Spring 2018

Sport Motivation of Senior Athletes

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USD HONORS THESIS:

SPORT MOTIVATION OF SENIOR ATHLETES

by

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A Thesis Submitted in Partial Fulfillment
Of the Requirements for the
University Honors Program

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Department of Education
The University of South Dakota
MAY 2018

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ABSTRACT

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Sport Motivation of Senior Athletes

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Background and Purpose: The population of older adults is rapidly growing in the United States, though many of these individuals do not meet the Center for Disease Control recommended activity and exercise recommendations. A select group however, senior athletes, appear to be to active and, in fact, surpass these recommendations with their activity level. The motivation of this unique population of actively aging adults has not been carefully studied. The purpose of this study was to better understand the motivating factors of older adults who participate in competitive sports and to further investigate how motivation may be impacted by age, gender, marital status, race, education status, and employment status. **Methods**: A total of 643 registered athletes at the 2017 National Senior Games provided basic demographic data and took the Sport Motivation Scale-II (SMS-II). The survey allowed subscale scores for: intrinsic, integrated, identified, interjected, external, or amotivation as well as a composite relative autonomy index (RAI) with weighting of each subscore. **Data Analysis:** Descriptive statics were applied to demographic data and mean scores for each of the motivational categories were determined from athlete results. A one-way ANOVA and post hoc (Ryan-Einot-Gabriel-Welsh F) REGWF was used to examine the relationship between the RAI and each demographic category. **Results:** Results of SMS II subscale questions demonstrate higher scores on the intrinsic questions with a mean score of 5.34 and lower

scores on amotivation questions with a mean score of 1.72. The RAI of all participants

was 54.449 (SD = 23.495). A one-way ANOVA and post hoc provided

significant differences in RAI by age ($p < .0001$) with 50-79 year olds having a higher RAI than 80 and older athletes. A significant difference ($p < .0001$) was found by gender with men having a lower RAI then women. It was found that widowed athletes have a significantly lower RAI ($p = .006$) than all other categories. There were no significant differences by education level or race. It was found that homemakers have a significantly lower RAI ($p = .003$) than those who identified as retired, employed for wages, or unable to work. **Conclusion:** Senior athletes appear to be primarily self-determined and find enjoyment out of competition. As they age, athletes lose motivation to play without an external reward. It is also found that men and widowed athletes seek an external motivation.

KEY WORDS: Senior Athletes, Motivation, Sport Motivation Scale II

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ABSTRACT

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CHAPTER ONE

Review of Literature

The population of adults age 65 and older is the fastest growing in the world. In 2006, 500 million people worldwide were 65 and older, and it is projected that by 2030, that number will reach 1 billion. Developing countries will see a jump of 140 percent in the 65 and older population by 2030 (State, January 20, 2001- January 20, 2009). It is also found that of this increasing older population, "67% of them over the age of 60 are sedentary for at least 8.5 hours out of the day" (Harvey, 2013). Current evidence shows that this age group is the most sedentary of all ages with only 26.5% of seniors having an active to healthy level of exercise (Colley, 2011; Council, 2018; Matthews, 2012).

Since older adults are often viewed as weak or less able, they are not commonly seen as acceptable subjects of athletic competitions. However, the number of older adults participating in highly competitive sports is rapidly increasing (Dionigi and O'Flynn, 2007). The National Senior Games, which is the largest multi-sport event in the world for seniors, started out in 1987 with only 2,500 athletes. At the 2017 National Senior Games, 10,530 athletes participated ("History of the NSGA," 2019).

Being active in sport with aging is important, and it brings with it a multitude of positive advantages. Active older adults report that sport brings about a variety of opportunities including friendship, fitness, competition, and personal-competence (Dionigi, 2002; Dionigi and O'Flynn, 2007). It is found that these individuals build friendships by incorporating social engagement in their regular exercise (Steltenpohl, 2016). Through fitness, participants report competing to counteract their aging bodies and avoid ill health or diseases. Competition through sport was found to give senior athletes

the opportunity to display competitiveness, enjoy winning, be recognized, and compare their performance levels to other's of a similar age (Dionigi and O'Flynn, 2007). These older adults also report the feeling of personal-competence through competing later in life (Colley, 2011). This gives older adults a feeling of pride and achievement through accepting their limitations (Dionigi, 2002).

