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WELLNESS WEDNESDAY: MONITORING LIFESTYLE CHANGES VIA SELF-DETERMINATION THEORY

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Honors Research Project

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TABLE OF CONTENTS

Page

LIST OF TABLES

LIST OF FIGURES

Figure Page

ABSTRACT

Physical activity has been shown to improve cognition, functional and overall health indicators across the lifespan. Older adults are less likely to participate in physical activity due to barriers and risk related factors. Additionally, lower income, underserved populations experience added barriers as well. Interventions addressing negative health behaviors in these populations have rarely been implemented. PURPOSE: Using the Self-Determination Theory (SDT) behavior change theory, the purpose of this study was to determine if five, monthly educational and exercise classes targeting these populations will improve motivation levels and result in facilitating increases in physical activity levels. METHODS: Two validated SDT surveys were completed upon the first month's visit. Through the following months, group exercises and educational materials were prepared according to a monthly theme. Three different locations received the two hour interventions each month for four months. During the last month's meeting, the same surveys were completed and used to compare the pre and post measurements of the participants. RESULTS: The results of the study suggested that the Wellness Wednesday program is effective for individuals in increasing motivation levels. Paired sample *t*-tests revealed a non-significant change in amotivation levels (p=0.06) and a significant increase in intrinsic

motivation levels (p=0.04) for the BREQ-2 survey. Paired sample t-tests revealed a significant decrease in amotivation levels (p=0.01) and a non-significant increase in intrinsic motivation levels (p=0.13) according to the SIMS survey.

CONCLUSION: Results of this study will be used to re-evaluate the Wellness Wednesday program and adjust strategies to enable continued participant engagement and adherence to recommended physical activity guidelines.

CHAPTER I

INTRODUCTION

Regular physical activity can reduce the risk of chronic disease, such as cardiovascular disease, stroke, hypertension, and type 2 diabetes, as well as positively impact obesity, anxiety, and depression (Noorbhai, 2013). In addition to the health benefits, it is possible to reduce medical costs for older adults within the first year of beginning a new physical fitness routine with sustained behavior change (Werner, Teufel & Brown, 2014).

Physical inactivity is strongly linked to physical disability among older adults. Mortality and loss of independence are also strongly related to lack of physical activity in a community-living older adult population. The vast majority of older adults have at least one chronic condition and around 66% have multiple chronic conditions (Werner et al., 2014). The impact of chronic health conditions can be reduced and managed through health promotion intervention projects, programs, and initiatives. To fight against a steady decline in health and rise in chronic disease, it is suggested that all adults, including those over the age of 50 years old, participate in 30 minutes of moderate activity all or most days of the week and participate in at least 2 days of strength training each week. Older adults are also encouraged to include neuromuscular and balance training into their program (Martinson, Crain, Pronk, O'Connor & Maciosek, 2003).

Older adults ages 65 and up are the most sedentary segment of our population. Regular physical activity provides older adults an opportunity to improve quality of life, physical function and reduce disability and functional limitations related to chronic disease (Fitzpatrick, Reddy, Lommel, Fischer, Speer, Stephens & Johnson, 2008).

Many older adults report a variety of barriers preventing regular physical activity including poor health related to chronic disease and symptoms of physical disability (DePasquale, 2014). Other barriers are lack of time, lack of past experience with physical activity, and fear of pain associated with exercise. Many low-income older adults also report environmental barriers such as a lack of transportation and a lack of pedestrian-friendly communities (Werner et al., 2014).

Self Determination Theory (SDT) provides a theoretical framework presenting motivation and also processes of motivation explaining health-related behavior (Teixiera, Carraça, Markland, Silva, & Ryan, 2012). SDT distinguishes three main types of motivation, two of which are important for the results of this study. The two main types of motivation that are further discussed in this study are amotivation and intrinsic motivation. Amotivation is the least favorable for health. Amotivated patients do not even bother to initiate health behavior. So, behavioral regulation does not exist. They may think, for example, that it just a

waste of time and not a valuable thing (Ryan, Patrick, Deci & Williams, 2008). Intrinsic behavior regulation assumes free active engagement in behavior, which does not necessarily have to be rewarded. The main condition for intrinsically driven behavior to be maintained is the satisfaction of basic human needs: autonomy, competence and relatedness (Mieziene, Sinkariova, & Jankauskiene, 2014).

The hypothesis for this study was that applying the Self-Determination Theory constructs combined with a once a month physical activity program will lead to slightly decreased levels of amotivation and progressing motivation levels on the continuum towards intrinsic motivation.

CHAPTER II

REVIEW OF LITERATURE

Physical activity has comprehensive benefits promoting well-being, physical and mental health, prevention of disease and decreasing the onset of diseases, improving quality of life and social aspects and contributing to environmental stability. Physical activity has been shown to benefit people of all ages. It leads to healthy growth and social development in children and reduces the risk of sustaining chronic diseases and ailments (Noorbhai, 2013).

