Distance from Apartment to Group Activity Reduces the Likelihood of Attendance for Residents of an Assisted Living Facility

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Introduction

In 2016, there were over 800,000 older adults with various ADL/IADL limitations in 28,900 assisted living facilities in the United States (Harris-Kojetin et al., 2019). ALFs often offer group activities in addition to personal care and communal meals.
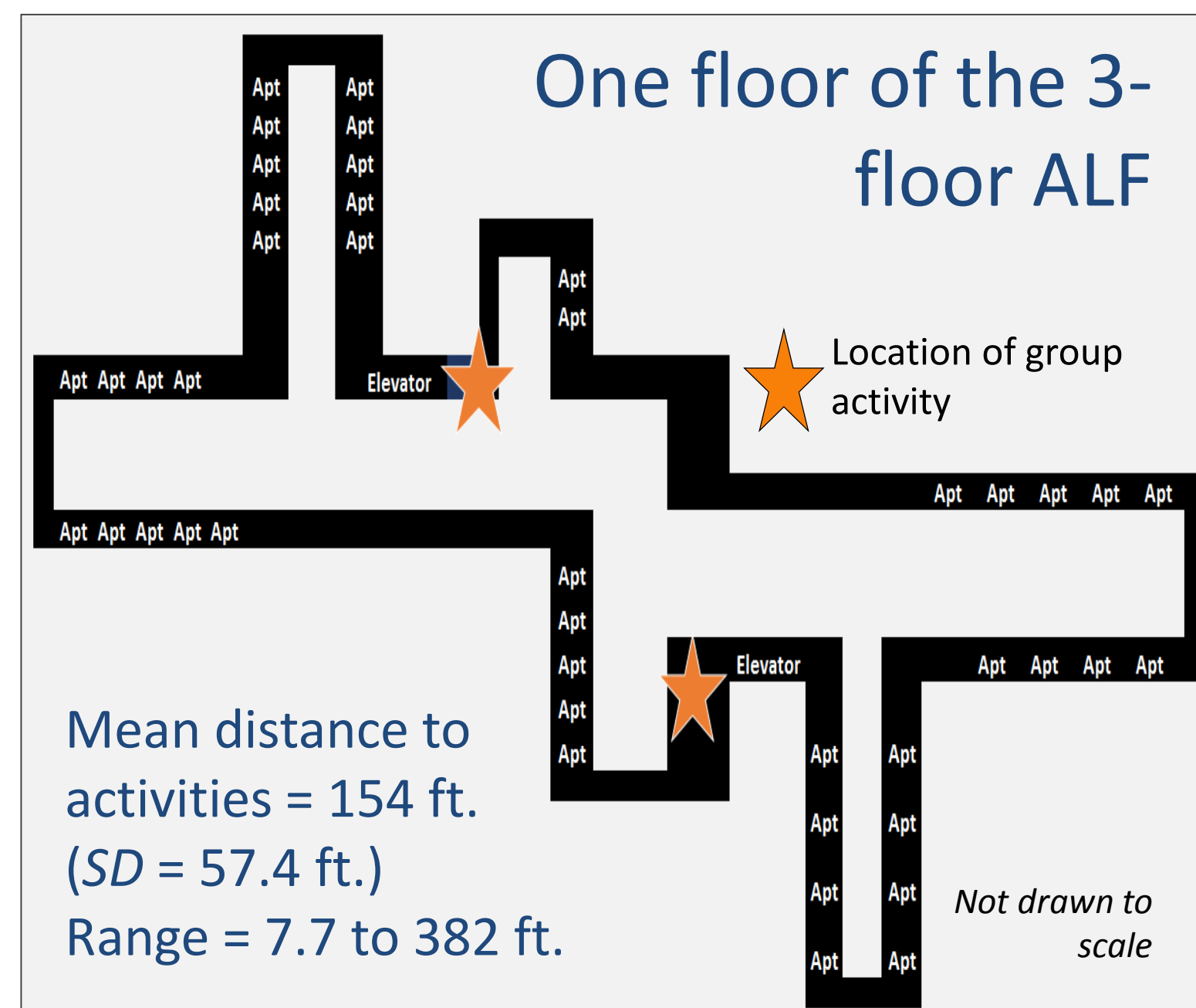
Participation in group activities is associated with decreased mortality, reduced depressive symptoms and improved health and quality of life for older adults (Nordin et al., 2016; Cosco et al., 2013; James et al., 2011).