When older adults are motivated to compete, research suggests that their quality of life increases (Balboa-Castillo et al., 2011; Dogra, 2012). If they remain inactive through their aging years, they appear more likely to develop biomechanical and psychological health issues that decrease their quality of life (Bouchard, 2007). Currently, 72% of senior males and 67% of senior females are overweight or obese due to a sedentary lifestyle (West, 2014). Sedentary behavior also has a direct relationship with increased cardiovascular disease (Hajduk, 2016). It is found that when older adults are less sedentary, they tend to age better; and in turn, they report better life satisfaction (Balboa-Castillo et al., 2011; Biggs, 1993; Dogra, 2012). Changing a sedentary older adult's lifestyle to incorporate 30-60 minutes of activity has been shown to improve their quality of life (Balboa-Castillo et al., 2011). This time can be translated in terms of playing time at the National Senior Games. For example, in a game of three-on-three half court basketball for ages 50-74, there are two halves of 15 minutes each ("Official Sport Rules 2019 National Senior Games," 2018). By playing one game of basketball, older adults are could improve their quality of life.

It is determined that being active in sport is beneficial for aging adults. However, determining the best method to motivate this population has less concrete support (Newton and Fry, 1998).

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Deci and Ryan have defined the constructs of motivation. Motivation can best be looked at through a multidimensional view in which one looks at the level of motivation and the orientation of that motivation. The levels of motivation are categorized in the Organismic Integration Theory (Ryan and Deci, 2000). A simple categorization of motivation can be seen in Figure 1.
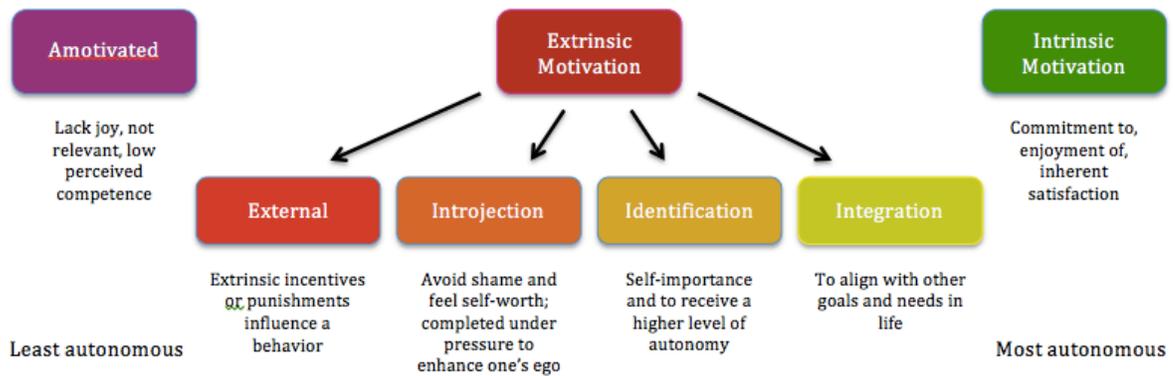

Figure 1. Organismic Integration Theory

Starting from the far left of the scale, amotivation is defined as a lack of intention to act (Deci and Ryan, 2002). Amotivation is when a person has questioned why they even started playing a sport and realized that they are only playing for the praise at the end activity (Pelletier et al., 2013).

Moving to the right, the next group of motivation is known as extrinsic motivation. Unlike intrinsic motivation, extrinsic motivation is broken down into many subcategories: external, introjection, identification, integration. Extrinsic motivation as a whole is defined as an individual doing an activity to receive a separate outcome at the end (Ryan and Deci, 2000). Senior athletes that are extrinsically motivated are linked to

being high in ego orientation. This means that they are only looking to win and receive an award after a competition. It is found that they are looking for tangible rewards that will boost their overall popularity (Newton and Fry, 1998).