Regular physical activity for individuals aged 65 years and older can help facilitate healthy aging by lowering the risk of chronic disease, disability, and dependency in later life (Patel, Schofield, Kolt, & Keogh, 2013). Exercising modestly and regularly can not only substantially lower the risk of death from coronary artery disease, colon cancer and complication of diabetes, but also make it considerably easier to perform the many tasks of daily life as well as to participate in recreational activities. Further, increased physical activity can reduce those effects of aging that lead to functional declines and poor health. Regular exercise also improves bone health, postural stability, and flexibility, plus provides psychological benefits such as helping to preserve cognitive function, alleviate depressive symptoms, and improve a sense of personal control (Griffin, 2013).

Physical activity programs are especially important for the older adult age group. This is because older adults are especially vulnerable to chronic disease. Today, more than 70 million Americans ages 50 and older suffer from at least one chronic condition (Barrett, 2009). The reasons for the rise in chronic illnesses in this particular population are varied. These include: aging of the population, longer life expectancies due to improvements in medical care for chronic diseases, advances in diagnostic technology, and treatment options for many chronic diseases. Negative lifestyle changes contribute to chronic diseases such as diabetes, high blood pressure, and heart disease. The health consequences of these chronic diseases are extensive. People with chronic disease often struggle with activities of daily living. These can include simple activities such as lifting or walking up stairs and may even include important daily activities including bathing, dressing, and eating. People with chronic disease have significantly higher rates of hospitalization and make more emergency room visits. Their health care spending is higher than that of individuals of the same age without a chronic disease. Community based physical activity programs can help to lower the risk for chronic diseases and can decrease the severity of chronic diseases (Barrett, 2009).

A large number of older adults are either sedentary or engage in little physical activity which is insufficient for health gains (Patel et al., 2013). All

adults should avoid inactivity. Some physical activity is better than none, and adults who participate in any amount of physical activity gain some health benefits (Buchner, 2014). For substantial health benefits, older adults should participate in moderate cardiovascular physical activity five days a week (for a total of at least 150 minutes a week), vigorous cardiovascular physical activity three days a week (for a total of at least 75 minutes a week), or an equivalent combination of moderate and vigorous cardiovascular activity. Older adults should also perform muscle strengthening activities at least three days a week at a light to moderate intensity. Flexibility training should be performed at least two days a week. Individuals should stretch to the point of slight discomfort with no pain, and they should stretch all of the major muscle groups. When older adults cannot perform the recommended amount of physical activity, they should be as physically active as their abilities and their conditions allow (Pescatello, 2014). Balance training activities such as lower body strengthening and walking over difficult terrain have been shown to significantly improve balance, and are thus also recommended as part of an exercise intervention to prevent falls in older adults (Chodzko-Zajko, 2014).

Data from the National Health and Nutrition Examination Survey (NHANES) indicate that US adults spend over half of their waking time (7.7 hours per day) in sedentary behaviors (sitting, reclining, lying down, time in

transit) at home and on the job. These behaviors (measured objectively and by self-report) have been linked in observational studies to an increased risk of obesity, glucose and lipid metabolism disorders, diabetes, and cancer incidence and mortality, even after adjusting for the protective effects of moderate-to-vigorous intensity physical activity (Shubal et al., 2013).

According to the Centers for Disease Control and Prevention (CDC), less than half of adults aged 55 to 64 years met the recommendations for physical activity in 2007. Furthermore, more than 32% of adults aged 65 years or older and more than 25% of adults aged 55 to 64 years reported no physical activity. These statistics highlight the need for effective physical activity interventions targeting midlife to older adults (Lattimore et al., 2010).

Lower income community members have shown consistent disparities in health behaviors and their attendant health outcomes. The various indicators of low socioeconomic status (e.g. low levels of education, low income, and financial hardship) are associated with low levels of participation in health behaviors and high levels of morbidity and mortality. Evidence is accumulating that interventions addressing health behaviors are efficacious, cost-effective, and health promoting. There is a particular need for interventions that are responsive to the health behavior patterns of residents with low income levels and low levels of education (Harley et al.,2014).

Recently, it has been reported that a community-based physical activity program (i.e., chair-based exercises and walking promotion) that also promoted increased consumption of fruits and vegetables resulted in significant improvements in functional performance in older men and women (Straight et al., 2012).

There are many different modalities of exercise that are used in order to improve strength, balance, and overall fitness. Resistance training (RT) has been suggested as a safe and efficacious strategy for improving muscle strength in older adults and may be instrumental in the prevention of age-related muscle loss. There are significant improvements in physical function following RT interventions in older adults (Straight et al., 2012). Researchers have shown that the elderly often fall when they are walking short distances and when their center of mass is displaced away from the base of support. Research has consistently shown that Tai Chi interventions are successful at improving balance, reducing falls, and altering the mechanisms of postural control in older adults. Tai Chi has also been shown to improve the mechanism of forward momentum generation during gait initiation (Vallabhajolusa, Roberts, & Hoss, 2014). Results indicate that a yoga intervention for older adults reduced anger, anxiety and depression, and increased well-being, general self-efficacy, and self-efficacy for daily living, as well

as perceptions of self-control. Yoga has the potential to improve psychological health in older adults (Bonura & Tenebaum, 2014).

