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# Implementing tiny goals after current habits to create consistent healthy lifestyle routine

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IMPLEMENTING TINY GOALS AFTER CURRENT HABITS TO CREATE  
CONSISTENT HEALTHY LIFESTYLE ROUTINE

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School of Sport Science and Wellness

**Honors Research Project**

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## ABSTRACT

The purpose of this study was to examine the effect of providing educational information as well as skills training on the ability of the participants in the Wellness Wednesday program to incorporate new health behaviors with already existing habits, creating a healthier life. The participants for this study are residents living at Edgewood, Belcher, and Towers I that attended the Wellness Wednesday programs. The locations are all part of the Akron Metropolitan Housing Association. Wellness Wednesday is an ongoing program begun in 2011 where interprofessional students from the College of Health Professions collaborate in creating health education programming based on a monthly theme. On day one residents completed worksheets requesting that they pair a desired new behavior with a current daily habit. Upon the last day the residents completed a self-report worksheet that allowed them to respond freely to questions about their perceived success with incorporating the new habit and participation in the Wellness Wednesday program. The results of the data collected demonstrated that it is possible to form lasting habits from adding in tiny habits after a trigger activity and supporting that Wellness Wednesday was a positive health program.

Key words: health, activity, wellness

## I. INTRODUCTION

In the United States today, there is an overall increasing trend in lifestyle related chronic diseases, such as obesity, heart disease, stroke, cancer, type 2 diabetes and arthritis. As of 2012, about half of the adult population in the United States had one or more chronic health conditions and one out of every four adults had two or more diseases (Ward, Schiller & Goodman, 2014). The rate of obesity (body mass index greater than 30 kg/m<sup>2</sup>) for the population as whole has increased from less than 15% in the 1960s to greater than 35% today (Remington & Brownson, 2011).

Trends in eating and physical activity habits are tracked by the Center for Disease Control through cross-sectional self-reported surveys. In 2013 only 22.4% of adults ate vegetables more than once a day, which was down from 22.6% in 2011. Adults who meet the recommended 150 minutes of moderate aerobic physical activity or 75 minutes of vigorous intensity exercise was 50.2% in 2013, down from 51.6% in 2011 (Nutrition, Physical Activity & Obesity Data, Trends & Maps, 2015). The trends for these lifestyle behaviors are moving in the wrong direction which can have major negative impacts on health and healthcare costs.

There is an increasing focus in the United States today on having and starting a fit and healthy lifestyle and getting away from negative habits. Many people look to completely overhaul their habits in a short time in order to change their health. Motivation and finding time to exercise or practice healthy habits can come as a major issue for many adults when it comes to trying to live a better lifestyle. Large exercise programs or overwhelming lifestyle changes can be daunting, but several behavior

change theories and models support the concept of small changes in daily living to create a more manageable goal. This can also give smaller set points and goals to reach instead of something that seems unattainable. Inserting small habits allows for the possibility of growth and creating a sense of ability to change (Fogg, 2015a). This will allow people to continue to have confidence and grow their healthy habits to create a successful lifestyle change.

Inserting small habits into daily living can be a very easy and small way to create lasting healthy activities. There are many activities performed daily in our lives that are done habitually with barely even thinking, such as brushing our teeth in the morning. It is possible to insert new habits into daily life by performing them after a trigger action, like starting to take vitamins after brushing your teeth. The trigger activity reminds you to perform the new habit and soon it will become second nature as well (Fogg, 2015b). Using this principle, individuals may choose a new habit they want to create and some actions they perform daily that may be a trigger for the new habit.

The older adult population in the United States is growing. Baby boomers were born between 1946-1964 and during that time, 76 million were born. The percentage of the working population age 45 and older went from 33% in 1998 to 40% in 2008 (Dohm, 2000). That means that now, in 2016, many of those workers are beginning to retire. Many older adults have multiple comorbidities related to lifestyle such as cardiovascular disease, hypertension and type 2 diabetes. Studies typically follow healthy or younger populations instead of the older population. Further research examining how to maintain and or improve the quality of life of our aging population is needed.

The participants chosen for this study were an older adult population where many have comorbidities such as type 2 diabetes, various heart conditions, and hypertension. Targeting this population, who may have more health problems, can provide them with creating habit-forming techniques that may result in favorable health behavior changes to improve health status as well as quality of life. The purpose of this study was to examine the effect of providing educational information as well as skills training on the ability of the participants in the Wellness Wednesday program to incorporate new health behaviors with already existing habits, creating a healthier life.

