

Perceived social, environmental, and policy determinants of physical activity in rural Midwestern adults

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Introduction

- Physical activity (PA) occurs in multiple domains (e.g., occupation, active transportation, house work, and leisure time), and different intensities (moderate, vigorous, etc.). Determinants of PA may be specific to these characteristics.
- Rural adults are less likely to meet PA recommendations than their urban or suburban counterparts¹
- The aim of this study is to identify domain- and intensity-specific determinants of PA in the physical, social, and policy-related environments of the rural Midwest.
- Findings will advance the understanding of health disparities and inform public health interventions

Methods

- A cross-sectional mailed survey was conducted in 2012 among adults from one county in rural Iowa
- Multiple regression models and stepwise model selection were used to examine the relationships of determinants and PA, controlling for age, gender, BMI, marital status, education, work status, and living in the town or country

Measures

- The Washington County Community Physical Activity Survey (WCCPAS) –which assessed environmental determinants of PA . This was a modified version of US Physical Activity in the Communities instrument
- The International Physical Activity Questionnaire Long Form (IPAQ)² – which assessed PA by domain and intensity, as well as overall PA levels
- Kaiser Sport index³ assessed activities engaged in during the past year and how often

Results

- 143 adults completed the survey. Response rate was 64%
- 88 (63%) female, 138 (97%) Caucasian, 117 (83%) married, mean age 51 yrs, 80 (56%) overweight or obese based on BMI
- Overall PA levels from IPAQ: 78 (55%) were in high category of PA; 47 (33%) were in moderate category; 18 (12%) were in low category

Table 1: Determinants of rural adult PA by domain using multiple regression

Outcome (Domain)	Determinants	p-values	Adj. r-sq.
Occupation	Time and support for exercise at work, self-employed	0.0003, <0.0001	0.252
Active Transport	Shopping malls, # of community aspects, sidewalks, hunting areas	0.003, 0.006, 0.005, 0.021	0.162
House Work	Positive attitude, use of resources, female, unemployed	0.002, 0.0005, 0.01, 0.0389	0.222
Leisure	# sports, male, married	<0.000, 0.04, 0.04	0.24
Summary	Street lights (neg.), # community aspects, friends' encouragement	0.004, 0.016, 0.014	0.14

Table 2: Determinants of rural adult PA by intensity using multiple regression

Outcome (Intensity)	Determinants	p-values	Adj. r-sq.
Vigorous	Awareness/use of resources, street lights (neg.)	0.002, 0.011, 0.003	0.18
Moderate	Use of resources, policy attitude (neg.), hills, street lights (neg.)	0.015, 0.022, 0.037, 0.021	0.15
Walking	Awareness/use of resources	0.015, 0.033	0.08
Kaiser Sport Index	Use of resources, barriers (neg.)	0.0005, <0.0001	0.23

Conclusions

- Determinants of PA are specific to the domain and intensity in which they occur
- Interventions promoting PA in rural adults can target social aspects (encouragement from friends), creating activity-friendly environments, and policy factors such as providing time and support for exercise in workplaces.
- Future studies should examine if increasing the awareness of existing resources may be a cost-effective way to promote PA in rural adults

References

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