Self-efficacy is considered the most important prerequisite for behavior change due to its effect on effort invested and level of performance achieved (Bandura, 2004). Self-efficacy includes both confidence in the skills needed to perform a certain behavior or task such as walking, and confidence in overcoming barriers to that behavior (Bandura, 2004), including both individual barriers and barriers in the physical environment (Gallagher, Clarke, Loveland-Cherry, Ronis, & Gretebeck, 2015).

Barriers to physical activity participation can be categorized as personal, environmental, or social. Personal barriers to physical activity are often the focus of interventions because they are usually under the individual's control. These barriers include time limitations, motivation, energy, knowledge, environment, and confidence. They become particularly complex when lifestyle habits need to be changed. Environmental barriers are more difficult to change and include occupation, milieu, weather, and availability of facilities. Social barriers include socioeconomic status, cultural expectations, and support from family or friends (Beighle & Morrow, 2014).

Self Determination Theory (SDT) provides a theoretical framework presenting not only motivation itself, but also processes of motivation explaining

health-related behavior (Teixiera et al., 2012). SDT distinguishes three main types of motivation and five types of behavior regulation which lay in the continuum from the least to the most self-determined. The least favorable for health is amotivation. Amotivated patients do not even bother to initiate health behavior. So, behavioral regulation does not exist. They may think, for example, that it just a waste of time and not a valuable thing. Furthermore, controlled motivation implies two types of behavior regulation. One of the controlled forms of motivation is external regulation, when behavior is performed under environmental pressures such as rewards, "musts" and "shoulds" or guilt for not doing. Patients follow their treatment recommendations because doctor, parents or spouse (significant others) would be angry or disappointed if they did not. Health care practitioners often trigger this type of behavior regulation by initiating patients' behavior change on the grounds of their authority. The other form of controlled motivation is introjection when a person behaves seeking acceptance, praise, or trying to avoid rejection, shame or guilt. This kind of behavior regulation covers more self-determined factors than in the case of external regulation, but is still initiated by environmental pressures. Both types of controlled behavior regulation are not related to long-term maintenance of health related behavior (Ryan et al., 2008). Inwardly triggered or supported autonomous motivation implies self-initiated behavior. One of the three types of

autonomous behavior regulation is identified regulation. The behavior is important to patients and integrated into their value system. They may be involved in health behavior because they personally appreciate and understand the importance of behavior to remain healthy for a long time. Identified behavior regulation is enhanced by practitioners when they provide adequate treatment related information, encourage genuine interest and personal meaning but do not control and do not make pressure to behave in a certain way. Further in the continuum lies integrated regulation. In this case, persons not only appreciate health-related behavior, but such behavior is consistent with their other values and lifestyle. Health practitioners encourage the integration supporting the patients when they face barriers in changing behavior, providing patterns of behavior and helping to make the informed choice (Ryan et al., 2008). Finally, intrinsic behavior regulation assumes free active engagement in behavior, which does not necessarily have to be rewarded. The main condition for intrinsically driven behavior to be maintained is the satisfaction of basic human needs: autonomy, competence and relatedness (Mieziene, Sinkariova, & Jankauskiene, 2014).

Autonomy reflects the need to engage in behaviors with a sense of choice or personal endorsement. Competence represents the need to feel optimally challenged and capable of achieving goals and desired outcomes. Relatedness

reflects the degree to which an individual feels connected to and understood by others. Optimal outcomes are attained when all three needs are met and balanced (Ferrand, Nasarre, Hautier & Bonnefoy, 2012).

Relatedness support occurs when individuals are provided with a sense of connection and belonging with others who engage in the activity with them (Springer, Lambord & Pollard, 2013). When people are physically active, they generally have more opportunities to be socially engaged with others. The article, *Articulating Meanings of Positive Adjustment to Aging through Physical Activity Participation among Older Adults*, showed that support from friends and family is important for increasing leisure and recreational physical activity participation among older adults (Kelley, Little, Jong Seon, Birendra & Henderson, 2014).

Competence support is provided through experiences that challenge individuals to use their skills but is lacking when extremely easy or difficult challenges are presented to the individual (Springer et al., 2013).

SDT-based interventions aim at enhancing autonomous types of motivation for any given behavior. People are autonomously motivated when they engage in an activity because the activity will help them to attain valued goals because of the personal importance and meaningfulness of the activity or because of interest, enjoyment, or challenge. Autonomously motivated behavior

is self-initiated rather than controlled or driven by external demands or in order to avoid feelings of guilt or shame. Because of its voluntary character, autonomous motivation is assumed to yield long-term engagement in physical activity, which is essential for healthy aging (Van Hoecke, Delecluse, Bagaerts, Boen, 2014).

The article, *Evaluation of a Community-based Health Promotion Program for the Elderly: Lessons from Seniors CAN*, discusses the importance of mastery (known as autonomy in the SDT). Mastery, also described in the literature as self-efficacy and autonomy, is an individual's belief that his or her choices and actions determine outcomes in his or her life. Autonomy is an important construct because it is positively related to self-evaluations of health and negatively related to functional impairment, illness, and mortality, particularly for older adults. Autonomy is also related to fewer depressive symptoms and may have a greater impact on health than social support ("Evaluation of a Community", 2006).

