JBAAR
Journal of Basic And Applied Research
ISSN 2413-7014

Impact of Stage of Change and Gender on Motivation to Participate in Recreational Activity and Perceptions of Health

Sharon H. Thompson, Briana Laws, DeVariay White, Christina Auth

Coastal Carolina University, PO Box 261954, Conway, SC 29528

*Corresponding author: bnlaws@coastal.edu

Received: 12-9-2017
Revised: 25-9-2017
Published: 9-10-2017

Keywords:
Gender, Recreation, Health, Theory, Perceptions

Abstract: Regular recreational activity has numerous mental, physical, and social health benefits. To examine motivations to engage in recreational activity and perceptions of health by gender and Stage of Change (SOC), an online survey was developed and promoted in the Southeastern region of United States in Spring 2015. Using General Linear Model Analysis of Variance (GLM), motivation to participate in recreational activity and perceptions of health (dependent variables) were examined by the independent variables of gender and SOC (covariate). Participants included 735 adults (58.23% female). Females were more likely than males to use recreational activity "*to improve physical health and fitness"* (Female: M=1.31, Male: 1.42, $p < .05$) and *"to insure mental health and well-being*" (Female: M = 1.42, Male: M = 1.61, $p < .001$). Females perceived better health than males (Female: M = 2.11, Male: M = 2.20, $p <, .05$). These same items were also significant by SOC with responses decreasing (more likely to agree) by 15.7% ($p< .001$), 13.15% ($p < .0001$) and 26.26% ($p < .05$) for each unit increase in SOC. Needs assessments conducted in this manner may increase participation by allowing for targeted messages to be created for various population groups.

Cite this article as: Thompson, S.H., Laws, B., White, D., Auth, C. (2017). Impact of Stage of Change and Gender on Motivation to Participate in Recreational Activity and Perceptions of Health. Journal of basic and applied Research, 3(4): 136-142
Like us on Facebook - CLICK HERE Join us on Academia - CLICK HERE Visit JBAAR on Google Scholar - CLICK HERE

INTRODUCTION

According to the 2014 Physical Activity Council Report (PAC), a report which determines levels of physical activity and general trends in fitness, sport and recreational activity, 82.7 million Americans were inactive during this particular year (2015a). This marks the highest level of inactivity in the past six years (PAC, 2015b). According to The National Institutes of Health (NIH, 2015, p.1), physical activity can be defined as "any body movement that works your muscles and requires more energy than resting" and is often graded by intensities to describe the amount of physical effort required for the activity. Physical activities can be classified as vigorous, leisure, or recreational activities (Hutchinson & Brooks, 2011). Recreational activities are activities of relaxation and leisure, which may be associated with structured or group activities (NIH, 2015). They can consist of "spending time with friends, artistic pursuits, reading, meditation, walking, gardening, or volunteering in sports or club activities" (Hutchinson & Brooks, 2011, p.3). Many activities are considered physical, recreational, or both.

How an individual perceives his or her health status may influence the level of motivation to engage in recreational or physical activity. The Transtheoretical- Stages of Change Model is a tool which helps to explain how individuals move through a series of stages as they adopt or maintain a new habit or health behavior (Prochaska & DiClemente, 1983). The stages within the Transtheoretical Model include precontemplation, contemplation, preparation, action, and maintenance. They are unique in that they can be applied to various behaviors, populations, and settings. This theory recognizes that behavioral change happens over a period of time and that individuals may cycle through the different stages in order to achieve a behavior change (Prochaska & DiClemente, 1983); therefore, by identifying what stage of change an individual is in, one can better determine readiness to change and then plan specific intervention strategies appropriate for each stage.

According to research by Ball, Bice, and Parry (2014), the primary reasons for participation in exercise and recreational activities are extrinsic motivational factors such as stress management, management of weight, and strength and endurance. They also report that motivations for physical activity participation are similar for recreational activity and exercise, but not as strongly related to sport participation. They found sport participation was not as strongly influenced by extrinsic constructs.

Along with motives to participate in physical and recreational activity, stages of change for physical activity have been found to differ by gender. Regarding physical activity, Garber, Allsworth,

Marcus, Hesser, and Lapane (2014) found women are more likely to be in the precontemplation and contemplation stages than the maintenance stage as compared to men. This suggests that men may be more likely than women to regularly participate in physical activity; therefore, gender specific motives to encourage individuals to move from participation to action to maintenance stages may be worthwhile. They also found perceptions of health status were "strongly predictive of stage of change" (Garber, Allsworth, Marcus, Hesser, & Lapane, 2008, p. 897).