## II. REVIEW OF LITERATURE

### Habit Formation

Habits, including health habits, can be both beneficial and harmful and are thought to develop through repetition of a certain behavior in consistent contexts (Lally & Gardner, 2013). When trying to create a healthy lifestyle, formation of new habits to improve unhealthy behaviors may be a challenge due to the ingrained nature of those habits (Lally & Gardner, 2013). Habits, however, can continue through a formation process even though an individual may miss a day or chance to perform a new behavior (Lally, Jaarsveld, Potts, & Wardle 2010).

The time for individuals to form a habit and have it become integrated into their lives varies for each individual. A study performed on 96 people who chose an activity to carry out daily for 12 weeks showed that there is great variation in how long it may take an individual to form a habit. In one study, 82 individuals provided adequate information to have analysis and each individual's automaticity, or ability to perform

automatically, was examined. Overall it took between 18-254 days to reach 95% of their predicted automaticity. The median time, therefore, was 66 days (Lally, et al., 2010).

This shows that on average, it requires around 66 days to form a habit; this also has great variation from individual to individual.

The small-area hypothesis explains that individuals working toward a goal show greater motivation when their attention is on something smaller in size (Koo & Fishbach, 2012). This supports the supposition that smaller exercise goals and habit changes may result in better adherence than larger goals.

It is thought that physical exercise habits can be activated by contextual features that would normally occur before the behavior. There are obstacles that exist that need to be overcome (such as lack of knowledge related to the benefits of exercise, lack of skill in performing the new behavior, and the benefits of exercising not outweighing the effort to engage in regular exercise), that participants may choose to quit the action after encountering other barriers, inadequate time, or not having the ability to repeat a certain action that could break a cycle that needs to be held in order form a habit. As such, overcoming these barriers or interruptions is necessary for a habit to be effective and long lasting (Aarts, Paulussen, & Schaalma, 1997).

Habit formation can also hinge greatly on motivation, past behaviors, and where a habit is placed in a routine. A study looked at flossing and incorporating it as part of the daily routine either before or after brushing teeth and its effect on formation of the habit. It was shown that participants who had stronger memory ability, higher levels of past behavior, and a more optimistic attitude performed the habit more frequently than those



who did not. Automaticity is defined as the ability to perform unconsciously or from force of habit. Stronger automaticity is predicted by a more positive attitude and by increased frequency of the given habit (Judah, Gardner, & Aunger, 2013). Also, it was shown that when the habit (flossing) was placed after the trigger (brushing of teeth) rather than before, the habit was performed more frequently and stronger habits were formed (Judah, et al., 2013).

### Adherence

A study performed on adults from 1988 and 2006 examined the adherence of a group of middle-aged to older adults to healthy lifestyle habits. This study looked at 5 trends: eating greater than or equal to 5 fruits/vegetables per day, regular exercise more than 12 times per month, maintaining a healthy body weight which was defined as a body mass index (BMI) between 18.5 and 29.9 kg/m<sup>2</sup>, moderate alcohol consumption, and not smoking. The results from this study show that over the 18 year period of the study, participants with a BMI above 30 kg/m<sup>2</sup> increased from 28% to 36%, those meeting the exercise requirement of twelve times per month fell to 45% from 53%, fruits and vegetable consumption decreased from 42% to 26%, but smoking remained constant around 26% with an increase in moderate alcohol consumption from 40% to 51%. The adherence to all 5 habits on average decreased from 15% to 8%. The study also showed that individuals with a history of diabetes, hypertension, and cardiovascular disease were less likely to adhere to a healthy lifestyle than people without health conditions (King, Mainous, Carnemolla, & Everett, 2009). This study demonstrates the difficulty in adhering to healthy behaviors as well as the importance of making healthy behaviors a

continuous habit. Developing an intervention strategy focusing on pairing new health habits with existing daily habits could possibly affect this trend and increase adoption of the healthy behavior as well as lasting adherence.

Adherence to healthy behaviors in the older adult population needs addressed, as it remains a major obstacle to creating positive health habits. Depression in older adults is often associated with decreased quality of life and therefore decreased physical and emotional health. It is shown that there may be a correlation between being a conditional goal setter and suffering from poor physical health. Conditional goal setting is the tendency for people to see achievement of their personal goals as essential for their well-being. It is also possible that those who have poor physical health are more prone to depression because their perceived ability to achieve goals is negative (Street, O'Connor, & Robinson, 2007). Research shows that there is a relationship between the type of goal setting used and poor physical health and depression (Street, et al., 2007). It may be possible to prevent or delay depression by improving habit-forming and goal setting strategies in older adults.