Among older and low income adults, education is positively related to one's feelings of autonomy and to several other predictors of successful aging, including social support, physical activity, moderate drinking, and less smoking. Lifelong learning may also prevent declines in cognitive function that are often

associated with aging by providing mental stimulation ("Evaluation of a Community", 2006).

The U.S. Task Force on Community Preventive Services (Task Force) has strongly recommended communitywide campaigns, individually adapted health behavior change programs, and social support interventions, among other interventions, as approaches to increase physical activity in community settings (Lattimore et al., 2010).

It was hypothesized that minimal improvements would be seen in the individuals participating in the Wellness Wednesday program, leading to a slight increase in motivation levels for participants.

CHAPTER III

RESEARCH DESIGN AND METHODS

Subjects:

Participants for the study were residents of income-based housing locations in Akron. These locations include: Towers I, Belcher, and Edgewood. The study population consisted of 3 males and 10 females, ages 40 to 80 years. The average BMI of the population sample was 33.05 kg/m^2, classifying the average of the population as obese. Participants were excluded if they were unable to attend the Wellness Wednesday sessions and they were excluded from the exercise portion of the program if they had any physical impairment.

Procedures:

This study was approved by The University of Akron Institutional Review Board. This study began by the researchers attending the first Wellness Wednesday session during the second week of October. Upon arrival each participant was given a unique identifying number to protect their anonymity. During the October session, at each location, Health Risk Assessments as well as height, weight and blood pressure were collected on each resident. To measure motivation level, the following survey instruments were completed by each resident: Situational Motivational Scale, or SIMS, (Guay, 2000) and Behavioral Regulation in Exercise Questionnaire, or BREQ-2 (Markland, 2004). This

questionnaire uses the Self-Determination Theory (SDT) to categorize an individual's level of motivation. The SDT was developed in 1985 by Edward L. Deci and Richard M. Ryan. This theory works towards classifying individuals level of motivation as well as explaining how to help them progress from the level of amotivation to intrinsic motivation (Deci & Ryan, 2000). The researchers along with a team of interdisciplinary students led each weekly meeting with the supervision of a graduate assistant from the School of Sport Science and Wellness Education. The meetings were held to inform the attendees of the program about healthy lifestyle changes and practices that would improve their quality of life. There were three different sites where the program took place. Researchers instructed the sessions three Wednesday nights per month, with the same monthly themed program at each of the three locations during the month. Every month, a theme was chosen by assessing the residents' feedback on their interests. Themes during this study included: The Importance of Sleep, Barriers to Exercise, and Active Aging. Each meeting was broken into three mini informational sessions and an exercise portion. Students from the psychology, nutrition and exercise science programs at UA were the leaders of the separate portions. During the exercise science presentation, instructors first gave informational statistics and advice about the topic of the month and took questions from the residents. After all material was presented, an exercise session

related to the monthly theme was performed. The exercise programs consisted of 10-15 minutes of light to moderate intensity exercise including activities such as stretching, yoga, tai-chi, chair aerobics, resistance band work and dancing. A short warm-up and cool-down was administered each meeting for the safety of the participants. At the end of the study, during the final monthly meeting, identical surveys were completed by the residents at each location. Pre and post surveys were matched by the pre-assigned participant numbers from session 1. Variables that were measured in this study include mean age, weight, and height of residents. Additionally, motivation levels were compared over time.

Statistical Analyses:

All data was entered in to Excel where paired sample *t*-tests were conducted to compare the differences between the pre and post variables of SIMS and BREQ-2 questionnaires. Significance for the data analysis was set at $p < 0.05$.

CHAPTER IV

RESULTS

The purpose of this study was to validate the effectiveness of the Wellness Wednesday program by determining motivation levels before and after the program. The SIMS and BREQ-2 surveys were used to determine motivation levels.

Participant characteristics are given in Table 1.

Table 1: *Participant Physical Characteristics*

Participants	BMI (kg/m^2)	Males	Females
N= 13	33.05	3	10

Paired sample *t*-tests revealed a non-significant change in amotivation levels (p=0.06) and a significant increase in intrinsic motivation levels (p=0.04) for the BREQ-2 survey. Figures 1-2 and Table 2 depict the results.

Table 2: *BREQ-2 Results (All locations)*

	N=	Pre- (Mean)	Post- (Mean)	*p*
Amotivation	13	.692	.058	0.06
Intrinsic Motivation	13	2.90	3.66	0.04*