The first level of extrinsic motivation is labeled as external regulation and is the least autonomous form. External regulation is expressed when outside incentives or repercussions influence the behavior. This meaning that an individual does an activity for the reward and to avoid a punishment (Ryan and Deci, 2000).

The next level of extrinsic motivation is introjected regulation. In this type of motivation, an individual does a behavior to avoid shame and to feel self-worth. They complete an activity under pressure to enhance their own ego in return (Ryan and Deci, 2000).

Moving to the right on the scale, the next form of extrinsic motivation is identified regulation. In this form, one does the task to feel important and to receive a higher levels of autonomy. These people are more likely to be committed and engaged in the act (Ryan and Deci, 2000). It is found that identified regulation can be directly related to high motivation if the behavior is perceived as unexciting or repetitive (Ryan, 1995).

The final form of extrinsic motivation is integrated regulation. This form is when one sees the task to align with their other goals and needs in life. Integrated motivation is the most self-determined type without being intrinsically motivated. The line is drawn because an individual that is motivated by integrated regulation still does an activity for an outcome outside of the activities outcome but is still self-determined. This translates into the final form of motivation, intrinsic motivation (Deci and Ryan, 2002).

The most autonomous form of motivation is known as intrinsic motivation. This is described as completing a task for one's happiness or challenge instead of for an external reward (Ryan and Deci, 2000). It is found that individuals, specifically senior athletes, who are high in task orientation, also benefit from commitment to, enjoyment of, and participation in physical activities. Researchers have found that intrinsically motivated athletes are more likely to put forth a higher effort and enjoyment over a longer period of time compared to extrinsically motivated athletes. In turn, senior athletes can enjoy their sport no matter the outcome (Newton and Fry, 1998). A previous study done on senior athletes used the Sport Motivation Scale to say that this population is more intrinsically motivated (Shaw, 2005). The purpose of this study was to better understand the motivating factors of older adults who participate in competitive sports and to determine any impact of demographic factors such as age, gender, marital status, race, education status, or employment status.

CHAPTER TWO

Methodology

Participants and Procedure

Participants in this study were over the age of 50 years and were registered senior athletes in the 2017 National Senior Games in Birmingham, AL. Participants approached the Senior Athlete Fitness Exam booth at the senior games and gave verbal and written consent before taking the survey. The study was approved by the University of South Dakota Institutional Review Board. Participants were allowed to sit in the booth are to complete the questionnaire at their own pace.

Instrument

Demographic Measures. Prior to taking the sport motivation scale, participants filled out a standard demographic questionnaire. The questionnaire included: age, ethnicity, education, marital status, employment status, and history as a competitive athlete. An example of the questions can be found in Appendix A.

The Sport Motivation Scale II (SMS-II). The sport motivation scale used was known as the Sport Motivation Scale II (SMS-II). The scale encompassed 18 questions with 3 questions relating to each level of motivation: intrinsic, integrated, identified, introjected, external, and amotivated. Responses were given on a 7-point Likert scale (1 = *does not correspond at all* to 7 = *corresponds exactly*). The mean overall score for all participants was calculated using the weighted subscales. This is considered the relative autonomy index (RAI). The higher the RAI, the more autonomous the population was. This score ranged between -108 to +108. The scale was considered reliable with

Cronbach's alpha range between 0.73 and 0.86, which is above the acceptable cut-off

point. When compared to the Global Motivation Scale, the SMS-II subscales were

considered a valid tool for sport motivation with acceptable correlations between 0.35 to

0.52 (Pelletier et al., 2013). An example of the survey can be found in Appendix B.

CHAPTER THREE

Data Analysis

Data was analyzed using SASS (Version 24.0). Descriptive statistics were used to determine the mean scores for each subcategory. The mean overall score for all participants was calculated using the weighted subscales. This is considered the relative autonomy index (RAI). A one-way ANOVA and post hoc (Ryan-Einot-Gabriel-Welsh F) REGWF was used to examine the relationship between the RAI and each demographic category: age, gender, marital status, race, education status, and employment status. Alpha was set at $<.05$.