Relapse prevention is also important when discussing adherence. A model for relapse prevention is called Marlatt's Cognitive-Behavioral Model. This is typically used for alcoholism treatment, but can also be beneficial when applied in other areas of health related lifestyle changes. This model notes both immediate determinants (coping skills and outcome expectancies) and covert antecedents (lifestyle factors and urges/cravings) are the two major contributors to relapse. A treatment strategy works on identifying major obstacles and then working on how to respond to those situations in a way that will

help reduce the relapse behavior (Larimer, & Palmer, 1999). Also, enhancing self-efficacy is an important factor when preventing relapse. This allows for better management of habits and behavior and also encourages the individual to look objectively and examine one's behavior to observe change. Self-efficacy is defined as a "judgment of one's ability to accomplish a certain level of performance" (Bandura, 1986). Skill acquisition is also emphasized when changing lifestyle habits instead of the view of change as a test of will power (Larimer, & Palmer, 1999).

The Social Cognitive Theory looks at a structure in which one's self-efficacy aligns with expectations, goals, and perceived barriers in the regulation of motivation, behavior, and well-being of the individual. Psychosocial influences have an effect, through self-efficacy, on health functioning. It can affect whether or not a person changes health habits, whether they have any motivation, the level of perseverance, ability to recover from obstacles and setbacks and how they maintain changes that have been achieved (Bandura, 2004).

#### Health Care Professional Advice

Often health professionals shy away from giving advice on lifestyle change because they either do not have time to properly explain the strategy or the gains that could possibly be made will be negated eventually because the strategies typically do not have built-in long term maintenance plans (Gardner, Lally, & Wardle, 2012). Therefore, advice given to professionals on aiding their patients is to help them create habit-formation plans. "Initiation phase" is the first step, and that is when the behavior is selected. Next is the "learning phase". This step is when the behavior is repeated to

strengthen association with the context it is performed in. Finally, the last step is the “stability phase”. This is when the behavior turns into a habit and will therefore be maintained over time with minimal effort (Gardner, et al., 2012). Professionals in the health field who are in direct contact with patients are the most important in aiding patients with bettering their lifestyles. Advice given is critical; however, many patients are not receptive and professionals need to be equipped with information that is effective and concise in order to not frustrate patients. Strategies such as teaching habit-formation techniques are best utilized when it comes to long-term maintenance, because the plan is made so that in the end, the habit requires minimal thought and effort (Gardner, et al., 2012).

Habit formation and adherence to those habits are crucial when attempting to create an overall healthier and more active lifestyle. Self-efficacy has a major effect on these factors and a more positive outlook can make formation and maintenance of those habits and skills much easier. It is crucial to find appropriate and functional strategies to assist individuals in creating lasting behaviors. The purpose of this study was to examine the effect of providing educational information as well as skills training on the ability of the participants in the Wellness Wednesday program to incorporate new health goals with already existing habits.

### III. METHODS

Participants for this study attended Wellness Wednesday sessions and reside at each of these three locations: Edgewood, Belcher, and Towers I. These housing complexes are run by the Akron Metropolitan Housing Authority (AMHA) and are

located in Akron, OH. Wellness Wednesday is an ongoing program begun in 2011 where interprofessional students from the College of Health Professions collaborate in creating health education programming based on a monthly theme. All participants are over the age of 18 with 12 participants falling into the 18-65 age category and 15 falling into the over 65 age category. Many of the participants have multiple health co-morbidities including type 2 diabetes, cardiovascular disease, hypertension, congestive heart failure, cancer and stroke. Between 10 and 20 residents at each location participated in the study attending once a month at each location, with the first session of the Wellness Wednesday program held in September 2015. The study was approved by The University of Akron Institutional Review Board.

On day one the purpose of the study was explained and participants completed the informed consent (Appendix A) prior to completion of any other survey instruments. Participants were told that they could leave the study at any time. Next, participants completed the following instruments: Habits and Goals (Appendix B), the Godin Leisure Time Physical Activity Survey (Appendix C), and Basic Information (Appendix D). Basic Information allowed for a self-report of age, sex, and daily activity level. The Habits and Goals allowed for participants to list some current habitual daily activities and new habits they wished to create. New desired habits were paired with existing habits for participants to develop new desired health habits. The Godin Leisure Time Physical Activity (Godin & Shephard, 1985) survey attains information from the participants on their current physical activity levels. Each participant had individual assistance in completing the instruments as well as choosing desired new habits. Each participant was assigned a unique identifier used on all worksheets in order to maintain anonymity. The

same procedure was followed at each of the three locations. Week one of each month was at Edgewood, week two at Belcher and week three at Towers I.