* $p < 0.05$

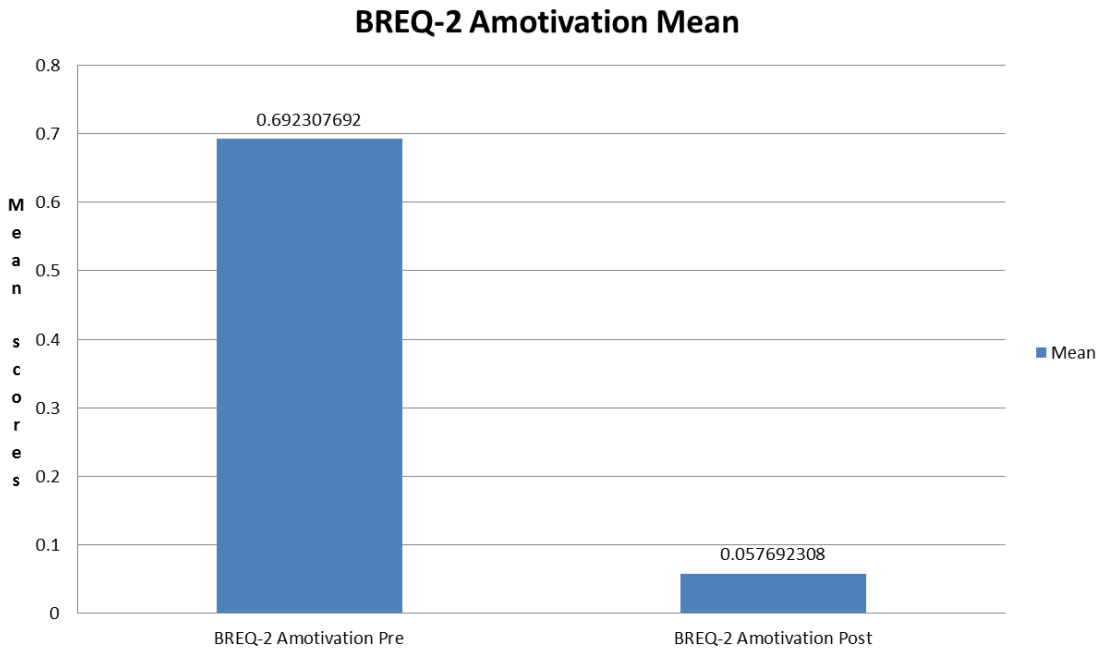

Figure 1: *BREQ Amotivation Levels*

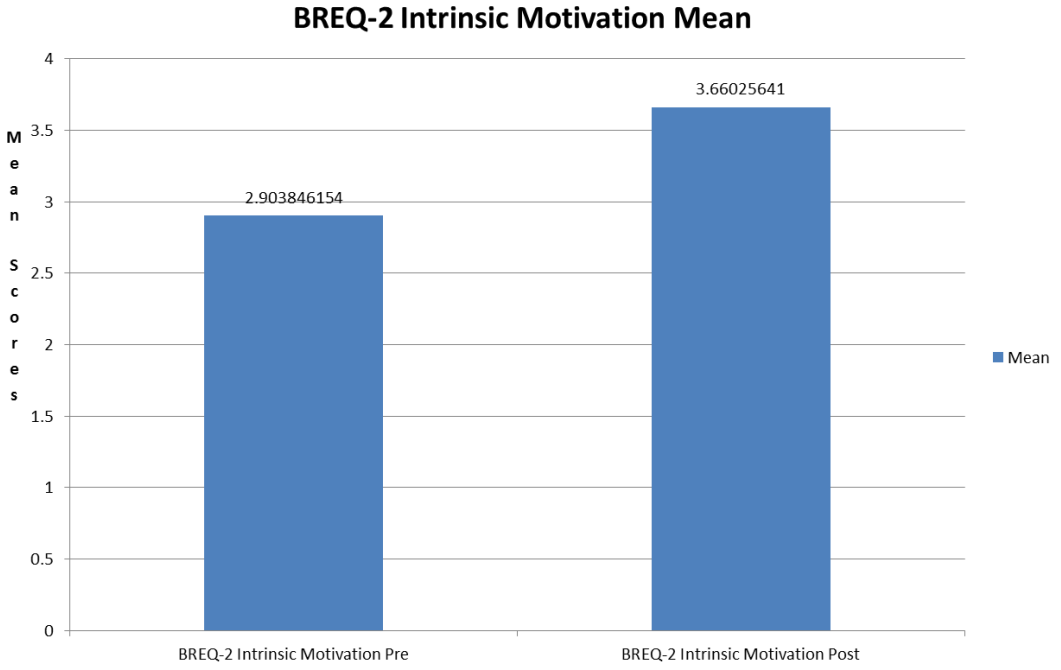

Figure 2: *BREQ Intrinsic Motivation Levels*

Paired sample *t*-tests revealed a significant decrease in amotivation levels (p=0.01) and a non-significant increase in intrinsic motivation levels (p=0.13) according to the SIMS survey. Table 3 and Figures 3-4 depict the results.