A study utilizing *The Physical Activity Leisure Motivation Scales* grouped individuals based on motivational reasons for physical activity participation. The reasons they examined included participation for mastery, affiliation, enjoyment, physiological condition, physical condition, appearance, others' expectations, or competition/ego. Gender differences were found with females reporting a higher motivation for appearance and physical condition factors, whereas males seemed to be more motivated by competition/ ego and mastery (Molanorouzi, Khoo, & Morris, 2015).

Similarly, White and Gruber found "males felt involvement in leisure activities provided greater levels of feeling secure and seeing the results of your efforts" whereas females reported that recreational activities provided "greater levels of feeling satisfied, cooperating with other people, responsibility for making decisions, and significantly affecting the lives and well-being of others" (1985, p. 1182).

Although a few studies were found with differences by gender and Stage of Change (SOC) for motives to participate in physical and recreational activities, this area needs further study to tailor messages to encourage activity. As rates of obesity remain high and physical activity in our country has shown a decline, messages and programs tailored to specific populations may lead to increases in participation; therefore, the purpose of this study was to examine the influences of gender and (SOC) on participation in recreational activity, motivations to participate in recreational activity, and perceptions of health and income. Gender differences in recreational programming and activity preferences were also explored.

METHODS

Survey

An online survey was developed through a collaborative effort between county recreation and planning administrators and undergraduate students in the Spring of 2015. This project as a community needs assessment for the Southeastern coastal region of the United States and included items on demographics, recreational activity participation, motivation to participate in recreational activity, health ratings, barriers to recreational activity and SOC questions.

The survey was designed as multiple choice and multidirectional, meaning that a participant's answer to a question would determine the next question asked and the route of the survey, which allowed the use of different questions depending on the participant's use of recreational facilities. The contents of the survey were modeled from recreational needs assessments previously conducted by the City of San Diego (2011), Duval County (2012), and Charleston Parks for Tomorrow (2012). *Stages of Motivational Readiness for Change* (SOC) were calculated using the *Physical Activity Stage of Change Questionnaire* (Marcus, Rossi, Selby, Niaura & Abrams, 1992).

The final survey received approval by the university's Institutional Review Board and was formatted for online distribution. The survey was promoted via links on various webpages, such as county government, city government, local utilities, as well as through QR codes, email distribution and Facebook.

Survey Composition

Demographic information. Participants were asked to provide age and income through categorical selections. Gender and race information was also self-reported.

Those who did not provide gender were not included in the final analysis.

Participation in recreational activity. The first question on the survey was, *Do you and/or members of your family typically participate in recreational activity in this county*? A categorical yes/no response was provided.

Motivations to participate in recreational activity. All respondents who had responded they and/or their family had participated in recreational activity in the county in the past year were next presented 7 items related to motivation to participate in recreational activity. These items were answered with a likert-type scale ranging from *1) Strongly Agree to 5) Strongly Disagree* and items ranged from *"spend bonding time with friends or family"* to *"exercising the family pet"*.

Activities and programing preferences. Those who participated in recreational activity were provided three items on preferences regarding programming preferences: *indoor vs. outdoor, group vs.*

individual, and athletic/fitness-based vs. nonathletic/nonfitness-based recreational activity.

Rating of health. All respondents were asked their overall rating of health and responses ranged from *1) Excellent* to *5) Very poor*.

Stage of Change. Five questions measured intention to participate in regular physical activity and were used to measure stage of change. Using the United States Surgeon General Recommendations, participants were asked if they took part in physical activities at least 10 minutes a day and if this totaled 30 or more minutes five or more days a week. The Precontemplation stage was identified as those with no intention to participate in physical activity in the next 6 months, Contemplation was defined as an intention to engage in physical activity at some point within the next 6 months. Preparation was defined as intention to take action toward physical activity in the next 30 days. Action was noted as regular physical activity for the past 6 months and the maintenance stage was classified as participation in physical activity for 6 months

Data analysis

Data were analyzed using frequencies, means, and the General Linear Model Analysis of Variance (GLM). Motivation to participate in recreational activity, perceptions of health, and income (dependent variables) were examined by the independent variables of gender (categorical) and SOC (covariate). A p-value of less than 0.05 was used to determine statistical significance.

