerio, 2004). The study by Rimmer, Heller, Wang, and Valerio (2004) was conducted
with 52 adults who have Down’s Syndrome with an average age of 39.4 years. The exercise component of the study consisted of 30 minutes of cardiovascular training and 15 minutes of strength training exercises for a total exercise time of 45 minutes, 3 days a week. A five minute warm up and cool down period were used between each of the fitness components and the trained assistants checked the participants’ heart rate throughout the fitness sessions to be sure that everyone was exercising safely. The study separated the participants into a control and treatment group. Data were collected prior to the exercise program for each participant’s body weight, body mass index, strength and cardiovascular endurance. The baseline data from the treatment and control group represented that 69% of the participants were obese and 17% were overweight. The treatment group body weight went from a mean of 80.5 kg in pretest to 79.5 kg in posttest, showing a mean decrease of 1 kg. The control group had a body weight mean of 76.8 kg which increased to 78.5 kg by the end of the treatment period. This shows that the participants in the control group increased body weight by 1.7 kg. This demonstrates that weight decreased in the treatment group by the end of the study, after only 12 weeks of the fitness program. Perhaps if the same intervention was used again over a longer time period the results would show an even greater decrease in weight loss.

Evidently more research needs to be conducted on teaching adults with an intellectual disability healthy eating skills along with encouraging physical fitness. Studies that focus only on fitness are hiding the reason people are overweight. These studies do not teach any of the participants how to make healthy choices or why it is important to do so. By combining a healthy eating workshop with a fitness program, issues surrounding healthy living should be addressed that have not yet been examined in past research.
Teaching Skills to Individuals with an Intellectual Disability

Studies aimed at promoting weight loss and maintenance often focus on the physical component needed to have a healthy body but leave out the skills that people need to learn first, to become interested in achieving a healthy body. With that being said most studies previously done do not include skill training to teach people with intellectual disabilities how to make healthy food choices or why it is important. Many people with an intellectual disability who are overweight or obese do not understand the health implications of this (Seidl, 1998). If these individuals do not understand why it is important to eat healthy and exercise their chance for successfully losing weight or maintaining a healthy weight is much lower than those who do understand (Fragala-Pinkham, Bradford, & Haley, 2005).

According to Seidl (1998), when teaching individuals with an intellectual disability various skills a variety of communication aids should be used including visual aids that are simple and can be easily understood. For example the use of pictures, charts, diagrams, videos, and discussions that allow for questions should be used to help learn what is being taught. These learning techniques can make learning easier when combined with communication from the instructor that is repetitive. The instructor should repeat what is being taught multiple times, and also make time for review sessions that covers what was previously taught. As well it is recommended that all programs are community based, age appropriate, and allow for each of the participants freedom of choice making throughout the program (Seidl, 1998). An important teaching method according to Seidl (1998) that can be used to make learning less overwhelming for those who have an intellectual disability is the use of task analysis. This technique breaks down the required task into smaller components over a number of repeated attempts. When the
learner is able to do each step in the task without the use of verbal or physical prompts, than the next step in the task can be shown until they are able to complete the whole required task with little to no guidance (Seidl, 1998). Seidl (1998) also noted that it is important for the participants to be familiar with their instructor and environment in order for them to perform to the best of their ability. Adults and children alike need to practice new skills they are trying to learn repeatedly until they have learned them.

Teaching adults who have an intellectual disability can be seen has more of a challenge when compared to teaching the general population. However, that does not mean that it is not possible to make an impact by using the suggested teaching methods. Breaking learning components into smaller learning modules and reviewing what has been previously taught should allow for an improvement in the post test measure. As well having the counsellor use handouts and group activities during the learning component should help to make the learning process less tedious for participants and incorporate a more hands on approach.
CHAPTER III - METHOD

Participants

The study involved six participants between the ages of 21 and 45 years of age who had been diagnosed with an intellectual disability. Two of the individuals were non-ambulatory and required the use of a wheelchair. The participants all attended the day program at an agency providing support to individuals with an intellectual disability in the community. All the selected participants had been using the day program services for many years. The participants selected for this study were recommended by the day support community facilitator based on need and an interest to be in healthy living and fitness program. Although the participants were interested in the Healthy Living and Fitness Workshop it is unknown if they understood the value of the program and what it meant to be living a healthy lifestyle at the time of entry into the study.

The inclusion criteria to participate in the group consisted of individuals being previously diagnosed as having an intellectual disability. All the participants also needed to attend the day program every Monday, and could not currently have been in a fitness program while in the healthy living workshop. The participants had to be medically able to participate in a physical fitness program for 60 minutes per week, which was determined by reviewing each participant’s case file by the counsellor and day program facilitator. The case files of each participant were reviewed to make sure there was not practitioner advice to not participate in physical activity. The counsellor verified food allergies, diagnosis, medical conditions, family history, and behavioural programs for all participants using the case file information. As well as each participant needed to answer “no” to all the questions on the Physical Activity Readiness Questionnaire (Canadian Society for Exercise Physiology [CSEP], 2002). This questionnaire was
provided to each of the participants and attached to the consent form to be signed (Appendix B). The participants answered the questions on their own and some individuals (participant 1, 3, and 4) decided to ask their parents or guardians for assistance to complete it.

The Healthy Living and Fitness Workshop group consisted of six participants but only five of these individuals participated in the fitness portion of the workshop. Participant 1 was unable to physically do the fitness portion because of medical conditions that resulted in her not passing the Physical Activity Readiness Questionnaire (Canadian Society for Exercise Physiology [CSEP], 2002). This participant fully participated in the educational component of the Healthy Living and Fitness Workshop including the preparation of the healthy snack.

Participant 1 was a 44 year old, female diagnosed with William’s Syndrome and a heart condition. She lived at home with her mother who provides the necessary day to day care for her and who helps assist her to build independent living skills. She attended the day program provided at this agency Monday to Wednesday and while attending the day program she did volunteer jobs. This participant also enjoyed participating in cooking and academic groups lead by the day program. This participant did not meet the criterion to complete the fitness portion of the program due to a heart condition that restricts the amount of physical activity she is able to do. However, it was felt that this particular individual would still greatly benefit from being in the program. She was allowed to attend the Healthy Living and Fitness program, but instructed to refrain from participating in the fitness portion.

Participant 2 was 38 year old, female diagnosed with a congenital developmental disability and took medication for depression and anxiety symptoms. She lived in her own apartment by herself and attended the day program Monday to Friday. She worked at a paid job
every Monday morning, and participated in academic groups at the day program. The day program’s agency also provided assistance to her twice a week in the evening to help improve her independent living skills by assisting her in buying groceries, cleaning her apartment, and doing her banking.

Participant 3 was a 27 year old, female diagnosed with spinal bifida, seizure disorder, and an intellectual disability. Her seizure disorder was controlled by oral medication taken daily. Due to spinal bifida she required the use of a wheelchair. She attended the day program Monday to Friday and while there she participated in groups that help her increase her reading and writing skills. This participant also volunteered at a local food bank twice a week. She resided at home with her mother who provides ongoing support to her.

Participant 4 was a 28 year old, male diagnosed with Fragile X Syndrome. He lived at his family home with his mother and father. He attended the day program Monday to Friday and participated in fitness groups, cooking groups, and media groups. He also volunteered once a week at a local food bank.

Participant 5 was a 33 year old, female diagnosed with arthroqryposis and an intellectual disability. She required a wheelchair because the arthroqryposis affects her lower body. She had a strong family support system consisting of her mother and close relatives. She had recently moved back in with her mother after living in her own apartment with roommates. She attended the day program Monday to Friday and participated in swimming groups, gym groups, volunteer jobs, and spa days.

Participant 6 was a 29 year old, male diagnosed with Myotonic Dystrophy and a learning disability. At the time of the study he had recently moved into his own apartment. He attended
the day program Monday afternoons and Friday mornings. While attending the day program he participated in cooking and computer groups.

Informed Consent Procedures

Each of the six participants were given a consent form outlining the healthy living and fitness program procedures (Appendix B). The counsellor read the consent form aloud and explained to each of the participants the data that would be collected and written about in a paper. The counsellor also explained to the participants that they would not be identified by name in the written report. The participants were also required to fill out a PAR-Q questionnaire (Canadian Society for Exercise Physiology [CSEP], 2002) to make sure they were physically able to participate in a fitness program without causing harm to themselves. A signature was required on the consent form from each participant and a signature line was also included for parents/guardians. All six of the participants were able to consent for themselves however, participants 1, 3, and 4 requested to bring home the consent form to show their parents who also signed it.

Materials

A manual was specifically developed for the Healthy Living and Fitness Workshop. It was used in this study to teach the healthy living skills and to provide guidance to the counsellor (Appendix A). The manual was broken down into sections with clearly specified learning objectives for that week’s workshop. The learning objectives pertained to increasing healthy living skills and fitness including: how to make healthy food choices based on calorie and fat content found on nutrition labels; learning the Canadian Food Guide food groups and the suggested serving sizes; learning the importance of fitness; learning the importance of water; and
learning how to read and where to find nutrition labels. Each of the six sections in the manual consisted of four subsections: Preparation Work, Instructor’s Instructions, Participant Handouts, and Healthy Snack Recipes. The first two sections are for the counsellor or the instructor to read and provides guidelines on what should be done before the beginning of each section. The Instructor’s Instructions gives a timetable for each activity and explains how to introduce the topic for that week, along with the group activity. The handouts for the participants are placed in each participant’s duotang prior to the workshop, and include all the information needed for that week’s topic. The participants used the self-report food logs to record all of their healthy eating each day (Appendix C). They were shown how to complete the data sheets during the baseline data collection phase.

Each participant also received the Healthy Snack Recipe in their duotangs for each learning component. The healthy snack was made at the end of every lesson before the fitness portion of the program. Each healthy recipe linked to what was being taught that day to allow for a practical learning experience. The recipes were designed to be easy enough for all the participants to make independently. The groceries for the healthy snack were purchased by the counsellor and two of the participants every morning prior to the healthy living group. All the participants were encouraged to join in the purchasing of the groceries, however only two participants (participants 2 and 6) showed interest in joining the counsellor. The healthy snack was made in the kitchen at the agency using equipment and utensils found within the kitchen.

For the fitness portion of the healthy living program an aerobic workout was completed for one hour using a Ultimate Sculpt DVD by fitness instructor Kathy Smith (2007). The DVD was played on the television in the room used for the Healthy Living and Fitness Program using
the DVD player the agency had previously purchased. The participants used the self-report activity log data sheet to document the total amount of fitness they participated in each day (Appendix D).

Each participant’s heart rate was recorded during every workshop. The data were recorded on the heart rate and BMI data sheet stapled into each participants duotang (Appendix E). The heart rate of each participant was calculated using an Ironman™ triathlon pulse reader watch. The watch calculated each participant’s pulse when the participant touched their index finger to the square sensor button located on the face of the watch. The same watch was used to gather this information throughout the study because it was thought to be more accurate than having the participants self-report this data.

To calculate the participants’ body mass index each participant’s height was measured during baseline. This was completed by using a measuring tape and each person’s height was recorded at the top of the participant’s heart rate and BMI data sheets. The weight of each participant was recorded during baseline and during each healthy living workshop on the resting heart rate and BMI data sheet. Their weight was determined by having each of the participants weigh themselves on a scale that the agency had previously purchased. Participant 3 and 5 who require the use of wheelchairs could not be weighed and their BMI was not recorded for the duration of the study.

Each participant was provided their own duo tang and a pen to keep in their duo tangs. This was used to record in their self-report logs. All the participants were reminded to bring a bottle or cup of water with them to the fitness portion of the group. The handouts and data sheets provided to the participants were copied from the handouts provided in the Healthy Living and
Fitness Manual, using the photocopier at the agency. A table was used for all the participants to work from including the counsellor during the healthy living workshop. The counsellor also used two binders, one for the Healthy Living and Fitness Manual and one for the collected data sheets.