Table 3: *SIMS Results (All Locations)*

	N=	Pre-(Mean)	Post-(Mean)	*p*
Amotivation	12	3.15	1.29	0.01*
Intrinsic Motivation	12	5.52	6.42	0.13

*$p < 0.05$

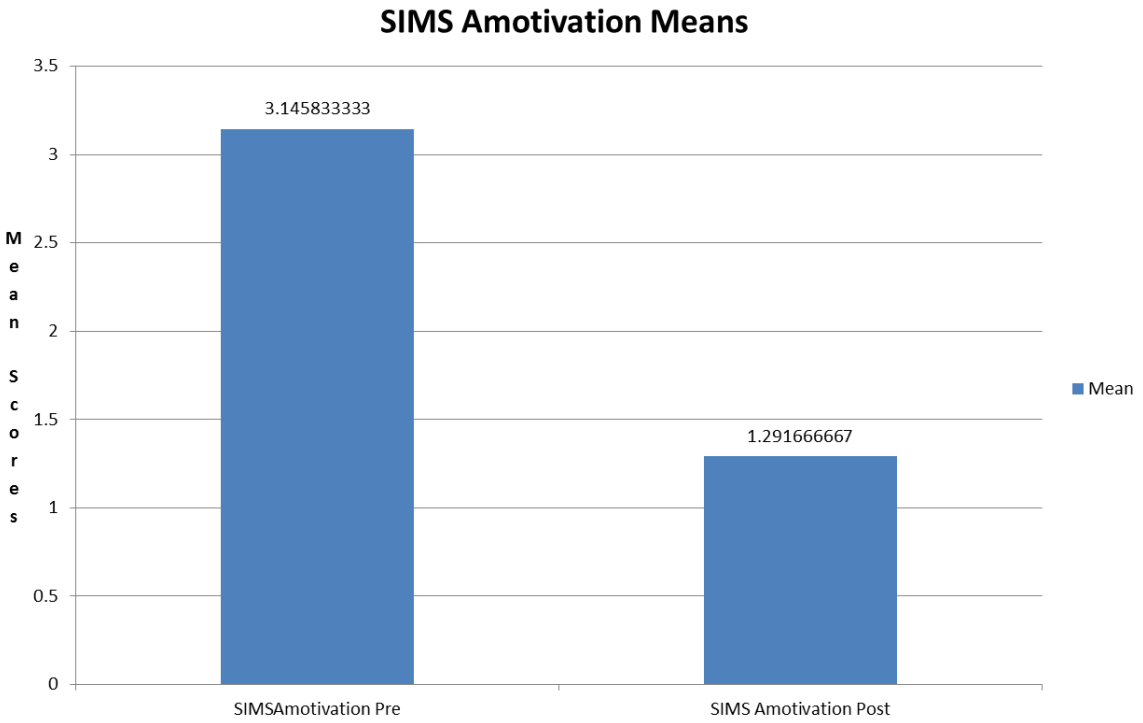

Figure 3: *SIMS Amotivation Levels*

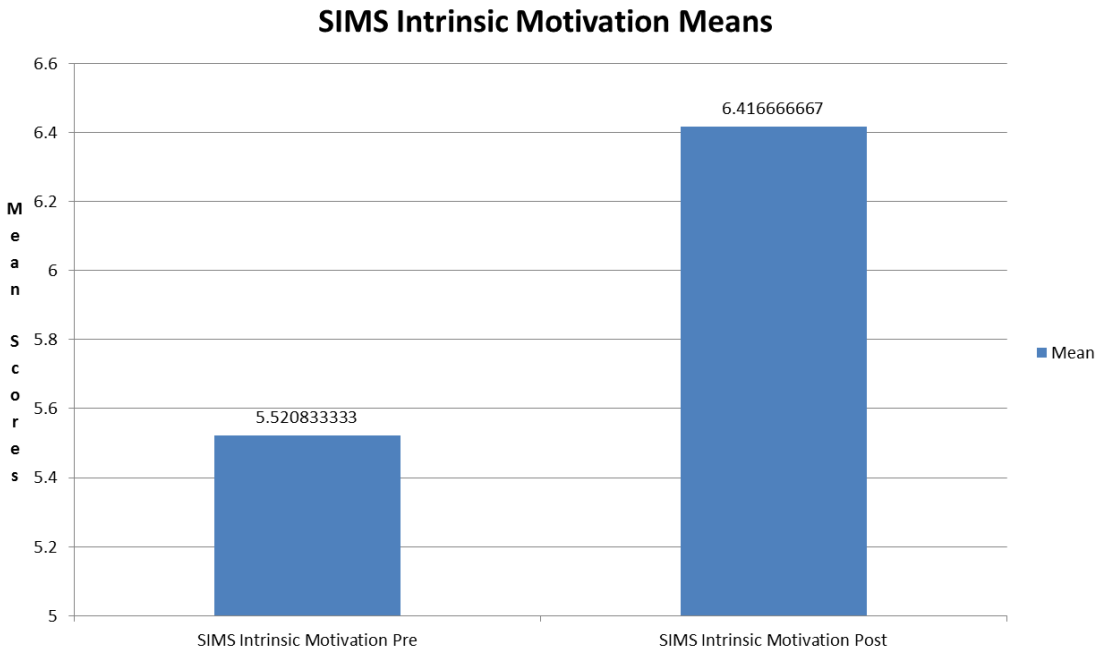

Figure 4: *SIMS Intrinsic Motivation Levels*

Table 4 depicts BREQ-2 results by location. Towers experienced a significant change in intrinsic motivation, $p = 0.04$ with residents demonstrating an increase in intrinsic motivation. Changes in amotivation at both locations and intrinsic motivation at Belcher were non-significant $p \leq 0.07$.