RESULTS

Results from 735 participants were analyzed (58.23% female) and most were in the 40 – 49 year age group. Race was identified as White (87.9%, n = 648), followed by African American (3.8%, n = 28), *"chose not to answer"* (2.99%, n = 22), *"more than one race"* (1.63%, n = 12), and *"other race"* (3.7%, n = 26) (See Table 1). Most participants reported income in the $25,000 - $50,000 range (34.16%, n = 248), followed by $50,001 - $75,000 (24.24% , n = 176) and less than $25,000 (18.73%, n = 136). One-hundred-sixty-five participants (22.72%) reported yearly earnings in the income categories higher than $75,000.

Most (87.8%, n = 645) noted they or members of their household had participated in recreational activities in the past year. Participation in recreational activity was examined (*yes* or *no* responses) to determine significant differences by gender using Chi Square tests and none were found.

Table 1. Demographic information by gender.

	All	Female	Male
	N (%)	N (%)	N (%)
Race			
White	645 (87.99)	377 (88.08)	268 (87.87)
African American	28 (3.82)	18 (4.21)	10 (3.28)
More than one race	12 (1.64)	8 (1.87)	4 (1.31)
Other race	26 (3.5)	11 (2.9)	15 (5.59)
Chose not to answer	22 (3.0)	14 (3.27)	8 (2.62)
Age			
Less than 20	19 (2.57)	12 (2.82)	7 (2.29)
20 – 29	114 (15.43)	76 (17.84)	38 (12.42)
30 – 39	165 (22.33)	93 (21.83)	72 (25.53)
40 - 49	177 (23.95)	89 (20.89)	87 (28.43)
50 - 59	124 (16.78)	79 (18.54)	43 (14.05)
60 – 69	99 (13.40)	56 (13.15)	41 (13.40)
70 and above	35 (4.74)	19 (4.46)	16 (5.23)
I prefer not to answer	5 (.68)	2 (.47)	2 (.65)

When examining activities and programming preferences for physical activity, no differences were found by gender for *inside vs. outside*, *group vs. individual programming*; however, Chi square tests revealed significant differences by gender for the category of *athletic/fitness based* vs. *nonathletic/non-fitness based* (See Table 2).

Table 2. Participation in recreational activity and programming/activity preferences by gender (n = 734).

	All	Female	Male
	n (%)	n (%)	n (%)
Do you and or your family members participate in recreational activities?			
Yes	645 (87.8)	377 (88.1)	268 (87.58)
No	89 (12.1)	51 (11.9)	38 (12.42)
Do you prefer:			
Inside activities	83 (12.97)	42 (11.23)	41 (15.41)
Outside activities	245 (38.3)	137 (36.63)	108 (40.6)
Inside/outside equally	312 (48.75)	195 (52.14)	117 (43.98)
Group activities	148 (23.42)	75 (20.16)	73 (28.1)
Individual activities	102 (16.14)	54(14.5)	48 (18.5)
Group/individual equally	382 (60.44)	243 (65.3)	139 (53.5)
Athletic/fitness based	230 (36.2)	113 (30.4)	117 (44.5)*
Nonathletic/non-fitness based	94 (14.8)	55 (14.8)	39 (14.8)
Athletic/nonathletic equally	311 (48.9)	204 (54.8)	107 (40.7)

*p < .05

SOC was calculated for all, by gender, and by participation in recreational activity. Chi square test revealed significant differences for SOC by gender and by participation in recreational activity (See Table 3).

Participants were asked how they would rate their overall health (1=Excellent; 5=Very Poor) and a majority noted *Very Good* (n=404, 56.87%) followed by *Good* (n = 193 (26.26%). These ratings were examined by SOC using a Chi square test but was not valid due to the small cell sizes (See Table 4).

Table 3. Stage of change by gender and participation in recreational activity.

*Stage of Change by gender (n = 709)**					
	Precontemplation	*Contemplation*	*Preparation*	*Action*	*Maintenance*
	n (%)	n (%)	n (%)	n (%)	n (%)
Female (n = 416)	9 (2.16)	54 (12.98)	57 (13.7)	30 (7.21)	266 (63.94)
Male (n = 293)	4 (1.37)	22 (7.51)	24 (8.19)	14 (4.78)	229 (78.16)
*Do you or members of your family participate in recreational activity? (n = 711)**					
	Precontemplation	Contemplation	Preparation	Action	Maintenance
	n (%)	n (%)	n (%)	n (%)	n (%)
Yes (n = 625, 87.9%)	11 (1.76)	58 (9.28)	67 (10.72)	42 (6.72)	447 (71.52)
No (n = 86, 12.10%)	2 (2.33)	18 (20.93)	15 (17.44)	2 (2.33)	49 (56.98)

*p < .01

Table 4. Stage of change by perception of health (n = 710) and General Linear Model Analysis of Variance for perception of health and income by gender and Stage of Change (n = 708).