CHAPTER FOUR

Results

There were a total 643 participants who completed the SMS-II. There were 252 men and 391 women included in analyses. The participants were broken down by age group with 19.1% being 50-59 years old, 35.3% being 60-69 years old, 31.3% being 70-79 years old, 12.9% being 80-89 years old, and 1.4% being 90+ years old (see Table 1). It was found that 83.4% of subjects identified as white (see Table 2). In terms of education level, 29% of the population reported having a bachelor's degree and 23.4% of the population reported having a master's degree (see Table 3). It was reported that 71.8% of the population was married or in a domestic partnership (see Table 4). Participants reported that 38.4% of them were employed or self-employed and 58.5% of them were retired (see Table 5). In relation to sport, 60.1% of the population reported that they have always competed in sports and never stopped, 14% of the population reported that they started competing as an adult before they were 50 and 25.9% reported that they started competing after they turned 50 (see Table 6). During the National Senior Games, participants were allowed to compete in multiple sporting events. Table 7 shows how many surveyed individuals competed in each event. Athletes were able to compete in multiple events. It was found that there was a higher number of individuals competing in basketball and track and field.

In terms of the SMS-II, the highest score possible in each category was 7 meaning that particular category corresponded exactly with their beliefs, and the lowest score possible was 1 meaning that particular category did not correspond at all with their beliefs. Participants identified themselves as relating the most with intrinsic motivation at

a mean of 5.34. Participants also found themselves least likely to relate to amotivation at a mean of 1.72. The mean subcales and the mean weighted subscales of the population are reported in Table 8. The RAI was calculated from the weighted subscales for the total number of participants with that being 54.449 (SD= 23.495).

The one-way ANOVA for RAI by age category showed that there was a significant difference in RAI by age ($p < .0001$). Post hoc comparisons show that participants 50-79 had significantly higher RAIs than those aged 80 and older ($p < .0001$) (Table 10). RAI showed significant differences by gender ($p < .0001$) with men having a lower RAI, but there was a large standard deviation within each gender (Table 11). RAI by marital status demonstrated significant differences between each status with widowed athletes having significantly lower RAI than other categories ($p = .006$) (Table 12). Comparisons by race showed no significant differences in RAI ($p = .685$) (Table 13). There were also no significant differences by education level ($p = .123$) (Table 14). Differences were seen by employment status with homemakers demonstrating lower RAI scores ($p = .003$) and those identifying as retired, employed for wages or unable to work with significantly higher RAIs (Table 15). See Table 9 for complete RAI results by demographic questions.

CHAPTER FIVE

Discussion

Currently, there is very little data reporting the motivation trends in senior athletes. It was found that senior athletes relate the most with intrinsic factors, which supports the findings of previous research on this population (Shaw, 2005). Examining the intrinsic motivation questions of the SMS-II suggests their competitive sport participation generally gives them pleasure and motivates them further. Senior athletes appeared least aligned with the amotivation subcategory of the SMS-II that stated individuals did not understand why they were even competing (Pelletier et al., 2013). The mean RAI of the SMS-II was found to be 54.449 on a scale of -108 to +108 with +108 being the most self-determined. This supports the idea that senior athletes as a whole are more self-determined. However, their mean RAI is much lower than previous studies of young athletes such as youth athletes age 15, who have a reported RAI of 99.85 to 104.6 (Russell, 2017). This may be explained as a gradual decline in RAI with increasing age as seen in our population. When adding in this comparison of youth athletes, it can be said that as individuals' age, they become less self-determined and need the reinforcement of medals and praise.

It is found that males have a significantly lower RAI than females. The same can be said that males need more reinforcement than females while competing. It has been reported that men are significantly more interested in participating in sport than women. This is said to be the reason why there are substantial differences in sport motivation in which men haven shown a higher level of competiveness (Deaner, 2016).

The lower RAI seen in widowed athletes was unexpected but could be linked to differences reported in psychosocial health of widowed individuals compared to married individuals. It is found that even after more than 5 years of becoming a widow, an individual has less life satisfaction and is lonelier (Liechtenstein, 1996).