Table 4: *BREQ-2 Results by Location.*

	Location	*N*	Pre-(Mean)	Post-(Mean)	*p*
Amotivation:	Towers	8	0.06	0.00	0.35
	Belcher	5	1.70	0.15	0.07

Intrinsic	Towers	8	2.75	3.79	0.04*
Motivation	Belcher	5	3.15	3.45	0.60

* $P < 0.05$

Table 5 depicts SIMS results by location. There were no significant changes in either amotivation or intrinsic motivation observed at Towers or Belcher, $p < 0.05$.

Table 5: *SIMS Results by location*

	Location	*N*	Pre-(Mean)	Post-(Mean)	*p*
Amotivation	Towers	8	2.47	1.28	0.14
	Belcher	4	4.50	1.31	0.05
Intrinsic Motivation	Towers	8	5.06	6.53	0.09
	Belcher	4	6.44	6.19	0.51

CHAPTER V

DISCUSSION

The BREQ-2 was the first instrument used to measure motivation levels. Using the results from the BREQ-2, we found that there were no significant differences at all locations for changes in amotivation among residents. There was a trend toward participants appearing to become more motivated to exercise. The BREQ-2 survey also showed that there was a significant difference between pre and post samples for intrinsic motivation. Data suggests that residents are moving more towards intrinsically motivated behavior.

The BREQ-2 was also used to analyze data from each location. At the Towers location, no significant differences were observed between pre- and post amotivation. The number of participants that were amotivated did not significantly increase. Significant differences were observed between pre and post intrinsic motivation. The number of participants intrinsically motivated increased.

At the Belcher location, no significant differences were observed between pre- and post amotivation according to the BREQ-2 survey. The number of participants that were amotivated did not significantly increase. No significant differences were observed between pre and post intrinsic motivation. The

number of participants that were intrinsically motivated did not significantly decrease.

The SIMS was also used as a measure for motivation levels. The SIMS survey showed that there were significant differences overall for changes in amotivation among residents. The data suggests that participants appear to becoming more motivated to exercise. The SIMS survey also suggested that there were no significant differences between pre and post samples for intrinsic motivation. Data suggests a trend towards residents moving more towards intrinsically motivated behavior.

The SIMS survey was also used to analyze the data from each of the locations. At the Towers location, no significant differences were observed between pre- and post amotivation. The number of participants that were amotivated did not significantly increase. No significant differences were observed between pre and post intrinsic motivation. Data suggests a trend towards residents moving more towards intrinsically motivated behavior.

At the Belcher location, no significant differences were observed between pre- and post amotivation. The number of participants that were amotivated did not significantly increase. No significant differences were observed between pre and post intrinsic motivation. Data suggests a trend towards residents moving more towards intrinsically motivated behavior.

According to both the BREQ-2 and SIMS residents at both locations appear to be moving towards more intrinsically motivated exercise behavior. Residents at both Towers and Belcher appear to be motivated to participate in physical activity. The data used only included a small data set, but it is encouraging suggesting that Wellness Wednesday programming has been successful.

CHAPTER VI

CONCLUSION

Physical activity promotes well-being, physical and mental health, prevention of disease and decreasing the onset of diseases, improving quality of life and social aspects and contributing to environmental stability (Noorbhai, 2013). Regular physical activity for individuals aged 65 years and older can help facilitate healthy aging by lowering the risk of chronic disease, disability, and dependency in later life (Patel et al., 2013). Exercising modestly and regularly can not only substantially lower the risk of death from coronary artery disease, colon cancer and complication of diabetes, but also make it considerably easier to perform the many tasks of daily life as well as to participate in recreational activities. Further, increased physical activity can reduce those effects of aging that lead to functional declines and poor health (Griffin, 2013).

Individuals are more likely to adhere to a physical activity program if they feel intrinsically motivated. In order to feel intrinsically motivated, it is important that the three social constructs of self-determination theory are met (competence, relatedness, autonomy). When individuals feel amotivated, they are much less likely to adhere to an exercise program. Many of these amotivated clients feel they have no reason to exercise or don't see why they should have to exercise (Mieziene, Sinkariova & Jankauskiene, 2014).

The aim of the present study was to evaluate the effectiveness of a community based physical activity and wellness program on levels of motivation of the participants. The results of the study suggest that the Wellness Wednesday program appears to be effective in increasing motivation levels of participants.

CHAPTER VII

LIMITATIONS, FUTURE DIRECTIONS, AND PRACTICAL APPLICATIONS

Limitations

1. Participation in Wellness Wednesday is completely voluntary. The residents also were not required to complete the surveys gauging motivation levels.
2. Visits to each location occurred only once a month for 90-120 minutes each visit. Limited visits and amount of time with the residents led to limited amounts of change
3. The small sample size was a limitation to this study.
4. Many of the residents had a low education level, which increased the amount of time we had to spend working on tasks including reading or writing.