	Excellent	*Very Good*	*Good*	*Poor*	*Very Poor*
	n (%)	n (%)	n (%)	n (%)	n (%)
Precontemplation	0 (0)	4 (.56)	8 (1.1)	0	1 (.14)
Contemplation	0 (0)	20 (2.82)	47 (6.6)	9 (1.3)	0 (0)
Preparation	3 (.42)	49 (6.9)	30 (4.23)	0 (0)	0 (0)
Action	0 (0)	26 (3.66)	18 (2.54)	0 (0)	0 (0)
Maintenance	104 (14.65)	305 (42.96)	83 (11.7)	3 (.42)	0 (0)
TOTALS	107 (15.07)	404 (56.9)	186 (26.2)	12 (1.69)	1 (.14)

CHARACTERISTIC	p-value	M	SD
*Perception of health by gender and Stage of Change (n = 708).**			
GENDER	p < .05		
Female		2.11	.811
Male		2.20	.986
STAGE OF CHANGE	p < .0001		
Slope	-.2626		
*Reported income by gender and Stage of Change (n = 698).***			
GENDER	p < .0001		
Female		2.50	1.75
Male		2.92	2.08
STAGE OF CHANGE	p < .01		
Slope	.1157		

* 1 = Excellent health; 5 = Very poor health
** 1 = Less than $25,000; 6 = More than $125,000

Responses for reported Perceptions of Health (*1 = Excellent; 5 = Very Poor*) were analyzed by gender and SOC using the General Linear Model Analysis of Variance (GLM). Significant differences were found by gender with females reporting better health (M=2.11, p < .05) than males (M = 2.20). SOC was also significant with scores decreasing 26.26% (i.e.: reporting better health) for each unit increase in SOC (p < .0001). Males reported a significantly higher income group (M = 2.91) than females (M = 2.50, p = .0001) and this was also significant by SOC. For each unit increase in income, SOC increased by 11.57% (p < .01).

The GLM was used to examine various motivations to participate in recreational activity survey items by gender and SOC (See Table 5). Females were more likely to report using recreational activity *"to improve physical health and fitness"* (M=1.31, p < .05) than males (M=1.42). This item was also significant by SOC as responses decreased by 15.7% (i.e.: more likely to agree) for each unit increase in SOC (p < .0001). Females were significantly more likely to agree (M = 1.43) they use recreational activity *"to insure mental health and well-being"* than males (M=1.61, p < .001) and for each unit increase in SOC, scores decreased by 13.15% (i.e.: more likely to agree they use recreational activity *"to insure mental health and well-being",* p < .0001). Females were once again significantly more likely to report they *"use recreational activity to celebrate holidays and*

events" (M = 2.24, p < .05) and *"to exercise the family pet"* (M = 2.31, p < .05) than males (M = 2.45 and M=2.67, respectively). SOC was significant for these two items as well with scores decreasing 8% and 13.7% for each unit increase in SOC (i.e.: more likely to agree). Only gender was significant for *"using physical activity to enjoy the weather and spend time outdoors"* with females being more likely to agree (M = 1.31, p <.0001) than males (M = 1.52). There were no significant differences found for using recreational activity *"to engage in a hobby*" or *"to bond with family and friends*".

DISCUSSION

In the present study, significant differences were found by gender when examining preferences for types of recreational activity. Males and females differed in preferences for *athletic/ fitness-based* activities (Males: 44.5%; Females: 30.4%) versus *nonathletic/nonfitness-based* (Males: 14.8%; Females: 14.8%), or equal amounts of each of these activities (Male: 40.7%; Females: 54.8%). In planning to encourage activity for both genders, it is important to incorporate both athletic/fitness-based and nonathletic/non-fitness recreational activities to fit the goals and preferences of both genders.

In regard to gender differences in perceptions of health, previous research has found a larger percent of males reporting excellent/very good/good health when compared to females (Zarini et al., 2014). Benyamini (2003) found that on average, women rated their health more poorly compared with men. In contrast our study found that females reported a more favorable health status than males. Furthermore, it was found that females were equally as likely to report participation in physical and recreational activities as males.