**Design**

The study employed an AB design with baseline data collected one week before the start of the workshop. The data was collected weekly from each of the participants until the end of the sixth week healthy living and fitness program. A social validity test was given to the participants in the final group session by an employee of the agency’s day program (Appendix F).

**Independent Variables**

The independent variable is the healthy living workshops each of the participants attended. The counsellor kept an attendance log and documents which participants are not present for each workshop which lasted for two hours once a week for six weeks. The fitness portion is included in the two hour workshop and was total of one hour.

**Dependent variables**

There are five dependent variables in this study. The first one is the participant’s body mass index, which was expected to decrease if the participants followed the healthy living program tips. This data was analyzed by showing the participants’ BMI at baseline and comparing it to their weekly BMI measure at the end of the study (Table 2). The BMI data was not obtained for participant 3 and 5 because they require the use of wheelchairs and were unable to use the scale.

The second dependent variable is increased knowledge of making healthy choices. This dependent variable is tracked using the pre and post test, the Healthy Living Questionnaire
This self-report questionnaire was given to each participant during baseline, in the sixth week of the Healthy Living and Fitness Workshop. This data was reported using a table to show the difference in pre and post test scores (Table 3).

All the participants’ resting heart rates were recorded each week during the workshop making it the third dependent variable. This dependent variable is represented by showing the range for each participant’s resting heart rate from baseline until the final week of the program (Table 1).

The final dependent variable was the participants’ self-reported healthy food choices. This data was collected using the self-report food log and is broken down into the four food groups. Each participant recorded how many servings from each food group they had consumed daily. These data were graphed showing the amount of healthy food choices each participant made weekly from baseline until the end of the program (Appendix H).

**Setting**

The healthy living and fitness program took place at the previously mentioned agency’s day support program. The workshop was completed in a board room within the day program’s offices. The room had a computer desk, computer, eight chairs, large table, television, DVD player, piano, and bookcase. The board room did not have any windows and was located beside the kitchen used for preparing the healthy snack. The fitness portion of the healthy living group was also completed in the board room. The participants would help the counsellor move the table and chairs to the side of the room to leave a large open area for aerobics.

**Procedures**

The healthy living and fitness program was broken into two sections. The first section of
the healthy living program was always the one hour workshop followed by the fitness. This workshop was completed by following the guidelines in the Healthy Living Manual (Appendix A). This section also contained the preparation of the healthy snack. Each of the weekly workshops is broken into learning objectives noted at the beginning of each section in the manual. The second section of the program was the fitness portion which consisted of the participants working out to an aerobic DVD lasting one hour. All the participants were given a duo tang with the necessary hand outs and data collection sheets at the beginning of each workshop. The hand outs were added to the participant’s duo tangs every Monday and taken from the healthy living manual and included information on the healthy living component being covered that day.

For each healthy living and fitness session the counsellor followed the guidelines in the Healthy Living and Fitness Manual. Each section of the manual consists of instructions for the counsellor that included any preparation work that needed to be done before the group sessions. A time table of how each workshop was to be broken up was also included in the instructor’s instructions in the manual. This provided enough time for participants to learn the new material, and allowed for activities that should help to promote the learning experience. The information used in the manual was collected from the Health Canada and Heart and Stoke Foundation of Ontario websites (2011).

Each session began with the counsellor handing out each participant’s duo tang with the required hand outs and a pen. While the participants settled in and retrieved their duo tangs the counsellor briefly reviewed the topic covered in the last session. This was done by the counsellor asking questions to the group about the previously covered topic which are listed in the
instructor’s instructions part of the manual. The new topic for the week was then introduced to the group and the hand outs were read by participants who would volunteer to read them out loud. Once the hand outs were read the counsellor would ask the group if they had any questions before moving onto the activity. The activity is different each week depending on the topic being covered. The counsellor then led the group into the kitchen to prepare the healthy snack with the help from all the participants. Each participant’s heart rate and BMI was recorded after the healthy snack was completed. In the last hour of the healthy living group the aerobic workout was completed with the help from a workout DVD. At the end of the program duo tangs were collected to record and code the required data.

The group activities were included at the end of every learning component to get all the participants actively involved in the learning process. The activities took approximately 10 minutes, and required very little preparation. If the group activity required preparation before the program began, it was noted in the instructor’s instructions under the heading “Preparation work”. The activities included: giving the participants a variety of food items and asking them to sort them into the four food groups; asking the individuals to share their favourite form of physical activity and sharing a fitness goal with the group, giving similar food items to each participant to see if they are able to make the healthy choice based on the amount of calories listed on the nutrition label; as well as giving participants two similar food items such as two types of cookies and having them select the healthiest choice based on fat content. Another activity included giving examples of snacks like cookies, crackers, cheese, chips, fruit, vegetables, or bread, and asking the participants to pick the healthiest choice and explain their reasoning for making that choice. All the group activities are explained in full detail in the
Healthy Living and Fitness Manual in the instructor’s instructions section (Appendix A).

The healthy snack was made using the recipe provided in the manual at the back of each section. Each participant was given a copy of all the recipes to take home and try, once made in the healthy living group each week. All the groceries required for the healthy snack were purchased prior to the workshop by the counsellor and with the help of two participants who volunteered to help. Each participant was assigned a task to complete for the healthy snack preparation. For example one participant would be assigned to wash and cut all the peppers, and one participant would be assigned to get the bowls and cutlery ready. Everyone was encouraged to help prepare the healthy snacks, and take turns doing different tasks during each snack preparation. The counsellor would use verbal prompts and assist when needed with any tasks that required assistance. Once the snack was completed all the participants would eat in the kitchen and take a break until it was time for the fitness portion of the program.

The fitness portion of this workshop was completed using an aerobic workout DVD. All the participants were encouraged to follow along except for participant 1. This participant had the option of staying and watching the workout or leaving to do another task of their choice. The two participants who were in wheelchairs were instructed by the counsellor to focus on the upper body exercises, and not to do the lower body movements. This still allowed these individuals to stay actively involved in the workout because all the exercises demonstrated involved using upper and lower body movements. The counsellor also participated in the workout to help provide encouragement and demonstrate the exercises being shown. The aerobic workout was led by the fitness instructor on the DVD who demonstrated arm, leg, stomach, and back exercises. The aerobic DVD focused on building upper and lower body strength while burning
calories and fat. The participants were allowed to take breaks any time they felt in need of one, and were encouraged to bring water to the workout. If a participant needed a break they were encouraged to do so. If participants showed any signs of distress they were asked to sit out for a longer period of time until they felt comfortable rejoining. This happened during every fitness session but only with participant 3, who often needed encouragement to continue participating. When the counsellor noticed a participant taking a longer than required break (after 10 minutes) they were verbally prompted and encouraged to re-join the group.

**Measures**

**Daily food log**

The daily food logs (Appendix C) were given to each participant one week before the workshop began. Each participant was asked to place a check mark for each serving of the specified food group they had eaten. The participants were taught and shown the recommended serving sizes for each food group in the first healthy living workshop. Each participant was asked to record their first day with the help from the counsellor to ensure that they understood how to correctly complete the data form. The daily food logs were used to obtain data on healthy eating skills. It was self-reported by each participant and the counsellor collected the data sheets at the end of each week. The counsellor also reminded each of the participants daily to record their healthy eating on the data sheets provided in their duo tangs.

**Activity Log**

The daily activity log (Appendix D) is a self-report measure that was given to each participant every Monday morning. The participants were reminded to record the duration of physical activity they participated in daily and what type of activity they had completed. Each
day the counsellor reminded the participants to record this information along with their healthy eating log. The counsellor collected the log sheets every Monday.

*Healthy Living Questionnaire*

The Healthy Living Questionnaire (pre and post test) developed by the counsellor was given to each participant during the first group meeting by the counsellor. The counsellor read each question slowly to all the participants and asked if everyone was finished answering before moving on, to the next question. The healthy living questionnaire has a total of 10 questions that was designed to test the knowledge each participant had about healthy living. It includes a range of questions about healthy eating and exercise that were taught during the healthy living workshops.

*BMI and Resting Heart Rate*

Each participant’s resting heart rate and body mass index (BMI) was taken for baseline data and weekly during the intervention. The counsellor had each of the participants step on a scale to record their weight. The counsellor also measured each of the participant’s height during baseline to calculate the participants BMI. Resting heart rate for baseline was taken with help from the counsellor using a watch that had a built in pulse reader sensor. The participants did not have their pulse read first thing in the morning as is recommended for the most accurate resting heart rate reading (Heart and Stroke Foundation of Ontario, 2011). Instead they had it taken after their hour lunch break due to the counsellor needing to assist them in doing so.

*Satisfaction Survey*

During the final healthy living workshop a questionnaire was given to each participant asking them about their satisfaction with the healthy living workshop (Appendix F). A scale was
used of 1 to 5 and they were asked to circle the corresponding number to how they felt about each question. If the strongly disagreed with the statement they were asked to circle 1 or if they strongly agreed they were asked to circle 5. This was used to see how well the participants enjoyed the Healthy Living and Fitness Workshop, and to see if the participants found it helpful.
CHAPTER IV - RESULTS

**Dependent Variables**

**BMI and Resting Heart Rate**

The healthy living workshop took place in week two, after baseline data was collected. Table 2 represents the body mass index data collected from four of the participants. BMI data for Participants 3 and 5 were omitted because these participants were unable to use the scale to be accurately weighed in due to their wheelchairs. Without participant 3 and 5’s weight BMI could not be calculated and therefore the BMI data only represents four of the participants. The number of participants who were obese according to their BMI during baseline data collection was three and the number of participants who were overweight according to their body mass index was one. The results of the weekly body mass index show that participant 1 and 2 decreased their BMI by 0.4 and 2.4 respectively, while BMI for participants 4 and 5 increased by 0.5 and 0.3 respectively. However, the two participants who experienced an increase in their weight from baseline to the final week showed small fluctuations in their weight throughout the five weeks. The mean BMI was 33.73 during baseline and decreased to 33.60 in the intervention phase showing a 0.13 decrease. The BMI decreasing by 2.4 is clinically significant, but this can only be said for participant 2.

Participant 1’s BMI data was not included because she did not take part in the fitness portion of the workshop. The table below represents only the other 3 participants who took part in the Healthy Living and Fitness Program as a whole.
Table 1

*The Changes in Self-Reported Duration of Physical Activity, Resting Heart Rate, and BMI*

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Median</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Weekly Total Duration of Activity (min/week)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baseline</td>
<td>110.00</td>
<td>90.00</td>
<td>101.78</td>
</tr>
<tr>
<td>Intervention</td>
<td>109.5</td>
<td>120.00</td>
<td>81.06</td>
</tr>
<tr>
<td>Difference</td>
<td>-0.50</td>
<td>30.00</td>
<td>-20.72</td>
</tr>
<tr>
<td><strong>Resting Heart Rate (beats per minute)</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Baseline</td>
<td>92.83</td>
<td>93.50</td>
<td>12.34</td>
</tr>
<tr>
<td>Intervention</td>
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<td>87.50</td>
<td>9.62</td>
</tr>
<tr>
<td>Difference</td>
<td>-5.30</td>
<td>-6.00</td>
<td>-2.72</td>
</tr>
<tr>
<td>*<em>BMI</em></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baseline</td>
<td>33.73</td>
<td>35.0</td>
<td>3.57</td>
</tr>
<tr>
<td>Intervention</td>
<td>33.60</td>
<td>35.40</td>
<td>3.69</td>
</tr>
<tr>
<td>Difference</td>
<td>-0.13</td>
<td>0.40</td>
<td>0.12</td>
</tr>
</tbody>
</table>

*BMI data does not include participants 3, and 5 because they could not be weighed, or participant 1 because she did not participate in fitness component.*
Table 2
Participants' Weekly Body Mass Index

<table>
<thead>
<tr>
<th>Week</th>
<th>Participant 1</th>
<th>Participant 2</th>
<th>Participant 4</th>
<th>Participant 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>31.9</td>
<td>29.7</td>
<td>35.0</td>
<td>36.5</td>
</tr>
<tr>
<td>2</td>
<td>31.9</td>
<td>29.2</td>
<td>35.5</td>
<td>36.5</td>
</tr>
<tr>
<td>3</td>
<td>31.7</td>
<td>29.2</td>
<td>35.2</td>
<td>36.4</td>
</tr>
<tr>
<td>4</td>
<td>31.7</td>
<td>29.3</td>
<td>35.4</td>
<td>37.0</td>
</tr>
<tr>
<td>5</td>
<td>31.7</td>
<td>28.3</td>
<td>35.4</td>
<td>37.0</td>
</tr>
<tr>
<td>6</td>
<td>31.5</td>
<td>27.3</td>
<td>35.5</td>
<td>36.8</td>
</tr>
<tr>
<td>Difference</td>
<td>-0.40</td>
<td>-2.40</td>
<td>0.50</td>
<td>0.30</td>
</tr>
</tbody>
</table>

*Note.* Difference = the amount between baseline (week 1) and final week of intervention (week 6)

*aThis participant did not engage in the fitness component of the Healthy Living and Fitness Workshop.