Participants attended scheduled Wellness Wednesday sessions in September, October, November, February, March and April where they were provided with educational material and given instructions and demonstrations of exercises to perform both during the session as well as on their own, and how to incorporate these exercises with currently existing habitual activities in their daily lives. Activities for each month were related to the topic of the month. The topics for September, October, November, February, March, and April were respectively: revisiting goals and forming smaller new goals, stress and anxiety, diabetes and depression, cardiovascular health and conflict resolution/empathy building, love your body, and sexual health and healthy relationships. Wellness Wednesday combines students from psychology, nutrition and exercise science in a three part session to give a well-rounded education on the monthly topic. The interprofessional diversity of the students allows for different perspectives on a given topic and for questions from participants to be answered by someone in their respective field. Pre-testing occurred in September and the post-testing occurred in March where a survey that is self-report in nature was administered. The self-report post-test Final Survey (Appendix E) was a three question worksheet that required participants to respond to questions related to the research and the Wellness Wednesday program and allowed participants to express thoughts on the program as well as if they were successful in inserting their new habit into their life.

#### IV. RESULTS

The data was collected from each location during the first and last month of the program, September and March, respectively. Table 1 depicts the details of each monthly topic.

Table 1

##### *Wellness Wednesday Monthly Topics*

<b>Month</b>	<b>Topic</b>	<b>Nutrition</b>	<b>Exercise</b>	<b>Psychology</b>
September	Revisiting Goals/Forming Smaller New Goals	Making healthy smoothies; Incorporation of nearly expired foods into healthy dishes	Explanation of Honor's Project; Completion of Informed Consent; Tiny habit goal setting	Active play; Playdough creation of something of pride in their lives
October	Stress and Anxiety	Emotional/stress eating; Anti-inflammatory foods; Food: sweet and spicy pumpkin seed trail mix.	Stress effects on health; Beneficial effects of exercise for stress reduction; Seated/standing dance routine	Relaxation techniques: Guided imagery; Abdominal breathing
November	Diabetes and Depression	Diabetic diet Portion control Food: butternut squash pancakes	Importance of checking blood sugar while exercising; Importance of timing and consistency of exercise; Seated non-weight bearing exercises.	Link between depression & diabetes symptoms; "Mindful thinking" exercise to reframe negative thoughts into positive ones.

February	Cardiovascular Health and Conflict Resolution/ Empathy Building	Heart healthy diet; Healthy substitutions for unhealthy foods; High sodium foods; American Heart Association food labels; Food: Low sodium black bean corn salsa	Heart rate, resting, maximum and target; Teach pulse check and determine maximum and target HR ranges; HR range check during exercise	Empathy building exercises; Personal diversity in empathy expression; Difference between empathy and sympathy.
March	Love Your Body	Strategies to incorporate mindful eating; Importance of slowing down and taking time to appreciate food (smell, taste, texture); Portion control; Food: Fruit and yogurt parfaits	Fun aspect of exercise; Every day activities that meet requirements for energy expenditure; Interactive exercise session where residents created dance moves for all to follow	Body image, how to focus on positive rather than negative aspects; Self-revelation of positive aspects of one's body
April	Sexual Health and Healthy Relationships	Reading nutrition labels; Interactive session on reading food label of store-bought salad dressing and comparing to ingredients in homemade similar item; Food: Strawberry vinaigrette	Demonstration of muscles of pelvic girdle; Benefits of performing Kegels to prevent incontinence; Proper performance of Kegels; Cha-cha slide	Sexual health; Bodily changes with aging in relation to sexual health; Prevalence of STD's in older adults; Importance of condom use at any age in prevention of STDs



Pre-testing was performed at each location, Edgewood, Belcher, and Towers I. The results from the Basic Information Survey and Godin Leisure Survey are displayed in Tables 2-4.

Table 2

*Edgewood Participant Demographics*

<i>Edgewood</i>		
<i>Basic Information</i>		Number of Participants
<i>Sex</i>	Males	1
	Females	6
<i>Age</i>	0-18	0
	18-65	2
	65+	5
<i>Activity Level</i>	Sedentary	3
	Moderate	3
	High	1
<i>Number who completed the pre-test</i>		7
<i>Number who completed the post-test from original group</i>		6
<i>Number who completed the post-test who weren't at the first month</i>		4

Seven participants from Edgewood participated in the pre-testing with 83% over age 65. Forty-three percent of them were considered sedentary, forty-three percent participated in moderate physical activity regularly and fourteen percent in vigorous

physical activity regularly throughout the week. One of the original seven participants did not complete the final survey. However, four additional residents attended the final session and completed the post survey.

Table 3

*Belcher Participant Demographics*

<i>Belcher</i>		
<i>Basic Information</i>		Number of Participants
<i>Sex</i>	Males	4
	Females	9
<i>Age</i>	0-18	0
	18-65	7
	65+	6
<i>Activity Level</i>	Sedentary	5
	Moderate	4
	High	4
<i>Number who completed the pre-test</i>		13
<i>Number who completed the post-test from original group</i>		4
<i>Number who completed the post-test who weren't at the first month</i>		7

Thirteen participants from Belcher participated in the pre-testing with 54% over age 65. Thirty-eight percent of them were considered sedentary, thirty-one percent participated in moderate physical activity regularly and thirty-one percent in vigorous physical activity regularly throughout the week. Nine of the original thirteen participants

did not complete the final survey. However, seven additional residents attended the final session and completed the post survey.