We also found as income increases, so did our participants' SOC. Higher salaries may equate to additional opportunities and time to invest in one's health. Dumith, Bigante, and Domingues (2007) found that the probability to initiate or maintain physical activity increased with economic status and family income. This implies that those with higher income are predisposed to more opportunities to be active. The opposite effect could found among persons with lower incomes. Those of lower socioeconomic status may be limited to activities available, the activities available may lack appeal, or there may be other motivational factors to keep them engaged. Socioeconomic barriers to recreational activity such as user fees, price of equipment, material, or transportation likely limits individuals to progress to from pre-contemplation and contemplation toward the preparation, action or maintenance stages. Leonard purports that individuals with less income and less tolerance of financial risks are more likely to be in the pre-contemplation stages of physical activity (Leonard, Shruval, de Oliveria, Skinner, Eckel & Murdoch, 2013).

Table 5. General Linear Model Analysis of Variance for motivation to participate in recreational activity by gender and Stage of Change.*

CHARACTERISTIC			
	p-value	M	SD
Bond with family and friends (n=613)			
GENDER	p = .1054		
Female		1.45	.941
Male		1.54	1.11
STAGE OF CHANGE	p = .1577		
Improve physical health and fitness (n=617)			
GENDER	p < .05		
Female		1.31	.700
Male		1.42	.842
STAGE OF CHANGE	p < .0001		
Slope = -.1571			
Enjoy the weather and spend time outdoors (n=614)			
GENDER	p < .0001		
Female		1.31	.088
Male		1.52	.974
STAGE OF CHANGE	p = .0574		
Improve mental health and wellbeing (n=619)			
GENDER	p < .001		
Female		1.43	.858
Male		1.61	1.03
STAGE OF CHANGE	p < .0001		
Slope = -.1317			
Celebrate holidays and events (n=600)			
GENDER	p < .05		
Female		2.24	1.39
Male		2.45	1.66
STAGE OF CHANGE	p < .05		
Slope = -.0837			
Engage in a hobby (n=590)			
GENDER	p = .1111		
Female		2.41	1.53
Male		2.57	1.82
STAGE OF CHANGE	p = .2077		
Exercise the family pet (n=595)			
GENDER	p < .001		
Female		2.31	1.64
Male		2.67	1.95
STAGE OF CHANGE	p < .05		
Slope = -.1373			

* 1 = Strongly Agree: 5 = Strongly Disagree

Though the majority of female respondents were in the maintenance stage, there were higher numbers of females in the contemplation and preparation stages as compared to men. These findings are similar with the finding of Garber in which they found that women were more likely to be in precontemplation stages (Garber et al., 2008). It is

interesting that females in our study perceived a more favorable health status than men and had higher reports of participation in recreational activity, yet a number of females were more likely than men to be in the contemplation and preparation stages. Messages to encourage recreational activity should particularly encourage women in precontemplation and contemplation stages to initiate action and consideration should be made to determine ways for women to maintain participation.

Women were also more likely to then men to report higher motivation *"to participate in physical activity for fitness and health", "to insure mental health and wellbeing", "to celebrate holidays and events", "to exercise the family pet",* and *"to enjoy the weather and spend time outdoors"*. Perhaps these motivational factors should be marketed to encourage women to move from earlier to later stages of change.

As SOC increased, respondents were more likely to report using recreational activity to improve physical health and fitness, to ensure mental health and well-being, to celebrate holidays and events, and to exercise the family pet. Perhaps those in the precontemplation or contemplation stages do not realize recreational activity could be a way to celebrate special events or the positive benefits to mental health. Educational efforts might focus on these points to encourage physical activity participation by those in earlier stages.

CONCLUSION

America is currently experiencing high obesity rates paired with low activity rates. In order to increase the recreation and physical activity participation rate, it is important that gender specific programs are developed, as well as SOC specific programs. Our study found significant differences between genders on their preference of which type of activity, their motivational reasons for participating, their personal health perception, and their SOC. These differences can make it difficult to design recreational activities that appeal to both genders; therefore, gender-specific activities that target a specific activity or motivation for engaging may be more beneficial than attempting to develop an activity that appeals to both groups. For example, when planning events for males, include competitive activities that involve teamwork. When planning events for females, it is important to target those who are in the precontemplation and contemplation stages. Consider marketing female-specific motives, such as pet-centered physical activity, enjoying the weather, and using activity to boost mental health to promote activities to move females into action or maintenance stages.