Future Directions

1. Future research should include more frequent Wellness Wednesday sessions.
2. Further research should include awards for attendance to encourage participant program adherence.
3. Further research should include better community outreach of the program. It should be noted that this program isn't only for residents,

it is for all members of the community; therefore, it should be better promoted to the community of Akron as a whole.

4. Future research should include more options on levels of exercise. Multiple sessions should be offered for different exercise levels due to the varying abilities of the participants.
5. Future research should look to include a larger sample size for measuring motivational levels.

Practical Applications

1. I've found that it is extremely satisfying to watch clients make positive change. I hope to become a physical therapist in the future and this will be a big part of my career.
2. It is also important to keep in mind that not all individuals will change, no matter how much work you put into their programming. An individual will make the decision to change on their own. It is important to keep in mind that I can only help them to make that decision, not make the decision for them.
3. Motivation is a very large part of an individual's exercise adherence. If individuals are not motivated to exercise, they will most likely not exercise.

4. The Self-Determination constructs can be applied in many areas. Individuals need to feel in control (autonomous), feel like they have mastered the skill (competent), and also feel like they have support or a sense of belonging (related) in order to achieve intrinsic motivation.

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APPENDIX A

The Situational Motivation Scale (SIMS)

Directions: Read each item carefully. Using the scale below, please circle the number that best describes the reason why you are currently engaged in this activity. Answer each item according to the following scale: 1: corresponds not all; 2: corresponds a very little; 3: corresponds a little; 4:corresponds moderately; 5: corresponds enough; 6: corresponds a lot; 7: corresponds exactly.

Why are you currently engaged in this activity?

1. Because I think that this activity is interesting 1 2 3 4 5 6 7
2. Because I am doing it for my own good 1 2 3 4 5 6 7
3. Because I am supposed to do it 1 2 3 4 5 6 7
4. There may be good reasons to do this activity, but personally I don't see any 1 2 3 4 5 6 7
5. Because I think that this activity is pleasant 1 2 3 4 5 6 7
6. Because I think that this activity is good for me 1 2 3 4 5 6 7
7. Because it is something that I have to do 1 2 3 4 5 6 7
8. I do this activity but I am not sure if it is worth it 1 2 3 4 5 6 7
9. Because this activity is fun 1 2 3 4 5 6 7
10. By personal decision 1 2 3 4 5 6 7
11. Because I don't have any choice 1 2 3 4 5 6 7
12. I don't know; I don't see what this activity brings me 1 2 3 4 5 6 7
13. Because I feel good when doing this activity 1 2 3 4 5 6 7
14. Because I believe that this activity is important for me 1 2 3 4 5 6 7
15. Because I feel that I have to do it 1 2 3 4 5 6 7
16. I do this activity, but I am not sure it is a good thing to pursue it 1 2 3 4 5 6 7

Codification key: Intrinsic motivation: Items 1, 5, 9, 13; Identified regulation: Items 2, 6, 10, 14;
External regulation: Items 3,7, 11, 15; Amotivation: Items 4, 8, 12, 16

This is the source for the scale
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On the Assessment of Situational Intrinsic and Extrinsic Motivation: The Situational Motivation Scale (SIMS)1
Fr´ed´eric Guay,2;5 Robert J. Vallerand,3 and C´eline Blanchard4

APPENDIX B

EXERCISE REGULATIONS QUESTIONNAIRE (BREQ-2)

Age: _____ years **Sex: male female (please circle)**

WHY DO YOU ENGAGE IN EXERCISE?

We are interested in the reasons underlying peoples' decisions to engage, or not engage in physical exercise. Using the scale below, please indicate to what extent each of the following items is true for you. Please note that there are no right or wrong answers and no trick questions. We simply want to know how you personally feel about exercise. Your responses will be held in confidence and only used for our research purposes.

		Not true for me		Sometimes true for me		Very true for me
1	I exercise because other people say I should	0	1	2	3	4
2	I feel guilty when I don't exercise	0	1	2	3	4
3	I value the benefits of exercise	0	1	2	3	4
4	I exercise because it's fun	0	1	2	3	4
5	I don't see why I should have to exercise	0	1	2	3	4
6	I take part in exercise because my friends/family/partner say I should	0	1	2	3	4
7	I feel ashamed when I miss an exercise session	0	1	2	3	4
8	It's important to me to exercise regularly	0	1	2	3	4

9	I can’t see why I should bother exercising	0	1	2	3	4

		Not true for me		Sometimes true for me		Very true for me
10	I enjoy my exercise sessions	0	1	2	3	4
11	I exercise because others will not be pleased with me if I don't	0	1	2	3	4
12	I don't see the point in exercising	0	1	2	3	4
13	I feel like a failure when I haven't exercised in a while	0	1	2	3	4
14	I think it is important to make the effort to exercise regularly	0	1	2	3	4
15	I find exercise a pleasurable activity	0	1	2	3	4
16	I feel under pressure from my friends/family to exercise	0	1	2	3	4
17	I get restless if I don't exercise regularly	0	1	2	3	4
18	I get pleasure and satisfaction from participating in exercise	0	1	2	3	4
19	I think exercising is a waste of time	0	1	2	3	4

Thank you for taking part in our research.

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