A variety of individual and contextual factors are empirically related to ALF residents' participation in group activities or social engagement, yet little is known about the effects of distance from residents' apartments to activity location when controlling for other factors, including social context.

The purpose of this study is to identify factors that were associated with attendance in groups activities over the course of sixteen weeks in an ALF in the southern U.S.

Research Site

One floor of the 3-floor ALF

Location of group activity

Mean distance to activities = 154 ft. (SD = 57.4 ft.)
Range = 7.7 to 382 ft.

Not drawn to scale

Sample

Sample characteristics of assisted living facility residents (N=35)	n	%	
Female	25	71.4	
Non-Hispanic White	34	97.1	
	n	M	SD
Age (min-max = 58-94)	33	82.1	8.2
Physical Limitations (min-max = 0-15)	33	5.0	3.6
Cognitive functioning (min-max = 15-30)	33	26.4	3.5
Depressive Symptoms (min-max = 0-11)	33	2.8	3.0
Number of activities attended (min-max = 0-379)	35	80.1	101.4
Distance to activity, in feet (min-max = 7.7-382.0)	35	153.9	57.4

Method

- Collected **attendance records** for 563 group activities held over the course of 16 weeks.
- Measured **distances** between apartments and activities with a measuring wheel.
- Administered **surveys** to participants (N=35) to assess biopsychosocial factors (cognitive functioning, physical, depressive symptoms).
- Used **exponential random graph model** (ERGM) for bipartite to model residents' attendance at group activities (ergm package version 3.10.4).

Results

	Model 1			Model 2			Model 3		
	M.L.E.	S.E.	p	M.L.E.	S.E.	p	M.L.E.	S.E.	p
Structural effects									
Edges	-3.15	0.097	<.001	-3.31	0.303	<.001	-2.729	0.236	<.001
Popularity of group activity (gwb2degree)	1.10	0.368	.003	1.08	0.360	.003	1.090	0.137	<.001
Group activity 3-stars (b2star3)	0.05	0.005	<.001	0.05	0.005	<.001	0.052	0.003	<.001
Group activity 4-stars (b2star4)	-0.01	0.001	<.001	-0.01	0.001	<.001	-0.006	0.001	<.001
Shared attendance at group activity (gwnsp-decay factor .7)	0.01	0.000	<.001	0.01	0.001	<.001	0.013	0.000	<.001
Individual-level factors									
Age (in years)				-0.01	0.003	.018	-0.006	0.002	.007
Female (reference = Male)				0.43	0.054	<.001	0.441	0.050	<.001
Physical limitations				0.03	0.006	<.001	0.031	0.006	<.001
Cognitive functioning				0.01	0.006	.2769	-0.001	0.006	.869
Depressive symptoms				0.00	0.007	.7631	-0.001	0.007	.855
Distance (in feet)							-0.003	0.000	<.001
AIC	13720			13613			13528		
BIC	13760			13692			13615		

Note. M.L.E. = maximum likelihood estimation; S.E. = standard error; AIC = Akaike information criterion; BIC = Bayesian information criterion; *p<.05; **p<.01; ***p<.001.

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Discussion

Implications
- Location of activities within ALFs
- Building design
- Co-residents
- Help residents get to activities
- Engage males

Future Research
- Replicate at additional sites
- Control for social engagement outside ALF

Limitations
- Only 1 facility
- Homogeneous sample
- Assumes effect of distance is linear