Each participant's resting heart rate was collected each week before the exercise.
component of the healthy living program. During baseline the range of resting heart rates was 69 to 110 beats per minute, with an average of 93 beats per minute. The data collected for resting heart rate are summarised in Table 1 and in Figure 1. The data is represented in Figure 1. Each participant’s heart rate varied considerably each week. In Table 1 the mean, median, and standard deviation of the participants resting heart rate is represented. The mean decrease was -5.30 beats per minute. This shows that on average there was a decrease in resting heart rate by the end of the six week program.

**Daily food log**

Baseline data was collected in Week 1 of the Healthy Living and Fitness Program. During the intervention phase data was collected from each participant for the daily food logs and are shown for each participant in Appendix H. The data was summarised in Table 1, showing that during baseline the mean for reported healthy eating was 12.67 food items which increased to 157.17 reported food items during the healthy living workshop. This demonstrates a difference of 144.50 reported consumed food items, showing that healthy eating was reported to have increased throughout the healthy living workshop. This also meant that some participants were over eating in particular food groups and this can be seen on the individual food log graphs in Appendix H. The SD from baseline to intervention had a difference of 36.18, showing some variance in the participants healthy eating.

Participants reported consuming an average of 10.50 dairy products in the final week of the intervention, with the range of 5 - 18 dairy products. Compared to baseline average of 3.17 consumption of dairy products increased by 331%. Each participant should have consumed a total of 14 dairy products per week according to the Canadian food guide which is 2 dairy
serving daily. Participant 4 consumed over double the recommended amount.

The recommended amount of grain servings is 5 - 12 a day and in baseline the average amount of servings consumed was only 4.5 servings of grains. During the final week of intervention the average amount of grains consumed increased to 16.67 servings showing an increase of 400%. The minimum amount of servings that should have been eaten to meet the recommendation is a total of 210 servings which is 35 for each participant. The amount of servings reported ranged from 8 - 30 and participant 4 was the only participant who met the minimum requirement (i.e., 30 servings per week) in the final intervention week.

Participants should have consumed between 2 - 3 servings of meat and alternatives daily, or between 14 – 21 servings weekly, but in baseline reported eating a total of 8 servings. In the final week of intervention participants reported eating an average of 10.33 total servings of meat, which means they increased their intake of meats and alternatives by 775%. The range was 6 – 13 servings, and the total minimum requirement for each individual is 14 servings by end of the week. This means that none of the participants met the weekly requirement in the final week of the intervention. Participant 5 was the closest with 13 servings and participant 3 was the lowest with only 6 servings which means one day that week 0 meat and alternatives were consumed.

During the baseline data collection participants reported consuming an average of 4.17 servings of fruit and vegetables. However, the recommended amount of servings is 5 - 10 a day. In the final intervention week the average amount of servings consumed was 11.17 servings of fruit and vegetables which shows an increase of 268% and a range of 8 - 15 servings weekly. Each participant should have consumed a minimum of 35 servings of fruit and vegetables by the
end of the week. Participant 2 was the closest to meeting this goal with 15 servings at weeks end.

This shows that participants reported that they were still not even eating half of the daily recommended servings by the end of the intervention phase.

**Activity Log**

The baseline results of the activity log (Table 1 and Figure 2) showed a large variability between the amounts of time each participant reported being active. One participant recorded zero minutes of physical activity during baseline, whereas another participant recorded 240 minutes of physical activity during baseline. The recommended amount of physical activity is 30 minutes a day, or 210 minutes per week. Out of the six participants in the healthy living program only two of the participants reported meeting the recommended 30 minutes daily in baseline. The average amount of physical activity completed by the six members weekly is 110 minutes during baseline.

Figure 2
The daily activity log data is represented for all participants in Figure 2 and summarised in Table 1. The data shows that the average amount of physical activity reported decreased by 0.50 minutes in the healthy living workshop phase. Figure 2, shows the changes in reported physical activity week by week. The majority of participants showed an increase in physical activity, particularly by the final week of the Healthy Living and Fitness Program.

*Healthy Living Questionnaire*

The results of this assessment procedure show a range of healthy living knowledge between the six participants as shown in Table 3.

Table 3

*Participants’ Scores on the Healthy Living Pre and Post Test*

<table>
<thead>
<tr>
<th>Participant</th>
<th>Pre -Test %</th>
<th>Post -Test %</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>50%</td>
<td>60%</td>
<td>10%</td>
</tr>
<tr>
<td>2</td>
<td>50%</td>
<td>60%</td>
<td>10%</td>
</tr>
<tr>
<td>3</td>
<td>10%</td>
<td>40%</td>
<td>30%</td>
</tr>
<tr>
<td>4</td>
<td>40%</td>
<td>60%</td>
<td>20%</td>
</tr>
<tr>
<td>5</td>
<td>70%</td>
<td>90%</td>
<td>20%</td>
</tr>
<tr>
<td>6</td>
<td>90%</td>
<td>90%</td>
<td>0%</td>
</tr>
</tbody>
</table>

The healthy living questionnaire has a total of 10 questions and out of the six participants the highest number of questions answered correctly was 90% at the end of intervention. The range of questions answered correctly was 10% to 90%. The average number of questions
answered correctly was 50%.

The pre and post test scores are shown in Table 3 along with the difference for each participant. On average the post-test scores increased by 15% from the pre-test scores.

Participant 6 was the only participant who did not show an increase in his post test score. However, this participant scored the highest in the pre test with 90%. This still shows that 5 out of the 6 participants increased their knowledge on healthy living.

*Satisfaction Survey*

The satisfaction survey was given to each participant in the final (sixth) week of the Healthy Living and Fitness Workshop. The participants were asked if they felt better able to make healthy living choices after attending the healthy living workshop, five of the participants strongly agreed (circled 5) and one participant was undecided (circled 3). When asked if they enjoyed participating in the healthy living group (question 5) all six participants circled 5 for strongly agree. Question 3 which asked if participants would use the skills they learned to prepare healthy snacks at home. Four participants strongly agreed and two participants agreed with that statement. Five of the participants strongly agreed, and one participant agreed that they would continue to follow the healthy living tips to make better eating and fitness choices.
CHAPTER V – CONCLUSION/DISCUSSION

The healthy living workshop demonstrated that people with an intellectual disability can be taught the skills needed to make healthy lifestyle choices. All the participants reported an increase in their healthy eating, which is a very important factor to living a healthy lifestyle. However, because the healthy eating data was collected using a self-report measure it may not be concluded that there was any statistical significance. There was not a significant decrease in the participants’ BMIs over the six week intervention with the exception of participant 2. A small decrease was shown suggesting that if individuals continue to use the healthy living skills they were shown, they may continue to see a decrease in their BMIs. The amounts of physical activity participants reported engaging in also increased by the end of the six week intervention. However, one participant did not report any physical activity throughout the workshop. The resting heart rate data collected weekly also showed a decrease, but the validity of the data may be questioned because the participants’ heart rates were not checked in the morning upon waking up as is recommended (Health Canada, 2011). The pre and post test demonstrated that five out of the six participants had increased their healthy living knowledge. It is hoped that these participants will continue to make healthy food choices and choose to engage in physical activity daily to help increase their health.

Limitations

All though this study did demonstrate some positive results there were some limitations. The program was only conducted for six weeks including baseline data collection, which is not sufficient time to show any significant weight loss. If the program was conducted for at least 4 more weeks the BMI results may have shown an even greater decrease. Also BMI
data was only collected from four of the participants because the other two participants were in wheelchairs and unable to use the scale. This means that the BMI data only represents three people which is a smaller sample size. A similar study completed with a larger sample size and a smaller age gap may be able to demonstrate more statistical significance. In this study the age of the participants ranged from age 21 to 45 years of age. This may have contributed to only a small decrease in BMI results because it is more difficult for older aged adults to lose weight. Even though there was not a statistically or clinically significant decrease in BMI, it gives hope for future studies to be completed with this population.

The daily food log and activity log was self-report data collected from the participants at the beginning of each week. It is difficult to know if participants were accurately recording their food intake and serving sizes. Each food group has a different portion size that counts towards one serving and the amount of recommended servings for each food group also varies. This information was given to the participants in the healthy living workshop, but it is impossible to know if everyone understood the serving sizes. The duo tangs where all the food and activity logs were kept stayed at the day program because it was feared that if they were sent home each day they may not be returned and the data would be lost. This may have made it more difficult for people to remember to record all the food they ate, especially the food they consumed at night time or when they were not attending the day program. The counsellor did remind each participant once a day to record what they ate but it may have been too difficult for some people to remember what they had eaten the night before. The participants were also reminded that placing a check mark on the paper did not mean they had eaten that item but meant they had only
eaten one serving of that item; if they had more than one serving they needed to put more than one check mark. This may have also been confusing and some participants may have only been placing one check mark even if they ate three or four servings of a particular food group. When participants ate fast food or went to a restaurant it is hard to know if they counted this in their healthy eating log or decided it was not healthy and did not record it. Future studies should include prompting the individuals to remind them to do so. One possibility that may improve accuracy is to provide clients with a duo tang to take home as well as one to leave at the day program.

It was difficult to know if the participants were recording all physical activity they were engaging in on a daily basis. Some participants may have forgotten to record activity or may have forgotten to record the actual duration of activity. Participant 3 did not report any physical activity but she used a wheelchair. This participant self-propels her wheelchair and it could be argued that this is a form of exercise, as walking is to able-bodied participants. This would demonstrate that this participant did engage in physical activity over the course of six weeks. The daily activity log created and used in this study did not specify what qualified as physical activity. Future studies should include a list of movements more operationally defined and objective that can be used has a guide for what qualifies has being physical activity.

The two clients who used wheelchairs and were not recording self-propelling as being exercise only had limited opportunities to engage in physical activity. Participant 5 attended the gym twice a week with a support worker to follow a fitness routine developed specifically for her by a fitness trainer. If the worker was unable to support her to the gym she was unable to go, this limiting her amount of exercise for that week, even though it was not her choice to do so.
Participant 3 who also required the use of a wheelchair did not record any exercise during baseline or the intervention phase. During the time of the intervention she was being supported by the day program for programming of her choice which changed every three months. This meant that she was able to choose which activities she participated in while attending the day program every three months. Even if during the intervention she became interested in getting staff support to attend gym or fitness groups her request would not be granted until the next group change. It cannot be determined if attending the gym or other forms of fitness would have been feasible while at home in the evening due to transportation. This could also have been an issue the other participants faced too, especially the participants who required a form of transportation or support if they decided to attend the gym or other fitness groups outside of the day program.

