

Increased Physical Activity And Senior Center Participation

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Exercise Among Elderly Populations

- Friis et. al. examined the frequency of physical activity in a population of elderly by using data from the Longitudinal study of Aging
- It was reported that the prevalence of regular walking for exercise was low in the study population (38% and 26% for men and women, respectively).
- Enhancing physical activity among elders is a concern for providers, including senior centers.
- We consider increased elder involvement in physical activity in relationship to senior center participation.

Friis RH, Nomura WL, Ma CX, Swan JH. *Journal of Aging and Physical Activity: Socioepidemiologic and Health-Related Correlates of Walking for Exercise Among the Elderly: Results from the Longitudinal Study of Aging.* 2003;11;54-65.

Purpose

- Promotion of physical activity is a major concern of senior centers (SCs).
- Elders may alter their lifestyles to increase such activity through SCs or not.
- Knowing the context is important.

Background Information Regarding Physical Activity

- It is a recognized preventive and health promotion measure for older adults.
- It is an important health determinant even among overweight persons.

Benefits of Physical Activity

- Appear to persist into old age
- Are beneficial for one's health even at low levels of physical activity

Methods

- Data were collected in 2006.
- A total of 798 respondents were sampled in 21 SCs in a large urban county.

Dependent Variables

- Reported increased physical activity.
- participation at any time in three types of activities at senior centers:
 - physical fitness sessions
 - dance/aerobic classes
 - chair exercises

SC Independent Variables

- Length of attendance at the SC
- Weekly frequency of attendance
- The SC as the major source of social interaction
- Feelings about the importance of social interactions at the SC

Other Independent Variables

- Whether a physician had told the respondent to increase exercise
- Whether a physician had told the respondent to control weight
- Demographics:
 - age
 - gender
 - marital status
 - living situation

Analysis Model

- Logistic regression analysis was used to predict increased physical activity
- Modes of center physical-activity participation were mediating factors
- First, SC-based activities were predicted by the independent factors
- Then increased physical activity was predicted by SC-based activities and the other independent variables

Table 1

Dependent Variables

Variable:	Number Yes	Percentage Yes	N
Increased Physical Activity at SC	394	54.7	720
Participates in Physical Fitness at SC	329	41.2	798
Participates in Dance/Aerobics at SC	190	23.8	798
Participates in Chair Exercises at SC	330	41.4	798

Descriptive Findings

- Table 1 presents the descriptive findings for the dependent variables
- Over half reported increasing their physical activity
- Two in five reported participating in physical-fitness sessions
- Two in five reported taking part in chair exercises
- Less than one-fourth reported participating in aerobic/dance classes

Table 2

Selected Predictors

Variable:	Number Yes	Percentage Yes	N
Attended SC for at least One Year	614	78.0	787
Attended SC for at least Five Years	318	40.4	787
Attended SC at least 3 Times per Week	561	70.2	788
Physician Said to Increase Exercise	363	50.1	725

Findings for Predictors

- Over three-fourths had attended SC for at least one year
- Two in five had attended SC at least five years
- Seven in ten attended SC at least three times per week on average
- Half reported physician told them to increase exercise
- Thirteen other independent variables used

Table 3

Other Independent Variables

SC is Major Source of Interactions	Agree
	Disagree
Interactions are Important	Agree
	Strongly Agree
MD Said to Control Weight	Yes
African American	Yes
Hispanic	Yes
Other Nonwhite	Yes
Male	Yes
Single	Yes
Divorced	Yes
Widowed	Yes
Live Alone	Yes

Multivariate Findings, First Stage

- Three mediating factors predicted by independent variables, using logistic regression
- Reported in Table 4-6

Table 4

Attending SC Physical Fitness Sessions

Independent Variable N = 615	Odds Ratio	Lower Bound	Upper Bound
Attended SC at least 1 Year	1.28	0.79	2.09
Attended SC at least 3x/Week	2.34 **	1.53	3.56
Str. Agree Interaction Imp.	1.12	0.76	1.66
African American	2.06 **	1.31	3.23
Hispanic	0.19 **	0.09	0.39
Other Nonwhite	1.50	0.54	4.17
Male	0.56 **	0.37	0.86
Live Alone	0.70	0.45	1.07
Chi-Square =	74.76 **		
10 other ind. variables, df=18			

Findings for Attending Physical Fitness Sessions

- More-frequent attenders more likely to have attended physical fitness sessions
- African Americans twice as likely as non-Hispanic whites to attend physical fitness sessions
- Hispanics much-less-likely than non-Hispanic whites to attend physical fitness sessions
- Males less likely than females to have attended physical fitness sessions