While developing gender-specific activities is important, it is also critical to develop activities to appeal to all income levels. Individuals with higher incomes were more likely to be in the action and maintenance stages, while the opposite was true for those with lower incomes. In an effort to increase the activity rate of those with lower income, more budget-friendly options should be developed, such as the development of low cost recreational opportunities through public parks, playgrounds, basketball courts, and tennis courts. Increasing the level of inactivity in the United States is not a one-solution issue. It will require many population-specific programs that are just as unique as the communities they are targeting.

LIMITATIONS

The higher rates of recreational activity participation (87%) found in this study as compared to a recent national study (71.7%)[1] may be explained by multiple reasons. First, the area in which the current survey was conducted is a coastal Southeast region with relatively warm temperatures year around. This may offer the opportunity for more physical activity participation and attract those who enjoy being outside throughout the year. Second, there were differences in the way the two surveys were marketed and promoted. Our study was marketed to local county residents through social media and email and could have attracted those interested in recreational activity. The national study was a nationwide sample of households that was selected to be representative of the United States population. Consideration of this variable has to be taken when comparing present results to previous studies.

REFERENCES

Ball, J.W., Bice, M.R., Parry, T. (2014). Adults' motivation for physical activity: Differentiating motives for exercise, sport, and recreation. *Recreational Sports Journal*, 38(2), 130-142.

Benyamini, Y., Blumstein, T., Lusky, A., & Modan, B. (2003). Gender differences in the self-rated health—mortality association: Is it poor self-rated health that predicts mortality or excellent self-rated health that predicts survival? *Gerontologist*, 43(3), 396-405.

Charleston County Park & Recreation Commission. (2012). *Parks for Tomorrow*.

City of San Diego. (2011). *Park and Recreation Needs Assessment for the Greater Golden Hill, North Park, & Uptown Communities*. Retrieved from http://www.sandiego.gov/planning/community/profiles/uptown/pdf/finalparksurveyreport.pdf

Dumith, S., Gigante, D., & Domingues, M. (2007). Stages of change for physical activity in adults from Southern Brazil: A population-based survey. *International Journal of*

Behavioral Nutrition and Physical Activity, 4-25.

Duval County. (2012). *Community Health Assessment and Community Health Improvement Plan.*

Garber, C., Allsworth, J., Marcus, B., Hesser, J., & Lapane, K. (2008). Correlates of the Stages of Change for physical activity in a population survey. *American Journal of Public Health*, 98(5), 897-904.

Hutchinson, S.L., & Brooks, E. (2011). Physical activity, recreation, leisure, and sport: Essential pieces of the mental health and well-being puzzle. [Report prepared]. The *Nova Scotia Department of Health and Wellness*, 1-45. Retrieved from http://duval.floridahealth.gov/programs-and-services/community-health-planning-and-statistics/_documents/chip.pdf

Leonard, T., Shruval, K., de Oliveria, A., Skinner, C., Eckel, C., & Murdoch, J. (2013). Health behavior and behavioral economics: Economic preferences and physical activity Stages of Change in a low-income African-American community. *American Journal of Health – System Pharmacy*, 227(4), 211-221.

Marcus, B.H., Rossi, J.S., Selby, V.C., Niaura, R.S., & Abrams, D.B. (1992). The stages and processes of exercise adoption and maintenance in a worksite sample. *Health Psychology*, 11(6), 386-395.

Molanorouzi, K., Khoo, S., & Morris, T. (2015). Motives For adult participation in physical activity: Type of activity, age, and gender. *BMC Public Health*, 15(1), 1-13.

National Institutes of Health. (2015). What is physical activity? Retrieved from http://www.nlbi.nih.gov/health/health-topics/topics/phys

Physical Activity Council. (2015a). 2015 Participation report. Retrieved from http://www.physicalactivitycouncil.com/pdfs/current.pdf

Physical Activity Council. (2015b). Report methodology. Retrieved from http://www.physicalactbivitycouncil.com/Methodology/

Prochaska, J., & DiClemente, C. (1983). Stages and processes of self-change in smoking: Toward an integrative model of change, *Journal of Consulting and Clinical Psychology*, 51, 390–395.

White, J.W., & Gruber, K.J. (1985). Gender differences in leisure-need activity patterns. *Sex Roles*, 12(11-12), 1173-1186.

Zarini, G., Vaccaro, J., Maria, A., Terris, C., Exebio, J., Tokayer, L., Antwi, J., Ajabshir, S., Cheema, A., & Huffman, F. (2014). Lifestyle behavior and self-rated health: The living for health program. *Journal of Environmental and Public Health*, (2014)1-9.