Table 4

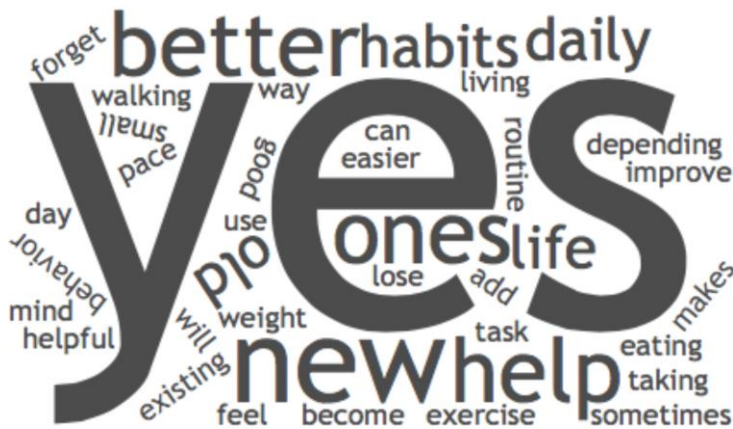
*Towers I Participant Demographics*

<i>Towers I</i>		
<i>Basic Information</i>		Number of Participants
<i>Sex</i>	Males	1
	Females	6
<i>Age</i>	0-18	0
	18-65	3
	65+	4
<i>Activity Level</i>	Sedentary	3
	Moderate	2
	High	2
<i>Number who completed the pre-test</i>		7
<i>Number who completed the post-test from original group</i>		1
<i>Number who completed the post-test who weren't at the first month</i>		0

Seven participants from Towers I participated in the pre-testing with 57% over age 65. Forty-three percent of them were considered sedentary, twenty-eight and one half percent participated in moderate physical activity regularly and twenty-eight and one half percent in vigorous physical activity regularly throughout the week. Six of the

original seven participants did not complete the final survey. No additional residents were present to complete the post-test.

A self-report worksheet was used to collect post-data. The questions were as follows: 1) Do you believe that pairing new tiny habits with existing habits into your daily life is effective? Why or why not? 2) Did you feel that this study and program has helped you to create a healthier life? 3) Do you feel you were successful in inserting your desired new habit into your life? Why or why not? These questions were both answered by all of the participants present during the final month, whether or not they were present the first month for the pre-test. Word clouds (wordclouds.com) were created using the responses of the participants to graphically represent word frequency used in the responses.



*Figure 1:* This graphic shows a word cloud using the responses obtained from participant and non-participant responses for Question 1 of the post-test

As seen in figure 1, participants appear to believe that pairing new tiny habits with existing habits is beneficial and effective. Many reported that starting small instead of a larger plan is easier to remember and complete. Also, some reported that they forget

sometimes if it is too small, that it is good because it will help improve health and life, that it is easier to add a new habit into an existing routine and finally that it is effective because it is not a huge change all at once.