The participants’ resting heart rates were collected weekly during the healthy living workshop before the fitness component. However, resting heart rate provides the most accurate reading when taken first thing upon waking up (Heart and Stroke Foundation of Ontario, 2011). This was not possible since the individuals only saw the counsellor in the afternoon. This data is best represented as pre-exercise heart rate since it was taken minutes before the fitness portion of the workshop. Perhaps if the fitness portion was completed with the participants more than once a week a greater difference in resting heart rate would have been seen. Especially, if all the participants were recording their resting heart rate upon waking up (recommended).

A greater decrease in resting heart rate may have resulted if the participants became more physically active. Measuring heart rate both pre and post exercise could have been a more effective way to gather information on fitness level. Future studies should consider using this for
a form of fitness measurement.

**Strengths**

The major strength of this study was the use of the Healthy Living Questionnaire. The pre and post test consisted of 10 questions about healthy living. This measure was thought to be an accurate way to measure if participants in the study did in fact learn healthy living skills and increased their previous knowledge. In order to conclude that each participant in the study increased their healthy living skills further testing could be completed on making healthy choices, preparing healthy snacks, and knowing the importance of physical activity that expands on the knowledge tested in the Healthy Living Questionnaire. As well tests could have been given each week during the workshops to validate that people were understanding and learning they key concepts.

Another strength of this study was that each workshop was highly structured. The manual used for each workshop listed the times and what activities should take place. It also included the group activities and time to review what was learned. This allows for any staff in the future to easily teach this workshop and for replication of this study to be completed. It also allowed for each workshop to be structured the same way allowing for consistency, which allows the participants to know what to expect from each meeting.

Having only six participants in the study allowed for each person to voice their opinion and ask questions to the counsellor during each workshop. This helped to improve participants’ understanding of what was being taught. It also allowed for people to discuss their individual eating and exercise habits and allowed their peers to give positive comments. As well during the preparation of the healthy snacks each person was able to actively participate.
An important part of learning any skill is being present to actively learn it. During the baseline data collection the counsellor was informed by staff at the agency that participant 6 would likely need to be encouraged to attend the workshops because in past groups he would not attend. Luckily this participant along with the other six had perfect attendance.

There was also the concern that even if people did attend the workshop they may not participate in the activities. In fact it was predicted that participant 3 would not engage in the workshop, healthy snack preparation, or fitness portion of the program because it was thought she was afraid of doing something wrong in group settings. This was very evident in the first workshop when she did not want sit around the table and instead wanted to just sit by the door and watch the rest of the group. After some verbal prompting and encouragement from the counsellor and reminders that it was okay to make mistakes she began to join the table with the rest of the group. She helped with the preparation of the healthy snacks but she only ate them three times out of the six. It is possible that if the workshop had been longer than 6 weeks she would have eventually participated in all components of the program, including in the fitness portion and all the healthy snacks. This also raises the question of how the other group members felt about being in a group for the workshops and their level of comfort with having their heart rate and BMI recorded. This did not appear to be a problem for this group of individuals but the counsellor did build a positive relationship with the participants before beginning the Healthy Living and Fitness Workshop.

Contributions to Existing Literature

The Healthy Living and Fitness Manual created for people with and intellectual disability is unique because at the time of this study no other manual for this population was
found. Past literature reviewed in the above literature review focused on improving weight by either improving the amount of fitness participants engaged in or by limiting or restricting diets. None of the literature reviewed for this study used the same approach used in this healthy living and fitness study. The Healthy Living and Fitness Workshop combined all of the necessary skills needed to live a healthy lifestyle, including making healthy food choices, preparing healthy food, and increasing physical fitness. All of these essential skills were taught over the six week program in an attempt to give the participants all of the skills needed to live a healthy lifestyle. In previous studies completed only one area of healthy lifestyles was examined. Obviously if people are not aware why they need to eat healthy or if they do not understand the health risks from being obese, they will most likely not be encouraged to make healthy choices.

The Healthy Living and Fitness Workshop was about giving people with intellectual disabilities the knowledge to why it is important to make healthy choices, instead of just telling them they needed to follow a diet or a fitness plan. By doing this it provided people with a better understanding of the natural rewards that would be provided to them if they followed the healthy eating and fitness tips. As well the verbal praise from the counsellor and other participants when people were consistently making healthy choices and seeing a decrease in their BMI made a positive difference. This study contributed to the existing literature that people with intellectual disabilities can be taught how to make healthy living choices, but it needs to be done in a fashion that takes everyone’s individual learning needs, and skills into account.

**Recommendations**

Future studies should include a longer treatment phase with more than one weekly meeting. Running a Healthy Living and Fitness Workshop twice or three times a week could
promote better learning and could also reinforce and remind people to continue making healthy lifestyle choices. The weekly workshops could then be slowly phased down to only once a week and then eventually once a month. This would give people an opportunity to show the counsellor all the hard work they have been doing and allow for maintenance of the new skills learned. It would also be beneficial to have participants who are in wheelchairs be able to weigh in on a scale. This could be done by having the help of their family or doctor who can provide the necessary support they require to use a scale. The age group of participants also makes a difference in the BMI data collected as well as how much physical activity should be completed weekly by the participants. Having the participants in the group closer in age would be beneficial in order to reduce a bias in the data BMI data being collected and to make the Healthy Living and Fitness Workshop more tailored to individual needs and generalised to the broader population.

Using a comparison group which involves one group participating in physical activity daily and one group who only monitors their healthy eating would allow for comparisons to be made, specifically on what is the most effective way to lose weight for this population. When leading a group focusing on healthy living, considerations over what will be recorded as physical activity and healthy eating choices need to be well thought out and explained to participants before beginning data collection. This will make the data collected more accurate in regards to behavioural change.

**Impact/Insights**

*Benefits of the Project to Agency*

This project was beneficial to the agency that allowed the counsellor to conduct this
study. It brought light to the fact that many people with an intellectual disability to whom the agency provides support are lacking the necessary skills to make healthy choices. The Healthy Living Manual focusing on many of the core issues and skills needed to live a healthy lifestyle, therefore many more individuals can start increasing healthy living skills. The manual can be used with new participants by day program staff and continue to help build skills that are necessary for living healthy. A group that focuses on teaching healthy choices will be incorporated into gym and exercise groups currently being run at the agency. The individuals who participated in the study can now share their experience and encourage their peers to make healthier choices. The participants may continue to be aware of the impact their weight can make on their life.

Benefits of the Project to Counsellor

This project allowed the counsellor to see the impact family and friends make on a person’s lifestyle. It was apparent throughout this study that the participants were easily persuaded to make unhealthy or healthy choices when they saw their peers doing the same. At times it was difficult for the counsellor to understand the choices participants were making when it came to eating healthy and the amount of physical activity they were engaging in. Participants that said they really wanted to eat healthy and try to lose weight would make unhealthy choices like eating fast food for lunch every day. This solidified the importance of incorporating a healthy living workshop was for this population.

Developing a manual about living a healthy lifestyle seemed like it would have little effect because living a healthy lifestyle is thought to be common knowledge for most. After seeing the impact a healthy living workshop has made and noticing the participants making an
effort to improve their health, it demonstrated the positive effect living a healthy lifestyle was making on people’s lives. Even though the healthy living program was only six weeks long, the hope is that the participants have acquired skills that will have an impact their lives on a long term basis. This reassures the counsellor that the workshop will have lasting benefits to both the initial participants and any future participants of the Healthy Living and Fitness Workshop.

*Lessons Learned*

The six individuals who participated in this study had very different backgrounds and abilities. It made it difficult at times to lead the workshop knowing that some people may be bored and others may not be fully understanding. However, this is the reality in providing training opportunities to any population and is an opportunity to develop teaching strategies. The manual and data collection sheets were simplified and included pictures in hopes to make the manual accessible to all learners. Anyone leading a workshop or program should always keep in mind that every person is unique and has their own way of learning and should adapt their teaching methods accordingly.

Another issue that was faced was gathering the activity log for the two participants who used wheelchairs. It was difficult to decide what counted as being physical activity for them because they self-propel their wheelchairs. Therefore, they are working their upper body quite frequently compared to the rest of the participants. They were not able to fully participate in the fitness section but tried their best and did what they were physically capable of doing utilising their upper body. It was important to include these participants in the fitness portion to demonstrate to them and their peers that even though they require assistance to move around, they are still capable of doing the same activities in a modified way. This was a beneficial
because the participation of these participants demonstrated that anyone can be included in living a healthy lifestyle despite having an intellectual or physical disability. Adaptations may need to be taken which can appear overwhelming at first, but become more manageable by seeking guidance from staff who know the individual well. Overall, it is important to communicate with all staff about the needs and interests of clients and to communicate effectively to clients about their needs because they know what works best for them.

**Multilevel Challenges**

*Client Level*

The people supported on placement were adults with an intellectual disability who enjoyed spending the majority of their time in the community. They also enjoyed being able to participate in groups and activities created by staff at the day program. However, it is difficult for people to participate in groups they enjoy because staff, and day program participants’ schedules need to be lined up. This is hard to do because everyone has different work placements and commitments. Even if people wanted to participate in the Healthy Living and Fitness Workshop and were medically able to do so, they were only selected if they did not have any prior commitments during the time allotted for the Healthy Living and Fitness Workshop. Some individuals who attended the day program did not think this was fair because even though they wanted to be a part of the group they could not due to schedule conflicts.

*Program Level*

The Healthy Living and Fitness Workshop was only held once a week because it was so difficult to coordinate among the participants’ schedules. It was difficult because all of the participants in the group needed to have the same time and day open to be able to participate in
the workshop. This made the results of the data collected less effective because the workshop was only once a week for 6 weeks. If the Healthy Living and Fitness Workshop was held two or three times a week for six weeks or longer the results in BMI may have shown a greater decrease. The ability to interact and discuss the benefits of healthy eating on a more frequent basis may have demonstrated more positive results.

Organization Level

The agency was very supportive in trying to work around people’s schedules, find participants who could benefit from a healthy living focused workshop and had the time to participate. Unfortunately due to people having paid jobs and job training on Monday afternoons some individuals who wanted to participate and who could have benefited from it where unable to do so. This happens often when people in the day program choose multiple things they want to participate in. Sadly there is not always enough staff or volunteers to support people individually and they are unable to be involved in multiple individual things during the three month work period. Providing an opportunity for the development of a second Healthy Living and Fitness Program would have alleviated this issue and allowed for more people to benefit from my attendance at the agency.

Societal Level

I am saddened to know that there are still a large percentage of people in the community and society in general who are prejudiced against people who have an intellectual disability. This makes finding volunteers and students willing to share their time with this population much harder. If people moved past the stereotypes and took time to get to know someone who was in
need of extra support they would likely change their opinions. The Healthy Living and Fitness program was completed within a segregated setting but if given the opportunity to repeat the workshop I would much rather initiate it at a gym. It is to be hoped that this would allow individuals the opportunity to network and potentially develop friendships with other community members.
References


Healthy Living and Fitness Manual

By: Cassondra Wheeler
October 2011
Table of Contents

Section 1 - Learning to Read the Canadian Food Guide

Section 2 - Learning the Importance of Fitness

Section 3 - Learning to Read Nutrition Labels

Section 4 - Learning about Fat and the Importance of Water

Section 5 - Learning How to Make Healthy Food Choices

Section 6 - Review
Learning to Read the Canadian Food Guide

Learning Objectives:

- Group members will be able to sort foods into the right food group according to the Canadian Food Guide
- Group members will have the skills needed to record their healthy eating in their food logs based on the Canadian Food Guide Food
- Groups members will be able to prepare a healthy snack
Instructor’s Instructions

Prep Work:
In the morning upon arriving to the community options, check to make sure that ingredients needed for the healthy snack are purchased in the community options kitchen. If ingredients are missing check the kitchen on the senior’s side. If still missing it is your responsibility to take the charge card for Food Basics and buy the necessary ingredients, once you have received the community options facilitators approval. Be sure to check with the facilitators as they might already have someone going out for groceries that morning who can pick up the required ingredients.