Table 5

Attending SC Dance/Aerobics Classes

Independent Variable N = 615	Odds Ratio	Lower Bound	Upper Bound
Attended SC at least 1 Year	0.82	0.48	1.39
Attended SC at least 3x/Week	1.72 **	1.06	2.78
Str. Agree Interaction Imp.	1.05	0.68	1.61
African American	1.00	0.60	1.66
Hispanic	1.95 **	1.10	3.47
Other Nonwhite	0.69	0.19	2.56
Male	0.62	0.39	1.00
Live Alone	0.64	0.40	1.43
Chi-Square =	30.68 **		
10 other ind. variables, df=18			

Findings for Attending Dance/Aerobics Classes

- More-frequent attenders more likely to have attended dance/aerobics classes
- Hispanics almost twice as likely as non-Hispanic whites to attend dance/aerobics classes
- African Americans do not show differences from whites, nor males from females, in attendance at dance/aerobics classes

Table 6

Attending SC Chair-Exercise Sessions

Independent Variable N = 615	Odds Ratio	Lower Bound	Upper Bound
Attended SC at least 1 Year	0.82	0.48	1.39
Attended SC at least 3x/Week	1.72 **	1.06	2.78
Str. Agree Interaction Imp.	1.73 **	1.16	2.57
African American	2.28 **	1.42	3.63
Hispanic	0.65	0.36	1.16
Other Nonwhite	0.26 *	0.07	0.96
Male	0.34 **	0.22	0.52
Live Alone	0.49 **	0.32	0.76
Chi-Square =	91.42 **		
10 other ind. variables, df=18			

Findings for Undertaking SC Chair Exercises

- More-frequent attenders more likely to have performed chair exercises
- Those most-strongly feeling that interactions at SC to be important more likely to undertake chair exercises
- African Americans more than twice as likely as non-Hispanic whites to do chair exercises
- Other nonwhites somewhat less likely to do chair exercises than non-Hispanic whites
- Males one-third as likely as females to do chair exercises
- Those who live alone one-half as likely as others to do chair exercises
- Hispanics do not show differences from non-Hispanic whites in undertaking chair exercises

Multivariate Findings, Second Stage

- Reported increased physical activity at SC predicted by independent variables , using logistic regression
- Three mediating factors included as independent variables
- Reported in Table 7

Table 7

Increased Physical Activity at SC

Independent Variable N = 615	Odds Ratio	Lower Bound	Upper Bound
Attends SC Physical Fitness	1.56 *	1.00	2.44
Attends Dance/Aerobics at SC	1.77 *	1.08	2.89
Does Chair Exercises at SC	1.42	0.92	2.21
African American	0.70	0.42	1.15
Hispanic	0.40 **	0.21	0.74
Other Nonwhite	1.05	0.32	1.46
Male	1.63 *	1.04	2.06
Live Alone	1.04	0.66	1.22
Chi-Square =	91.42 **		
13 other ind. variables, df=21			

Table 7a

Increased Physical Activity at SC: Additional Predictors

Independent Variable N = 615	Odds Ratio	Lower Bound	Upper Bound
Attended SC at least 1 Year	0.55 *	0.33	0.92
Attended SC at least 3x/Week	0.99	0.64	1.53
Str. Agree Interaction Imp.	1.72 *	1.13	2.62
Physician said Increase Exercise	3.00 **	1.95	4.62
Physician Said Control Weight	1.69 **	1.09	2.63
8 other independent variables with coefficients not provided Total df = 21			
Chi-Square =	91.42 **		

Findings for Increased Physical Activity at SC

- Participation in physical-fitness and dance/aerobic classes, but not in chair exercises, associated with reporting of increased physical activity at SC
- Hispanic respondents less likely than non-Hispanic whites to report increased physical activity
- Males more likely than females to report increased physical activity, despite being less likely to report SC physical fitness or chair exercise classes
- By far, the strongest predictor of increased physical activity is having been told by physician to increase exercise
- Physician advice to control weight also associated with increased physical activity

Overall Patterns of Results

- Very different patterns of responses across racial/ethnic groups
- Males less likely to report specific modes of activity at SC but more likely to report increases in physical activity
- Strongest effects on reported increase in physical activity are physician recommendations, despite not predicting specific forms of activity at SC

Conclusions and Recommendations

- Physician recommendations show greatest efficacy in increasing physical activity
- Senior center classes also help
- Very-different patterns of SC physical activity show by racial/ethnic group
- Involving physicians in SC promotion of physical activity might be particularly efficacious