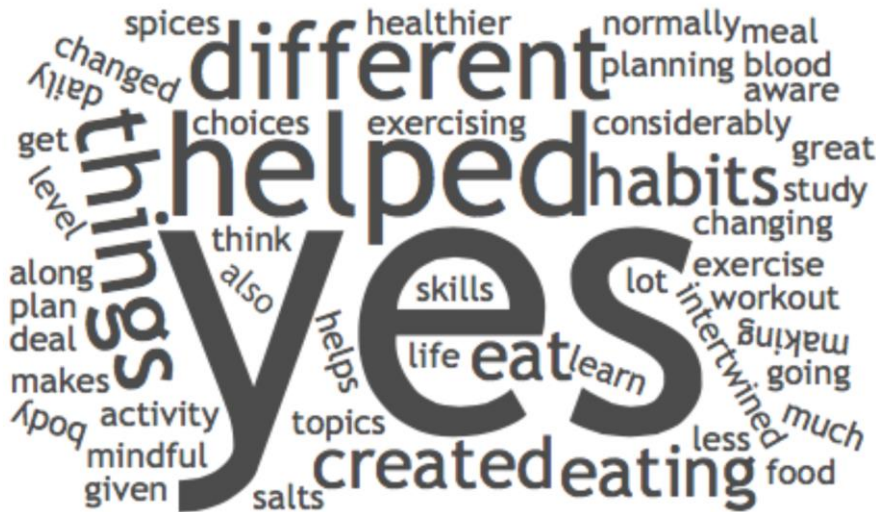
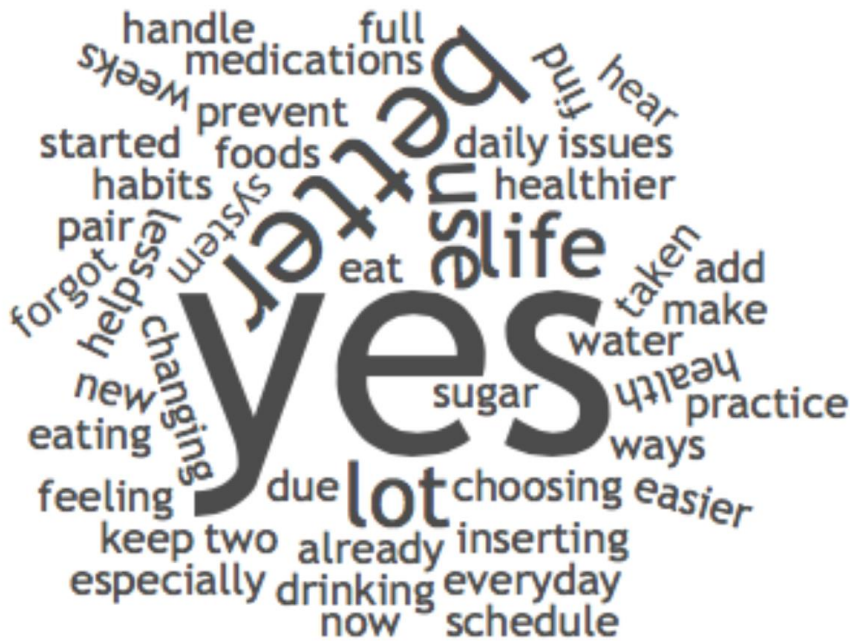


Figure 2: This graphic shows a word cloud using the responses obtained from participant and non-participant responses for Question 2 of the post-test.

As seen in figure 2, participants appear to believe that this research and Wellness Wednesday are helpful in creating a healthier life. Participants reported that the topics intertwined with each other, which helped them to learn, it helped he/she to be more mindful about his/her body, and also it helped to start a thinking toward making better choices. Some also reported that the food is different from what he/she normally eats and it helped he/she to exercise more. One participant reported that due to this program, they created better eating habits and have created a daily workout plan for himself/herself.



*Figure 3:* This graphic shows a word cloud using the responses obtained from participant and non-participant responses for Question 3 of the post-test

As seen in figure 3, participants appear to believe that overall they were successful, although there were some negatives as well. Some reported that they forgot after a few weeks or that it will take more time, while others reported that adding it to their schedule helped. One reported that he/she uses them already in their daily life. Another said that he/she has lost weight due to their new habit, while someone else had experienced a lower blood pressure. Also, another participant reported that he/she began taking their vitamins again and it has further motivated them to join Silver Sneakers. Finally, one participant reported that due to their new goals, they eat healthier, drink more water, and have been taken off of two medications due to changing a few habits.

## V. DISCUSSION

This study looked at how participants involved with the Wellness Wednesday program responded to interventions through educational information as well as skills training to incorporate new health habits with already existing habits to create a healthier life. The goal was to allow participants to attempt to incorporate these habits in their life, as well as continue to have support through the wellness programming. It was hypothesized that by inserting tiny habits after habits that already exist, participants would be able to use the existing habit as a trigger to perform the new one, and therefore having healthier lifestyle habits. The participants had a wide range of goals to try to form into habits as a part of this study. Some examples of their goals and trigger habits are: “when I turn on the light, do 5 leg lifts”, “after I start cooking, drink one cup of water”, “after I finish dinner, meditate for 10 minutes”, “read after I get into bed”, “floss teeth after washing my face before bed”, “perform one push-up when getting dressed”, and “stretch while making coffee”.

Previous research shows a wide variety of habits trying to be changed and they were not successful as it was shown that adherence percentages decreased throughout the study. The adherence to all 5 health habits discussed in their study decreased from 15% to 8% (King, et al, 2009). Conversely, in the current study, only one change was examined which was on a much smaller scale. The results from this research show that from the self report results, many participants added healthy habits to their lifestyle successfully. The majority of the feedback was positive toward using small habits as well as using Wellness Wednesday as a positive behavior change tool.