Prior to the beginning of the session check the kitchen for items that can be classified into the 4 food groups. Make sure to have at least 4 items for each group and bring them into the board room table. For items that need to stay refrigerated be sure to return them back to the kitchen as soon as possible (when gathering the snack ingredients).

Lesson Plan

<table>
<thead>
<tr>
<th>Time</th>
<th>Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>1:00-1:10</td>
<td>Welcome every one and hand out everyone’s duo tang. Give each group member a copy of the Pre test to complete. Read each question out loud and ask the group if they are ready for the next question before moving on.</td>
</tr>
<tr>
<td>1:10-1:20</td>
<td>Introduce the Canadian Food Guide, have group members take turns reading the handouts out loud (for those who are comfortable reading out loud) Explain what type of food can be found in each group by providing some examples. Explain how many servings should be eaten of each food group daily (see handout section).</td>
</tr>
<tr>
<td>1:20-1:30</td>
<td>Activity: Sorting food items into correct food groups. Pass around a food item to each group member. Go around the table and ask each group member to say what food group it belongs in. Ask them to each give another example of their favorite food and what food group that would be in.</td>
</tr>
<tr>
<td>Time</td>
<td>Plan</td>
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<tr>
<td>---------</td>
<td>----------------------------------------------------------------------</td>
</tr>
<tr>
<td>1:30–1:35</td>
<td>Review what was learned in today’s lesson. Giving a quick but concise review of what the four food groups are and an example of food items found in each.</td>
</tr>
<tr>
<td>1:35–1:50</td>
<td><strong>Snack:</strong> Recipe for snack inserted at the end of the Participant handouts.</td>
</tr>
<tr>
<td>1:50–2:00</td>
<td>Record resting heart rate and BMI. Prepare for Aerobics Workout. Insert DVD (located in pouch in back of binder) into DVD player in television.</td>
</tr>
<tr>
<td>2:00–3:00</td>
<td><strong>Fitness:</strong> Aerobics workout to DVD. Allow everyone to take breaks as they need it. Remind everyone to drink plenty of water throughout the workout.</td>
</tr>
</tbody>
</table>
The Canadian Food Guide Organizes food into 4 Categories:
Grain Products          Meat and Alternatives
Dairy Products           Fruit and Vegetables

Here are Some Examples of Foods that are Found in Each Category

1) **Grain Products**
   - Bread, Cereal, Crackers, Pasta, Muffins, Bagels, Buns, Rice
   - Eating this food group gives your body Fiber

2) **Dairy Products**
   - Milk, Cheese, Yogurt, Cream
   - Eating this food group gives your body Calcium

3) **Meat and Alternatives**
   - Eggs, Nuts, Peanuts, Seeds, Chicken, Steak, Bacon, Ham, Pork Chops, Roast Beef, Turkey, Tuna, Salmon. (This group includes all meat and types of fish)
   - Eating this food group gives your body Protein

4) **Fruit and Vegetables**
   - Apples, Oranges, Bananas, Grapes, Berries, Melons, Carrots, Onions, Celery, Peppers, Cucumbers, lettuce, Radishes, Broccoli, Cauliflower, Turnips, Squash, Potatoes, Tomatoes, etc...
   - Eating this food group gives your body Vitamin C and Vitamin A
The Canadian Food Guide Suggests Serving Sizes for Each Category:
A Serving Size is different for each food group. All though usually a serving size is roughly the size of your fist or 1 cup.

**Grain Products**

5-12 Servings Daily

Example of 1 Serving Size – 1 Slice of Bread, 3/4 cups of dry Cereal, 1/2 cup of Rice, 1/2 of pita or Bagel

**Dairy Products**

1 Serving Daily

Example of 1 Serving Size – 1 cup of Milk, 3/4 cup of Yogurt, 1.5 ounces of Cheese

**Meat and Alternatives**

2-3 Servings Daily

Example of 1 Serving Size – 1/2 cup of chicken or fish, 2 Eggs, 2 tablespoons of Peanut Butter

**Fruit and Vegetables**

5-10 Servings Daily

Example of 1 Serving Size – 1 cup of Lettuce or Spinach, 1/2 cup of Frozen or Canned Vegetables/Fruit, 1 medium sized Piece of Fruit or Vegetable, 1/2 cup of 100% Fruit/Vegetable Juice
Healthy Snack Recipe

Today's healthy snack incorporates what we learned today about eating from all four food groups. This snack is made with all four food groups and is a healthier alternative to hot pizza or nachos. Plus this healthy snack can easily be made for a quick lunch as well. It can be made with any vegetables or meat you already have in your fridge.

Cold Pizza

WHAT YOU NEED
1 Whole wheat pita for each person
1 Package of light Cream Cheese (8 ounce, spreadable or regular)
1/4 cup of Light Miracle Whip or Light Mayonnaise
2 table spoons of Light Ranch Dressing (optional)
1 cup Shredded Cheese

THINLY CUT
1 cup Broccoli or Cauliflower
1 cup Tomatoes
1 cup Bell Peppers Red, Green, Yellow, Orange (your choice)
1/2 cup Onion Green or Red
1/2 cup Bacon or Pepperoni or Ham

WHAT YOU DO:

1) In a small mixing bowl, mix together cream cheese, ranch dressing, and mayonnaise until smooth.
2) Spread a thin layer of the cream cheese mixture on each of the pitas. Leftover mixture can be stored in a container in the fridge for 2 days.
3) Spread all the cut WASHED vegetables onto the pita
4) Spread bacon or pepperoni or ham on top of the vegetable covered pita
5) Sprinkle a thin layer of Shredded Cheese on top
6) Enjoy!

This snack can also be prepared 4 hours in advance and placed in the fridge. Than enjoyed!
Section 2

Learning the Importance of Fitness

Learning Objectives:

• Group members will be able to list at least 3 reasons why physical fitness is important
• Group members will be able to explain how much exercise is needed
• Groups members will be able to prepare a healthy snack
Instructor’s Instructions

Prep Work:
In the morning upon arriving to the community options, check to make sure that ingredients needed for the healthy snack are purchased in the community options kitchen. If ingredients are missing check the kitchen on the senior’s side. If still missing it is your responsibility to take the charge card for Food Basics and buy the necessary ingredients, once you have received the community options facilitators’ approval. Be sure to check with the facilitators as they might already have someone going out for groceries that morning who can pick up the required ingredients.

Lesson Plan

<table>
<thead>
<tr>
<th>Time</th>
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</tr>
</thead>
<tbody>
<tr>
<td>1:00-1:05</td>
<td>Welcome every one and hand out everyone’s duo tangs with hand outs.</td>
</tr>
<tr>
<td>1:05-1:10</td>
<td>Review Food Groups learned last week by asking the group to name the food groups, then list of food items (apple, cheese, yogurt, bread, eggs, cracker, chicken, carrot) and get the group to verbally tell you what food groups they are in.</td>
</tr>
<tr>
<td>1:10-1:20</td>
<td>Introduce Physical Fitness and have group members take turns reading the handouts. Explain that walking to and from work, community options is a form of fitness. As well as how to incorporate little things into your day that make a difference like taking the stairs, walking to work, parking vehicles far away from store entrances. Stress that all of the little things can add up to a total of the recommended 30 minutes of physical activity daily.</td>
</tr>
<tr>
<td>1:20-1:30</td>
<td><strong>Activity:</strong> Go around the group and ask each person how long they do physical fitness daily and if they think it is long enough. Also ask group members what types of physical fitness they enjoy doing. Have the participants list off the benefits of exercise and why it is important to them.</td>
</tr>
<tr>
<td>Time</td>
<td>Plan</td>
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<td>------------</td>
<td>----------------------------------------------------------------------</td>
</tr>
<tr>
<td>1:30-1:35</td>
<td>Review what was learned in today’s lesson. Giving a quick but concise review why exercise is important and how long people should engage in physical activity.</td>
</tr>
<tr>
<td>1:35-1:50</td>
<td><strong>Snack:</strong> Recipe for snack inserted at the end of the Participant handouts.</td>
</tr>
<tr>
<td>1:50-2:00</td>
<td>Record resting heart rate and BMI. Prepare for Aerobics Workout. Insert DVD (located in pouch in back of binder) into DVD player in television.</td>
</tr>
<tr>
<td>2:00-3:00</td>
<td><strong>Fitness:</strong> Aerobics workout to DVD. Allow everyone to take breaks as they need it. Remind everyone to drink plenty of water through out the workout.</td>
</tr>
</tbody>
</table>
Why is Exercise Important?

• Helps you stay at a Healthy Weight (BMI)
• Helps reduce Stress
• Gives you more Energy
• Helps you Sleep
• Helps improve your self-esteem (the way you think and feel about yourself)

What it Does for your Body:

• Helps to lower your Blood Pressure
• Reduces risk of Heart Disease
• Reduces risk of Stroke
• Reduces risk for certain types of Cancer
• Helps lower cholesterol
• Reduces risk of Type 2 Diabetes

How much Exercise do I need?

• It is recommended that adults get at a minimum of 30 minutes of physical exercise daily
• More exercise is best, but remember not to push your body when it gives you warnings that it needs a break

• Even doing 10 minutes of exercise at a time gives you the same health benefits as doing all 30 minutes together

• Remember to drink plenty of water before, during, and after a workout to stay hydrated

**What Counts as Exercise?**

Remember working out does not mean that you have to be stuck in a boring gym. Exercise is any form of movement you do, even getting the mail or walking your dog counts towards your 30 minutes. The higher the intensity of the workout, the more calories you burn!

**Examples of Moderate – Intensity Exercise**

• Brisk Walking
• Riding a Bike
• Raking Leaves
• Water aerobics (Aqua Fit)
• Swimming
• Dancing

**Examples of High – Intensity Exercise**

• Aerobics
• Jogging
• Hockey
• Basketball
Healthy Snack Recipe

Today’s healthy snack is a perfect choice before or after a good workout. It is light but full of nutritional benefits. It can be prepared well ahead of time and kept in the fridge until you are ready for a snack. You can also make a couple of ziplock bags or containers of it all at once for a fast snack later or the next day!

Veggies and Dip

WHAT YOU NEED

1/2 cup of Your Favorite low fat dip (ranch, onion, dill)
or
1/2 cup of Your Favorite low fat Salad Dressing (Ranch, Italian, Greek)

CUT IN SLICES OR STRIPS
1/4 cup of Celery
1/4 cup of Cucumbers
1/4 cup of Bell Peppers (red, green, yellow, orange)
1/4 cup of Broccoli
1/4 cup of Carrots
1/4 cup of any other favorite vegetable you have in the fridge

WHAT YOU DO:

1) Take 1/2 cup of your favorite dip or salad dressing and place into a small bowl or container
2) Place your cut WASHED vegetables on a plate or in a ziploc bag (if you are bringing somewhere)
3) Dip your vegetables into your favorite dip
4) Enjoy!
5) Put any extra cut vegetables in a container or bag for another healthy snack!
Section 3

Learning to Read Nutrition Labels

Learning Objectives:

• Group members will be able to find food labels on a variety of food items
• Group members will be able to choose the best food choice based on Calorie content when shown 2 items
• Group members will be able to prepare a healthy snack
Instructor’s Instructions

Prep Work:
In the morning upon arriving to the community options, check to make sure that ingredients needed for the healthy snack are purchased in the community options kitchen. If ingredients are missing check the kitchen on the senior’s side. If still missing it is your responsibility to take the charge card for Food Basics and buy the necessary ingredients, once you have received the community options facilitators approval. Be sure to check with the facilitators as they might already have someone going out for groceries that morning who can pick up the required ingredients.

Prior to the beginning of the session check the kitchen for 4 items from each food group that have nutrition labels. Example of possible items, crackers, bread, cheese, yogurt, pasta, apple sauce, can of vegetables, bag of carrots, hamburger, chicken, can of salmon, can of tuna, peanut butter, jam. Bring these items into the board room and place them on the table for the activity.