Limitations

Since participants were tested at the National Senior Games, the environment could have altered their reason for competing to be geared more towards their enjoyment and inherent satisfaction with the game. Data was collected from the SMS-II; and although the SMS-II is considered valid and reliable (Pelletier et al., 2013), it has not been widely used and lacks reference norms for this population. There was not an even distribution among events, so data reflects the events like basketball and track and field where more people participated in the survey. Finally, since the questionnaire was given in an entirely quantitative form, participants did not have the opportunity to explain their reasoning behind answering the way they did, but instead were only given a forced choice questionnaire.

CHAPTER SIX

Conclusion

Senior athletes appear to be primarily self-determined. This population is committed to sport and finds enjoyment with competition. However, it appears that as athletes age, they lose some of this internal drive and become more externally motivated. Along with older athletes, men and widowed athletes seek greater external motivation for sport competition. These findings could be useful to those seeking to motivate more aging adults to engage in exercise and sport competition.

APPENDICES

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What sport(s) are you registered to compete in?

☐ Archery	☐ Pickleball	☐ Table Tennis
☐ Badminton	☐ Race Walk	☐ Tennis
☐ Basketball	☐ Racquetball	☐ Track and Field
☐ Bowling	☐ Road Race	☐ Triathlon
☐ Cycling	☐ Shuffleboard	☐ Volleyball
☐ Golf	☐ Softball	☐ Other _____
☐ Horseshoes	☐ Swimming	

What is your gender?

☐ Male
☐ Female
☐ Other/Wish to not state

What is your age?

☐ 50-59
☐ 60-69
☐ 70-79
☐ 80-89
☐ 90+

Ethnicity origin (or race)?

☐ White
☐ Hispanic or Latino
☐ Black or African American
☐ Native American or American Indian
☐ Asian/Pacific Islander
☐ Other _____

What is the highest degree or level of school you have completed?

- ☐ Elementary
- ☐ Some High School
- ☐ High School
- ☐ Some College
- ☐ Trade/Technical/Vocational training
- ☐ Associate Degree
- ☐ Bachelor's Degree
- ☐ Master's Degree
- ☐ Professional Degree
- ☐ Doctorate Degree

What is your marital status?

- ☐ Single, never married
- ☐ Married or domestic partnership
- ☐ Widowed
- ☐ Divorced/Separated

Employment Status: Are you currently?

- ☐ Employed or self-employed for wages
- ☐ Out of work, looking for work
- ☐ Homemaker
- ☐ Unable to work
- ☐ Military
- ☐ Retired

What best describes your history as a competitive athlete?

- ☐ I've always competed in sports, never stopped.
- ☐ I started competing as an adult, before I was 50.
- ☐ I started competing after age 50.

Sport Motivation Scale- II

Why do you play your sport?

Circle the most accurate answer on the 7 point scale for each statement.

1) Because people around me reward me when I do.
     1   2   3   4   5   6   7
(Not at all true)   (somewhat true)   (Very true).

2) Because it gives me pleasure to learn more about my sport.
     1   2   3   4   5   6   7
(Not at all true)   (somewhat true)   (Very true).

3) Because I would feel bad about myself if I did not take the time to do it.
     1   2   3   4   5   6   7
(Not at all true)   (somewhat true)   (Very true).

4) Because practicing sports reflects the essence of whom I am.
     1   2   3   4   5   6   7
(Not at all true)   (somewhat true)   (Very true).

5) Because through sport, I am living in line with my deepest principles.
     1   2   3   4   5   6   7
(Not at all true)   (somewhat true)   (Very true).

6) Because I think others would disapprove of me if I did not.
     1   2   3   4   5   6   7
(Not at all true)   (somewhat true)   (Very true).

7) Because it is very interesting to learn how I can improve.
     1   2   3   4   5   6   7
(Not at all true)   (somewhat true)   (Very true).

8) So that others will praise me for what I do.
     1   2   3   4   5   6   7
(Not at all true)   (somewhat true)   (Very true).