The habit formation process discussed by Gardner et al. (2012) examined the approach of teaching healthcare professionals how to create successful habit formation plans. The phases they discuss can be paralleled to the Wellness Wednesday program and accompanying research. The “initiation phase” is when the behavior is selected and this can be compared to the first month when each participant was guided on how to select a tiny habit and trigger. The “learning phase” is when the behavior is repeated to strengthen the relationship between the new habit and the trigger. This step was performed by the participant on their own outside of the Wellness Wednesday sessions. The “stability phase” is when the behavior turns into a habit and maintained. This was measured when the participants completed the survey during the final Wellness Wednesday session. Many participants reported that they had incorporated the new habit consistently or were on the way to doing so but have not yet reached the phase where the behavior is more likely to be maintained (Gardner, et al, 2012). Our study demonstrates that this type of model for habit formation can be successful and the programming for Wellness Wednesday has the ability to be an effective intervention strategy for behavior change.

The duration of the Wellness Wednesday program, in total, was 6 months, or 181 days. Each location was visited once a month. Previous research shows that on average, it takes 66 days to form a habit, with great variation from participant to participant. This number falls within the length of the program, which shows that it is an adequate amount of time to accompany the participants as they form new habits (Lally, et al, 2010).



The limitations of this study are related to the involvement of the participants at Wellness Wednesday and include the following: participants attendance as well as actual adherence to the goals of the study, validation of the responses to the initial and final survey questions, not all participants completed both the initial and final questionnaires, and the amount of time per session and per month spent with participants. Future studies on this topic could include more extensive programming as well as more time spent with participants either as a group or individually. Additionally, acquiring more detailed information about the participants such as their likes, dislikes, goals, and recording performance of the new habits daily could be used to track adherence and provide a means to intervene when needed.

In conclusion, it appears that in this population, with effective health education and skills training, it is possible for individuals to create new health habits while pairing them with existing health habits. The interdisciplinary structure of the Wellness Wednesday program permits a reciprocal learning environment for both students and residents in developing both professional and healthy lifestyle skills respectively. Future programming will further explore these strategies.

### Personal Growth

Personally, in performing this research, I feel that I have grown so much as a person. I have been able to be more confident in front of a group of strangers, as well as planning appropriate programming for group education and learning to be engaging and educational at the same time. Aside from the practical aspects, I feel that participating in this study and program made me grow personally and develop deeper understanding for

people, the human condition and learning. I have also realized how much that cannot be assumed about teaching others and how important style and content are to effective learning.

This research will help me as I move on in my career because this has given me valuable experience with working with people, especially a diverse population and an at risk, older adult population. Also, the group of students who ran the program all collaborated to form a cohesive program so it gave me valuable teamwork and program planning experience that will be vital as I move on in my career. Also, getting basic group exercise program planning was a unique experience that built on the Exercise Leadership class that I had at my time at Akron and will be a valuable skill to have gained.

## VI. APPENDICES

### Appendix A

#### **The University of Akron**

#### **Informed Consent**

**Title of Study:** Implementing tiny goals after current habits to create consistent healthy lifestyle routine

**Introduction:** You are invited to participate in a research project being conducted by Megan Lieber, honor's student, and Paige Murrock from the School of Sport Science and Wellness Education along with our advisor, Dr. Judith A. Juvancic-Heltzel.

**Purpose:** One of the goals of Wellness Wednesdays is to help you learn ways to live a healthy life by using healthy behaviors when possible. Being physically active is important.

The main purpose of this study is to help you to set goals for developing healthier habits such as increasing your daily steps by pairing a tiny new desired habit with an already existing habit such as brushing your teeth. Throughout the Wellness Wednesday sessions we will be helping you to make these changes.

Additionally, we will be writing a paper and talking about the study results at a university event in April. We will only talk about general findings you share with us and won't be giving any specific details about anyone who joined us for the sessions.

#### **Procedures:**

You will be asked to complete three surveys tonight; the surveys are just asking just basic information about you such as your sex, age group, physical activity levels, current health habits and desired new health habits. In March, you will be asked to complete the same surveys again.

**Organizing the Population:** All of the residents that attend Wellness Wendesdays at the Towers, Belcher and Edgewood locations have the opportunity to participate in completing these surveys.

**Identification and Quantification of Factors that affect developing new health behaviors:**

We all know that change is difficult even though we desire to do so. Some research has shown that by focusing on creating new attainable tiny habits and pairing them with an already existing behavior it is much easier for individuals to incorporate these new changes in their lives.

These are the worksheets that will be used:

1. **Background worksheet** will look at basic information such as age, sex, and activity level.
2. **Habits and goals worksheet** will examine goals that want to be implemented in daily living and current daily habits that can be used as triggers.
3. **Godin Leisure Form** will give evidence of level of physical activity

**Exclusion:** Non-residents of the Towers, Belcher and Edgewood locations.

**Risks and Discomforts:**

There are no physical or financial risks known in this study. However, you will be asked to provide us with some personal information, but your name will not be on the actual survey.

**Benefits:**

This may help you learn about different things that can affect your health and wellness. You can help us to change our programs to meet your individual needs as well as the needs of your fellow residents.