For items that need to stay refrigerated be sure to return them back to the kitchen as soon as possible (when gathering the snack ingredients).

Lesson Plan

<table>
<thead>
<tr>
<th>Time</th>
<th>Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>1:00-1:05</td>
<td>Welcome every one and hand out everyone’s duo tangs with hand outs.</td>
</tr>
<tr>
<td>1:05-1:10</td>
<td>Review why exercise is important by asking each group member to list one reason each. Ask the group how much exercise is needed and to list some activities the count towards the 30 minutes of daily exercise.</td>
</tr>
<tr>
<td>Time</td>
<td>Plan</td>
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<td>----------</td>
<td>----------------------------------------------------------------------</td>
</tr>
<tr>
<td>1:10-1:20</td>
<td>Introduce how to read nutrition labels. Explain that almost all food we eat has a nutrition label listing all of the vitamins, fats, and calories contained in the product. Remind group that labels are usually found on the back or side of food items. Use the nutrition label found in the handouts to point out where the calorie content is listed and explain the lower the calories the healthier. Also draw their attention to the serving size and explain that the amount listed as the serving size is the amount you need to eat, in order to get the nutrients that are listed in the food label.</td>
</tr>
<tr>
<td>1:20-1:30</td>
<td><strong>Activity:</strong> Give each group member a food item. Ask them to locate the food label and place the item on the table with the food label facing up (if possible). Then pass out the second food item to the group members and ask them to find the food label and place it face up. Now ask each member compare the items and share with the group which would be the best choice based on the amount of calories.</td>
</tr>
<tr>
<td>1:30-1:35</td>
<td>Review what was learned today by explaining where food labels are located on food products (back or side usually). Where to find the amount of calories and the lower amount of calories is best.</td>
</tr>
<tr>
<td>1:35-1:50</td>
<td><strong>Snack:</strong> Recipe for snack inserted at the end of the Participant handouts.</td>
</tr>
<tr>
<td>1:50-2:00</td>
<td>Record resting heart rate and BMI. Prepare for Aerobics Workout. Insert DVD (located in pouch in back of binder) into DVD player in television.</td>
</tr>
<tr>
<td>2:00-3:00</td>
<td>Fitness: Aerobics workout to DVD. Allow everyone to take breaks as they need it. Remind everyone to drink plenty of water through out the workout.</td>
</tr>
</tbody>
</table>
Where do I find the food labels?

Food labels are often located on the back or side of almost all food we eat. A food label looks like this:

1) Nutrition Facts Table
2) Specific Amount of Food
3) % Daily Value
4) Core Nutrients
5) Nutrition Claims
6) List of ingredients

Ingredients: Whole wheat, vegetable oil, shortening, salt.

Low fat, cholesterol-free, source of fibre
We only need to focus on the amount of Calories per serving for now.

How many calories are in these Crackers? 90 per serving
How much is a serving size? 20 grams OR 4 Crackers

Therefore in 4 Crackers you eat, you will consume 90 Calories.

**REMEMBER:** The Serving Size will always be different for each product so be sure to always check and read carefully

**How Does This Help Us Make Healthy Choices?**

Being able to read food labels helps us see the nutrients that are in our food. It shows us the amount of fat, calories, and vitamins we will eat if we eat the serving size they suggest.

It can be very useful when you are shopping and see 2 different types of the same food. When this happens we can compare the 2 items to see what has less calories and is therefore better for us!

**Example:** What happens if your 2 favorite cookies are on sale?
Favorite #1
Favorite #2
What cookie is the best choice? Favorite #1 or Favorite #2?
Hint: Remember to read the serving sizes

### Healthy Snack Recipe

Today's healthy snack lets us compare how two already healthy snacks can be made even healthier. Buying "low fat" ingredients and comparing them to other
brands in the grocery store will help you make the best healthy snack choices. Remember to always check the labels and compare before you buy!

**Yogurt Parfait**

**WHAT YOU NEED**

3/4 cup of your favorite kind of Yogurt (with the lowest calories)  
1/2 cup of your favorite Fruit, Washed and Sliced Small  
1/4 cup of Granola

**WHAT YOU DO**

1) In a small bowl pour your favorite Yogurt  
2) Add your favorite Fruit to the Yogurt  
3) Sprinkle Granola on top of Yogurt and Fruit  
4) Enjoy!
Section 4

Learning about Fat and the Importance of Water

Learning Objectives:

• Group members will be able to find the fat content in food on the Nutrition labels
• Group members will be able to choose the lowest fat food item between 2 similar food items
• Group members will be able to list at least 2 reasons why drinking water is important
• Group members will be able to say how many glasses of water people need daily
• Group members will be able to prepare a healthy snack

Instructor's Instructions

Prep Work:
In the morning upon arriving to the community options, check to make sure that ingredients needed for the healthy snack are purchased in the community options kitchen. If ingredients are missing check the kitchen on the senior's side. If still missing it is your responsibility to take the charge card for Food Basics and buy the necessary ingredients, once you have received the community options facilitators approval. Be sure to check with the facilitators as they might already have someone going out for groceries that morning who can pick up the required ingredients.

Prior to the beginning of the session check the kitchen for 6 sets, of 2 similar items that have nutrition labels. Also find 8 paper/plastic cups that hold 1 cup of liquid. Bring these items into the board room and place them on the table for the activity. For items that need to stay refrigerated be sure to return them back to the kitchen as soon as possible (when gathering the snack ingredients).

Lesson Plan
<table>
<thead>
<tr>
<th>Time</th>
<th>Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>1:00–1:05</td>
<td>Welcome every one and hand out everyone's duo tangs with the hand outs.</td>
</tr>
<tr>
<td>1:05–1:10</td>
<td>Review where to find nutrition labels on food items. Ask group members what they should look for on food labels, that help them make healthier food choices (calories and serving size). Remind them that the less calories the healthier the food choice (in most cases).</td>
</tr>
<tr>
<td>1:10–1:20</td>
<td>Introduce where to find the fat content on nutrition labels. Remind group that the lower the number the better, but beware of the serving size. Discuss Water and that it is important for us to drink 8, 8 ounce glasses a day. Show the group the 8 cups lined up and ask them to show you using the glasses how much they think they drink a day. Tell them the benefits of drinking water such as, it helps us to burn calories, it contains no fat or calories compared to other drinks, it helps keep our skin clear and youthful looking, it keeps us hydrated, it helps us feel fuller so we don't over eat or snack too much.</td>
</tr>
<tr>
<td>1:20–1:30</td>
<td><strong>Activity:</strong> Give each group member a set of the 2 similar food items. Ask them to locate the food labels and find the amount of fat per serving size. Ask them to compare the two items and each say what food item is best based only on the fat content. Now ask them to compare the calories and ask if this changes their mind on their choice.</td>
</tr>
<tr>
<td>1:30–1:35</td>
<td>Review what was learned today by reminding them that fat is always listed on the food labels and the less fat the better. Ask them to list a few reasons why water is important. Ask them how much water we should have daily.</td>
</tr>
<tr>
<td>1:35–1:50</td>
<td>Snack: Recipe for snack inserted at the end of the Participant handouts.</td>
</tr>
<tr>
<td>1:50–2:00</td>
<td>Record resting heart rate and BMI. Prepare for Aerobics Workout. Insert DVD (located in pouch in back of binder) into DVD player in television.</td>
</tr>
<tr>
<td>Time</td>
<td>Plan</td>
</tr>
<tr>
<td>--------</td>
<td>----------------------------------------------------------------------</td>
</tr>
<tr>
<td>2:00–3:00</td>
<td>Fitness: Aerobics workout to DVD. Allow everyone to take breaks as they need it. Remind everyone to drink plenty of water through out the workout.</td>
</tr>
</tbody>
</table>

**Participant Handouts**

**Where Do I Find How Much Fat is in Food?**

The amount of fat per serving is listed on the food label under the Fat Section. The Lower the fat the healthier the food item is for you.

Food that contains low **unsaturated** Fat is even healthier than foods that contain **saturated** fat.

Foods with high “Saturated” Fat are not considered healthy choices.

**Example:** How much fat in these crackers? How much Saturated Fat?
### Nutrition Facts

<table>
<thead>
<tr>
<th>Amount</th>
<th>% Daily Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calories</td>
<td>90</td>
</tr>
<tr>
<td>Fat 3 g</td>
<td>5 %</td>
</tr>
<tr>
<td>Saturated Fat 0.5 g</td>
<td>8 %</td>
</tr>
<tr>
<td>Cholesterol 0 mg</td>
<td></td>
</tr>
<tr>
<td>Sodium 132 mg</td>
<td>6 %</td>
</tr>
<tr>
<td>Carbohydrate 14 g</td>
<td>5 %</td>
</tr>
<tr>
<td>Fibre 2 g</td>
<td></td>
</tr>
<tr>
<td>Sugars 2 g</td>
<td></td>
</tr>
<tr>
<td>Protein 2 g</td>
<td></td>
</tr>
<tr>
<td>Vitamin A</td>
<td>0 %</td>
</tr>
<tr>
<td>Calcium</td>
<td>0 %</td>
</tr>
<tr>
<td>Iron 4 %</td>
<td></td>
</tr>
</tbody>
</table>

**Ingredients:** Whole wheat, vegetable oil, shortening, salt.

**Low fat, cholesterol-free, source of fibre**

---

Question: How much Fat are in these Cookies? How much Saturated Fat?

**Cookies #1**

**Cookies #2**
What Cookies are the best choice, based on fat content Cookies #1 or Cookies #2?
What are the Benefits of Drinking Water?

• Helps burn Calories

• Helps you feel full so you don’t over eat or snack too much

• Helps you stay Hydrated

• Does not have any fat or calories

• Helps keep your skin clear and youthful

• Our body needs it to Survive!

How Much Water Should I Drink?

Everyone should drink a Minimum of 8 cups of Water Every Day.

However, there is no such think has too much water so the more you the drink the better!

When exercising you should drink water before, during, and after to help you stay hydrated and cool your body when doing intense workouts.

Tip: If you don’t like drinking water you should try drinking it with a slice of lemon over ice cubes. The lemon gives it a natural sweetened flavour without using sugar!
Healthy Snack Recipe

Today’s healthy Snack has only 2 grams of fat and 126 Calories per serving! It is full of vitamins and good nutrients. It is also a good source of water. Fruit contains water that helps keep you hydrated without having to drink a glass of water. This snack can also be prepared ahead of time and stored in the fridge for up to 2 days. It is a great snack for on the go!

Delicious Fruit & Dip

WHAT YOU NEED

1/2 cup of plain low fat Yogurt
1 tablespoon of Honey
1/2 teaspoon of Cinnamon
1/4 teaspoon of Nutmeg (optional)
1 cup of your favorite Fruit (Washed & Sliced)
WHAT YOU DO

1) In a small bowl add low fat Yogurt
2) Stir Honey, Cinnamon, and Nutmeg (optional) into Yogurt
3) Cut your favorite Fruit into bite size pieces (or whatever you prefer) and Wash
4) Place Fruit on a plate and serve along side the Yogurt dip
5) Enjoy!

Section 5

Learning How to Make Healthy Food Choices
**Learning Objectives:**

- Group members will be able to pick the healthiest food option when given up to 3 choices of snacks
- Groups Group members will be able to prepare a healthy snack

**Instructor’s Instructions**

**Prep Work:**
In the morning upon arriving to the community options, check to make sure that ingredients needed for the healthy snack are purchased in the community options kitchen. If ingredients are missing check the kitchen on the senior’s side. If still missing it is your responsibility to take the charge card for Food Basics and buy the necessary ingredients, once you have received the community options facilitators approval. Be sure to check with the facilitators as they might already have someone going out for groceries that morning who can pick up the required ingredients.

Prior to the beginning of the session check the kitchen for 10 snack items that have nutrition labels. Bring these items into the board room and place them on the table
for the activity. For items that need to stay refrigerated be sure to return them back to the kitchen as soon as possible (when gathering the snack ingredients).