9) Because I have chosen this sport as a way to develop myself.
     1   2   3   4   5   6   7
(Not at all true)   (somewhat true)   (Very true).

10) It is not clear to me anymore; I don't really think my place is in sport.
     1   2   3   4   5   6   7
(Not at all true)   (somewhat true)   (Very true).

11) Because it is one of the best ways I have chosen to develop other aspects of myself.

 1 2 3 4 5 6 7

(Not at all true) (somewhat true) (Very true).

12) Because I feel better about myself when I do.

 1 2 3 4 5 6 7

(Not at all true) (somewhat true) (Very true).

13) Because I find it enjoyable to discover new performance strategies.

 1 2 3 4 5 6 7

(Not at all true) (somewhat true) (Very true).

14) Because I would not feel worthwhile if I did not.

 1 2 3 4 5 6 7

(Not at all true) (somewhat true) (Very true).

15) Because participating in sport is an integral part of my life.

 1 2 3 4 5 6 7

(Not at all true) (somewhat true) (Very true).

16) Because people I care about would be upset with me if I didn't.

 1 2 3 4 5 6 7

(Not at all true) (somewhat true) (Very true).

17) Because I found it is a good way to develop aspects of myself that I value.

 1 2 3 4 5 6 7

(Not at all true) (somewhat true) (Very true).

18) I used to have good reasons for doing sports, but now I am asking myself if I should continue.

 1 2 3 4 5 6 7

(Not at all true) (somewhat true) (Very true).

SCORING KEY for SMS II and the RAI

Scoring of SMS II: (Add (sum) category scores below to get the RAI)

Intrinsic [(Total score of 3 items) * (3)]= Intrinsic Score= _____
#2. Because it gives me pleasure to learn more about my sport.
#13. Because I find it enjoyable to discover new performance strategies.
#7. Because it is very interesting to learn how I can improve.

Integrated [(Total score of 3 items) * (2)]= Integrated Score= _____
#4. Because practicing sports reflects the essence of whom I am.
#15. Because participating in sport is an integral part of my life.
#5. Because through sport, I am living in line with my deepest principles.

Identified [(Total score of 3 items) * (1)]= Identified Score= _____
#9. Because I have chosen this sport as a way to develop myself.
#17. Because I found it is a good way to develop aspects of myself that I value.
#11. Because it is one of the best ways I have chosen to develop other aspects of myself.

Introjected (Reverse Score) [(Total score of 3 items) * (-1)]= Introjected Score= _____
#3. Because I would feel bad about myself if I did not take the time to do it. #12.
Because I feel better about myself when I do.
#14. Because I would not feel worthwhile if I did not.

External (Reverse Score) [(Total score of 3 items) * (-2)]= External Score= _____
#16. Because people I care about would be upset with me if I didn't. #6. Because I think
others would disapprove of me if I did not.
#1. Because people around me reward me when I do.

Amotivated (Reverse Score) [(Total score of 3 items) * (-3)]= Amotivated Score=
_____
#18. I used to have good reasons for doing sports, but now I am asking myself if I should
continue.
#8. So that others will praise me for what I do.
#10. It is not clear to me anymore; I don't really think my place is in sport.

The Relative Autonomy Index (RAI)- The relative autonomy index (RAI) is a single score derived from the
subscales that gives an index of the degree to which respondents feel self-determined. The index is obtained by applying
a weighting to each subscale and then summing these weighted scores. In other words, each subscale score is multiplied
by its weighting and then these weighted scores are summed.
RAI=
Intrinsic____ + Integrated ____ + Identified ____ + Introjected_____ +External_____ + Amotivated____

Example:
= Intrinsic (15*3)+ Integrated (18*2)+ Ident (16*1)+ Introjected (12*-1)+ Ext(12*-2)+ Amotive(6*-3)
= Intrinsic (45) + Integrated (36)+ Ident (16)+ Introjected (-12)+ External(-24)+Amotive(-18)
= 45 + 36 + 16 + (-12) + (-24) + (-18).
= 97 + (-54)
= 43
RAI = 43. Relative Autonomy Index Score is 43.

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