**Payments to Participants:** None.

**Right to refuse or withdraw:** Your participation is voluntary. You can refuse to participate both now and in March if you choose to do so.

**Anonymous and Confidential Data Collection:**

The surveys that are collected will be kept in Dr. Judith A. Juvancic-Heltzel's office. Only Dr. Juvancic-Heltzel and I will have access to your surveys. When I write my paper and present my results, your name will not be used. I will only be talking about my general findings. Your survey forms will only contain a number that I will assign to you. The master list of names with the participant numbers along with the surveys will be kept locked in Dr. Judith Juvancic-Heltzel's office.

**Confidentiality of records:** Will be maintained. Your name will never be shared as taking part in this survey.

**Who to contact with questions: Professor Judith A. Juvancic-Heltzel at (330)972-6273.**

This project has been reviewed and approved by The University of Akron Institutional Review Board. If you have any questions about your rights as a research participant, you may call the IRB at (330) 972-7666.

**Acceptance & signature:** I have read the information provided above and all of my questions have been answered. I voluntarily agree to participate in this study. I will receive a copy of this consent form for my information.

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**Participant Signature**

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**Date**

Appendix B

**ID#** \_\_\_\_\_

**Date:** \_\_\_\_\_

**Existing Habits:**

**New Tiny Goals:**

1. \_\_\_\_\_

1. \_\_\_\_\_

2. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

3. \_\_\_\_\_

4. \_\_\_\_\_

4. \_\_\_\_\_

“This worksheet is a great way to match up habits that you already have in your life with new goals you have for yourself and habits you want to begin to have. Think of some new small habits you would want to have in your life. Something as simple as being more active by doing small simple movements like a squat or arm raises or healthy habits like taking vitamins or eating a vegetable. Next, think of some habits you already have in your life that could be a trigger for the new goal. Every time you perform the habit, it will remind you to perform the action you set as your goal. They should occur at about the same time every day and things you do daily. Also, if the goal is something you want to do more than once a day, make sure to think of existing habits that you do more than once per day. After you finish listing out your thoughts, take time to match up which goal is most important with the habit that works best as a trigger. Remember to start small and simple, it will help you be the most successful!”

Appendix C

**GODIN LEISURE-TIME EXERCISE QUESTIONNAIRE**

**Participant #** \_\_\_\_\_ **Date** \_\_\_\_\_

1. During a typical 7-day period (a week), how many times on the average do you do the following kinds of exercise for more than 15 minutes during your free time (write on each line the appropriate number).

- |   | Times Per Week |
|---|----------------|
| (a) STRENUOUS EXERCISE (HEART BEATS RAPIDLY)  | _____          |
| (e.g., running, jogging, hockey, football, soccer, squash, basketball, cross country skiing, judo, roller skating, vigorous swimming, vigorous long distance bicycling) |                |
| (b) MODERATE EXERCISE (NOT EXHAUSTING)  | _____          |
| (e.g., fast walking, baseball, tennis, easy bicycling, volleyball, badminton, easy swimming, alpine skiing, popular and folk dancing)                                   |                |
| (c) MILD EXERCISE (MINIMAL EFFORT)  | _____          |
| (e.g., yoga, archery, fishing from river bank, bowling, horseshoes, golf, snow-mobiling, easy walking)  |                |

2. During a typical 7-day period (a week), in your leisure time, how often do you engage in any regular activity long enough to work up a sweat (heart beats rapidly)?

1. Often \_\_\_\_\_      2. Sometimes \_\_\_\_\_      3. Rarely/Never \_\_\_\_\_

Godin G., & Shephard, R.J. (1985). A simple method to assess exercise behavior in the community. *Can J Applied Sport Sciences*, 10, 141-146.

Appendix D

#ID \_\_\_\_\_ Date \_\_\_\_\_

Circle one response.

**1. What age group do you fall into?**

- a. 0-18
- b. 18-65
- c. 65+

**2. Sex?**

- a. Male
- b. Female

**3. Which category of level of activity do you fall under? (see other worksheet)**

- a. Sedentary
- b. Moderately active
- c. Highly active

**New Goal and Trigger Habit:**

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“This worksheet is just a few basic questions about yourself. Your name will not appear on it and will be kept confidential. Also, now that you have completed the first worksheet, please write down your tiny goal and current habit in the space provided. This will just be for our record and so that you can keep the other sheet as a reminder and reference.”



Appendix E

Participant #: \_\_\_\_\_

1. Do you believe that inserting tiny habits into your daily life is effective? Why or why not?

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2. Did you feel that this study and program helped you to create a healthier life?

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3. How do you feel about the habit you wanted to create and how do you think you did at inserting it into your life?

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