**Lesson Plan**

<table>
<thead>
<tr>
<th>Time</th>
<th>Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>1:00–1:05</td>
<td>Welcome every one and hand out everyone’s duo tangs with hand outs.</td>
</tr>
<tr>
<td>1:05–1:10</td>
<td>Review where to find the “fat” content on food (on the nutrition label under fat). Remind group to make sure they check the serving size. Food with high saturated fat or even worse than foods with high unsaturated fat. Unsaturated fat is the “good” fat. Saturated fat is the “bad” fat. Ask the group how many glasses of water they should drink daily and why water is good for our bodies.</td>
</tr>
<tr>
<td>1:10–1:20</td>
<td>Introduce how to make healthy food choices. Choosing what to eat is easy when you follow the food groups. Make sure you are eating the required servings from each food group. Eating food you make at home is almost always healthier than eating fast food from restaurants. Choosing foods with lots of vegetables, and fruit is always the safest bet when trying to cut calories and fat. Adding chicken or fish to your meal are some of the lowest calorie and fat choices from the meat and alternative food group. When drinking or eating dairy you can lower your fat and calories by choosing “low fat” or “fat free” replacements of your favorite dairy products. Remember you can find “low fat” variations for many food items. Always compare nutrition labels to be sure your choice is the healthiest!</td>
</tr>
<tr>
<td>Time</td>
<td>Plan</td>
</tr>
<tr>
<td>------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>1:20–1:30</td>
<td>Activity: Select three of the food items and place them in the center of the table. Ask the group to decide the best choice from those food choices. When they make their selection explain why they are right or wrong. Repeat this substituting the food items with the other 6 food items until they are able to make the correct food choice 4 times without error or until it is time for the next activity.</td>
</tr>
<tr>
<td>1:30–1:35</td>
<td>Review what was learned today by reminding everyone about how to make healthy food choices. Picking to eat home cooked meals is always better than fast food options. Picking snacks and meals that include lots of vegetables, fruit, chicken, fish, and multigrain helps reduce the fat content. Remind them that choosing foods that are “low fat” or “fat free” also help reduce calories and fat content consumed.</td>
</tr>
<tr>
<td>1:35–1:50</td>
<td>Snack: Recipe for snack inserted at the end of the Participant handouts.</td>
</tr>
<tr>
<td>Time</td>
<td>Plan</td>
</tr>
<tr>
<td>----------</td>
<td>----------------------------------------------------------------------</td>
</tr>
<tr>
<td>1:50-2:00</td>
<td>Record resting heart rate and BMI. Prepare for Aerobics Workout. Insert DVD (located in pouch in back of binder) into DVD player in television.</td>
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<tr>
<td>2:00-3:00</td>
<td>Fitness: Aerobics workout to DVD. Allow everyone to take breaks as they need it. Remind everyone to drink plenty of water throughout the workout.</td>
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</table>
Participant Handouts

How do I Make Healthy Food Choices?

• Checking the nutrition labels on food to see the amount of Calories and Fat it contains

• Comparing nutrition labels on your favorite food to see if there is a healthier choice

• Making your Favorite food at home instead of buying it already pre made or eating out at restaurants

• Eating a meal or snack that contains all 4 food groups

• Eating the recommended servings from each food group according to the Canadian Food Guide

• Eating meals or snacks that have lots of fruit and/or vegetables

• Be aware of how much fat and how many calories are in the food you eat

• Choosing the “low fat” or “fat free” version of your favorite food

Remember you are what you eat, If you eat healthy food, you will feel healthy too!
Healthy Snack Recipe

Today’s healthy snack is easily made ahead of time or even a couple days ahead. It can be stored in the fridge for up to 3 days. The best part is you get to decide how spicy you like it! By making this recipe yourself, you are getting less salt, calories, fat, msg, and more fresh vegetables! Plus you can eat it with baked pitas, tortilla chips, or crackers!

**Salsa & Chips**

**WHAT YOU NEED**

1 can of diced tomatoes or 1 Cup of fresh Tomatoes diced
1/2 cup of finely cut Green or Red Onion
1/4 cup of Chopped Cilantro
1/2 cup of Green/Red Bell Peppers
1 Garlic Clove (optional)
2 teaspoons of Lime Juice (optional)
Add Cayenne pepper or Red Pepper Flakes to taste for spice!

1 cup of baked Pitas, Tortilla Chips, or Crackers (your choice)

**WHAT YOU DO**
1) Add 1 can of tomatoes or add 1 cup of fresh Tomatoes diced into a medium size mixing bowl
2) Add Onion, Peppers, Cilantro, Garlic, and Lime Juice, into bowl of Tomatoes
3) Stir all ingredients until well mixed together
4) Add Cayenne or Red Pepper Flakes to taste depending on how spicy you like it
5) Put your baked pita, tortilla chips, or crackers on a plate beside bowl of Salsa
6) Dip your favorite chip into Salsa and ENJOY!

Section 6

Review
Learning Objectives:

- Group members will review all of the healthy living information covered thus far
- Group members will complete the Healthy Living Questionnaire Post-Test

Instructor's Instructions

Prep Work:
In the morning upon arriving to the community options check to make sure that ingredients needed for the healthy snack are purchased in the community options kitchen. If ingredients are missing check the kitchen on the senior's side. If still missing it is your responsibility to take the charge card for Food Basics and buy the necessary ingredients once you have received the community options facilitators
approval. Be sure to check with the facilitators as they might already have someone going out for groceries that morning who can pick up the required ingredients.

Lesson Plan

<table>
<thead>
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<tbody>
<tr>
<td>1:00–1:05</td>
<td>Welcome every one and hand out everyone’s duo tangs with hand outs.</td>
</tr>
<tr>
<td>1:05–1:20</td>
<td>Review using the handouts provided to the participants. Read each question out loud. Ask the group for their answers. Discuss their answers and provide the correct answer.</td>
</tr>
<tr>
<td>1:20–1:35</td>
<td>Give each participant a copy of the post test Healthy Living Questionnaire. Read each question slowly out load and ask the participants if they are ready for the next question before moving on.</td>
</tr>
<tr>
<td>1:35–1:50</td>
<td>Snack: Recipe for snack inserted at the end of the Participant handouts.</td>
</tr>
<tr>
<td>1:50–2:00</td>
<td>Record resting heart rate and BMI. Prepare for Aerobics Workout. Insert DVD (located in pouch in back of binder) into DVD player in television.</td>
</tr>
<tr>
<td>2:00–3:00</td>
<td>Fitness: Aerobics workout to DVD. Allow everyone to take breaks as they need it. Remind everyone to drink plenty of water through out the workout.</td>
</tr>
</tbody>
</table>

Participant Handouts

Review Sheets
Learning to Read the Canadian Food Guide

1) What are the 4 food groups?
   • ________________
   • ________________
   • ________________
   • ________________

2) How many servings of Fruit and Vegetable should you eat every day? Circle the correct answer.
   5-12 Servings or 5-10 Servings

3) Which food group Gives our Bodies Protein? Circle the correct answer.
   Grains or Meat & Alternatives

Importance of Fitness

1) List 2 reasons why daily exercise is important.
   • ________________________________
   • ________________________________
2) How much exercise should you get every day? Circle the correct answer.

10 minutes     30 minutes     60 minutes

3) What is an example of a Moderate-Intensity exercise? Circle the correct answers.

Brisk Walking    Playing Computer Games    Swimming    Riding a bike

Reading Nutrition Labels

1) Where do you find Nutrition labels on food?

• ______________________________________________________________

2) What are the most important nutrients on the label to read?

Protein     Calories     Fat     Carbohydrates
Fat and the Importance of Water

1) Which cookies would be the best choice based on fat content? Circle the correct answer.

8 grams of fat in 4 cookies (serving size)

OR

8 Grams of fat in 6 cookies (serving size)

2) List 3 benefits of drinking plenty of water?

•

•

•
3) How much water should you drink every day?

8 Cups
3 Cups
1 Cup

Healthy Snack Recipe

Today’s Healthy Snack incorporates all of the healthy eating tips we have learned during this healthy eating group. It includes all 4 food groups and uses food that is low calories and low fat. The best part is that it tastes delicious even though it is healthy and you can have it for lunch or dinner too!

Toasted Ham and Cheese Sandwich

WHAT YOU NEED

2 Slices of Whole Wheat or Multigrain Bread
1 Slice of Ham
2 Slices of Tomato
1 Leaf of Lettuce
1 Light Cheese Slice
1 teaspoon Of Mayonnaise or Miracle Whip

WHAT YOU DO

1) Put 2 slices of bread in Toaster and toast until golden brown
2) Take toast out and spread 1 teaspoon of Mayonnaise on toast
3) Place Ham, Tomato, Lettuce, Cheese, on toast
4) Cut Sandwich down the middle and place on a plate
5) Enjoy!

References


CONSENT FORM

Healthy Living and Fitness Program with Adults with an Intellectual Disability

Student:

95
INVITATION

I am a student in my 4th year in the Behavioural Psychology at St. Lawrence College and I am currently on placement at Community Living Kingston in the Community Options program. As a part of this placement, I am completing a special project called an applied thesis and am asking for your assistance to complete this project. The information in this form is intended to help you understand my project so that you can decide whether or not you want to participate. Please read the information below carefully and ask all the questions you might have before deciding whether or not to participate.

WHAT IS THE PURPOSE OF THE STUDY?

The purpose of this study is to examine the effects of the Healthy Living and Fitness Program. The workshop portion of the program will focus on teaching healthy living skills. The fitness portion of the program will consist of a 60 minute aerobic workout. This study will examine if the Healthy Living and Fitness Program will decrease weight, and resting heart rate of participants. The study will also examine if the Healthy Living and Fitness Program will increase participants' knowledge of healthy food choices and will help them make healthy food choices and increase their activity level.

WHAT WILL YOU NEED TO DO IF YOU TAKE PART?

If you agree to participate in this study you will be required to attend the Healthy Living and Fitness Program at the Community Options program every Monday between 1 o'clock and 3 o'clock pm for seven weeks. There will be two parts to the program: a one hour healthy living workshop followed by a one hour fitness program.

The healthy living workshop will focus on teaching healthy living skills and will be one hour in length every Monday between 1:00 and 2:00. During the workshop you will learn how to prepare and make healthy snacks that you will be able to eat after the fitness portion.

The fitness portion will consist of a 60 minute aerobic workout which will take place between 2 o'clock and 3 o'clock in the board room located at the Community Options building. You will be required to participate to the best of your ability in the 60 minute fitness portion that will be led by an aerobics DVD. The fitness session will begin with a 15 minute warm up, which will be followed by 30 minutes of aerobics, and will end with 15 minutes of cool down session. Breaks will be permitted as needed. If you
are not able to do any part of a particular exercise you may take a break and wait for the next exercise to begin.

You will need to bring appropriate clothes for the fitness program including running shoes, shorts, and t-shirt. You should also bring a bottle of water or bring a bottle that can be filled up with water from the tap.

In the first week of the workshop your height will be measured and you will be weighed so that your body mass index may be calculated. Body mass index is a way to estimate the percentage of fat a person has to check if you are at a healthy body weight. It is calculated by measuring how tall you are and how much you weigh. Then your weight is divided by your height to give you your body mass index number. As well, at the beginning of each workshop your resting heart will be taken and recorded.

A food log will be provided for you to record healthy foods you have eaten each day. A physical activity log will also be provided for you to record the length of time each day that you are physically active. This recording should only take a few minutes of your time each day. These logs will be collected every Monday during the workshop. In the first and last workshop a questionnaire will be completed by you to test what you know about living a healthy lifestyle.

Cassondra Wheeler a 4th year Behavioural Psychology student from St. Lawrence College will lead the workshop and workout. Laurie McShane, the Community Options program community facilitator, and Pam Jacob, Community Options program facilitator, will be overseeing the program. Ms. McShane and Ms. Jacob will not attend the workshop or workout, but they will be at the Community Options program during all sessions.

WHAT ARE THE POTENTIAL BENEFITS TO ME OF TAKING PART?

Results are not guaranteed; however, the potential benefits to you for participating in this study is weight loss and learning the skills to eat healthier, and live actively. You may also experience increase in energy, and alertness after participating in the workout. Although weight loss is to expected if you are eating healthy and being physically active while participating in this study, the exact amount of weight loss can not be predicted because of other factors; including your diet and the amount of physical activity you are participating in outside of the study.

WHAT ARE THE POSSIBLE DISADVANTAGES AND RISKS OF TAKING PART?

During your participation in the study you may become tired and out of breath while doing the fitness workout. As well you may experience discomfort and pain in your legs and arms in the first few weeks you participate while your body adjusts to the aerobic exercise. You may also feel thirsty and dehydrated after the workout which is why bringing a bottle of water with you is recommended. The workout will also cause your heart rate to increase during and immediately after your workout but will return to your resting heart rate once you rest. Risks are minimal and all potential participants are
required to complete the PAR-Q before you can participate which is attached to this consent form. At any time during the fitness portion you can stop to take a break.

WHAT HAPPENS IF SOMETHING GOES WRONG?

In the event that something goes wrong while you are participating in the study, the appropriate safety measures will be followed depending on the emergency. Employees of the Community Options program will be notified immediately for assistance who all have CPR and Fist Aid Training. If you are feeling sick or feel like something is wrong you should tell the leader of the workshop right away so she can call for assistance.

WILL MY TAKING PART IN THIS PROJECT BE KEPT PRIVATE?

All data and information about you that is collected will be stored in a locked file and kept confidential unless required by law. All documents will be coded and names removed. The only people who will have access to the information collected will be the student conducting the study. Information stored on a computer will be password protected. You will not be identified by name in any reports, publications, or presentations resulting from this project. The data and information collected will be kept on file for 10 years at Community Living Kingston.

DO YOU HAVE TO TAKE PART?

It is up to you to decide whether or not to take part. If you do decide to take part, you will be asked to sign this consent form. If you do decide to take part, you are still free to withdraw at any time, without giving any reason, and without affecting your services at Community Living.

CONTACT FOR FURTHER INFORMATION.

This project has been approved by the Research Ethics Board at St. Lawrence College. The project will be developed under the supervision of Glenna Hunter, my supervisor from St. Lawrence College. I really appreciate your cooperation. If you have any additional questions or concerns, feel free to ask me, Cassondra Wheeler by email at cassondra_wheeler@yahoo.com, or you can contact my College Supervisor Glenna Hunter by email at ghunter@sl.on.ca. You may also contact the Research Ethics Board at appliedresearch@sl.on.ca.

CONSENT

If you agree to participate in the project, please complete the following form and return it to me as soon as possible. A copy of this signed document will be given to you for your own records. An additional copy of your consent will be retained at the agency and in a secure location with the Behavioural Psychology program at St. Lawrence College.
CONSENT

By signing this form, I agree that:

- The study has been explained to me.
- All my questions were answered.
- Possible harm and discomforts and possible benefits (if any) of this study have been explained to me.
- I understand that I have the right not to participate and the right to stop at any time.
- I am free now, and in the future, to ask any questions about the study.
- I have been told that my personal information will be kept confidential.
- I understand that no information that would identify me will be released or printed without asking me first.
- I understand that I will receive a signed copy of this consent form.

I hereby consent to participate.

Participant Printed Name: ____________________________

Guardian/Parent Signature: _______________________________ Date: ________

Participant Signature:________________________________ Date:__________

SLC Student Signature: ____________________             Date: ________

Printed Name: ____________________________

PLEASE COMPLETE AND RETURN THE PAR-Q AND YOU QUESTIONNAIRE ATTACHED
PAR-Q & YOU

(A Questionnaire for People Aged 15 to 69)

Regular physical activity is fun and healthy, and increasingly more people are starting to become more active every day. Being more active is very safe for most people. However, some people should check with their doctor before they start becoming much more physically active.

If you are planning to become much more physically active than you are now, start by answering the seven questions in the box below. If you are between the ages of 15 and 69, the PAR-Q will tell you if you should check with your doctor before you start. If you are over 69 years of age, and you are not used to being very active, check with your doctor.

Common sense is your best guide when you answer these questions. Please read the questions carefully and answer each one honestly: check YES or NO.

<table>
<thead>
<tr>
<th>YES</th>
<th>NO</th>
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</thead>
<tbody>
<tr>
<td>1. Has your doctor ever said that you have a heart condition and that you should only do physical activity recommended by a doctor?</td>
<td></td>
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<tr>
<td>2. Do you feel pain in your chest when you do physical activity?</td>
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<tr>
<td>3. In the past month, have you had chest pain when you were not doing physical activity?</td>
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<tr>
<td>4. Do you lose your balance because of dizziness or do you ever lose consciousness?</td>
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<tr>
<td>5. Do you have a bone or joint problem (for example, back, knee or hip) that could be made worse by a change in your physical activity?</td>
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<tr>
<td>6. Is your doctor currently prescribing drugs (for example, water pills) for your blood pressure or heart condition?</td>
<td></td>
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<tr>
<td>7. Do you know of any other reason why you should not do physical activity?</td>
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</tbody>
</table>

If you answered YES to one or more questions

Talk with your doctor by phone or in person BEFORE you start becoming much more physically active or BEFORE you have a fitness appraisal. Tell your doctor about the PAR-Q and which questions you answered YES.
- You may be able to do any activity you want — as long as you start slowly and build up gradually. Or, you may need to restrict your activities to those which are safe for you. Talk with your doctor about the kinds of activities you wish to participate in and follow his/her advice.
- Find out which community programs are safe and helpful for you.

If you answered NO to all questions

You can be reasonably sure that you can:
- start becoming much more physically active — begin slowly and build up gradually. This is the safest and easiest way to go.
- take part in a fitness appraisal — this is an excellent way to determine your basic fitness so that you can plan the best way for you to live actively. It is also highly recommended that you have your blood pressure evaluated. If your reading is over 140/94 talk to your doctor about your blood pressure.

Please note: if your health changes so that you then answer YES to any of the above questions, tell your fitness or health professional. Ask whether you should change your physical activity plan.

No changes permitted. You are encouraged to photocopy the PAR-Q but only if you use the entire form.

NOTE: If the PAR-Q is being given to a person before he or she participates in a physical activity program or a fitness appraisal, this section may be used for legal or administrative purposes.

“I have read, understood and completed this questionnaire. Any questions I had were answered to my full satisfaction.”

NAME ________________________________

SIGNATURE OF PATIENT ________________________________

DATE ________________________________

Note: This physical activity clearance is valid for a maximum of 12 months from the date it is completed and becomes invalid if your condition changes so that you would answer YES to any of the seven questions.
Physical Activity Improves health.

Every little bit counts, but more is even better - everyone can do it!

Get active your way - build better activity into your daily life:

- at home
- at school
- on the way...

...that's healthy!

Physical Activity Guide to Healthy Active Living

Choose a variety of these three groups:

Endurance: 4.5 days a week
Consistent activities for your heart, lungs and circulation system.

Flexibility: 4.5 days a week
Regularly stretching, bending and turning exercises to keep your muscles flexible and mobile.

Strength: 2-4 days a week
Activities against resistance to strengthen muscles and bones and improve posture.

Physical activity doesn’t have to be very hard. Build physical activity into your daily routine.

- Walk or jog: 10 minute walks can significantly improve heart and lung health and stamina.
- Take the stairs instead of an elevator.
- Reduce time spent sitting.
- Get up from the couch and stretch your neck and back.
- Take a walk everywhere.
- Chose a mode of transportation for shorter trips.

Benefits of regular activity:
- Better heart health
- Better lung health
- Better quality of life
- Better balance
- Better posture
- Better sleep

You can do it! - getting started is easier than you think

Starting to do physical activity:

- Talk to your doctor or health professional.
- Make a plan to add new activities to your daily routine.
- Get up from the couch and stretch your neck and back.
- Take a walk everywhere.
- Choose a mode of transportation for shorter trips.
- Start with a 10-minute walk - gradually increase the time.
- Find activities that you enjoy and find physical activity fun.
- Choose a physical activity that can be done almost anywhere.
- Try the activities you enjoy most.
- Do the activities you enjoy most often.

For more information, please contact:

Canadian Society for Exercise Physiology
202 185 Somerset Street West
Ottawa, ON K2P 0G2
Tel. 1-877-651-3755 • Fax (613) 234-3565
Online: www.cSEP.ca

The original PAR-Q was developed by the British Columbia Ministry of Health. It has been revised by an Expert Advisory Committee of the Canadian Society for Exercise Physiology chaired by Dr. N. Goshin (2002).

En savoir plus en français sur la PAR-Q "questionnaire d'aptitude à l'activité physique Q-APP" (revise 2002).

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Daily Food Log

Record the total time that you participate in physical activity each day.

<table>
<thead>
<tr>
<th>Food Category</th>
<th>Date</th>
<th>Number of Servings</th>
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<tbody>
<tr>
<td>dairy</td>
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<tr>
<td>grains</td>
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<tr>
<td>meat &amp; alternative</td>
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<tr>
<td>fruit &amp; vegetables</td>
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</table>
## Daily Activity Log

<table>
<thead>
<tr>
<th>Date</th>
<th>Activity</th>
<th>Time</th>
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Appendix E

Resting Heart Rate & Body Mass Index Data Sheet

<table>
<thead>
<tr>
<th>DATE</th>
<th>Participant Code</th>
<th>Resting Heart Rate</th>
<th>Body Mass Index</th>
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<tbody>
<tr>
<td></td>
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*Body Mass Index Calculated by Using this Formula:
Appendix F

**Questionnaire for Healthy Living and Fitness Participants**

Male/Female          Age:          Participant:

Below are a few statements about the workshop you participated in. There is no right or wrong answer to these statements. Please circle the number that best represents you for each statement. You will remain anonymous.

Circle “1” if you **Strongly Disagree** with the statement
Circle “2” if you **Disagree** with the statement
Circle “3” if you **are Undecided** with the statement
Circle “4” if you **Agree** with the statement
Circle “5” if you **Strongly Agree** with the statement

1) After receiving this workshop I feel better able to make healthy living choices?

   1   2   3   4   5

2) I participated to the best of my ability in the fitness portion of the workshop?

   1   2   3   4   5

3) I will use the skills I have learned to prepare healthy snacks at home

   1   2   3   4   5

4) I will continue to follow the healthy living tips to make better eating and fitness choices even when I am not participating in the workshop

   1   2   3   4   5

5) I enjoyed attending the Healthy Living and Fitness Workshop

   1   2   3   4   5
Appendix G

Healthy Living Questionnaire

Answer the following questions by **Circling** the correct answer

1) **What is the Healthy Choice?**

- pie
- cake
- apple

2) **What is the Healthy Choice?**

- pizza
- spaghetti
- Salad

3) **How many Servings of Vegetable and Fruit should you have every day?**

- 1 - 2 Servings
- 5 - 10 Servings
- 10 - 15 Servings
4) What activity helps burn calories and keeps your body in shape?

Watching TV  
Running/Walking  
Playing on Computer

5) How many servings of meat should you have each day?

2 - 3 Servings  
0 - 1 Servings  
2 - 5 Servings

6) What Food Group do you get the most Protein from?

dairy  
Meat & Alternatives  
grains

7) How many minutes should you participate in physical activity each day?
8) How many glasses of water should you drink every day?

- 1 - 3 Glasses
- 4 - 6 Glasses
- 6 - 8 Glasses

9) What food do you get Unsaturated Fat from?

- Nuts
- Cheeseburger
- Chicken

10) What is the most important meal of the day and should not be skipped?

- Breakfast
- Lunch
- Dinner