



## KEY POINT SUMMARY

### OBJECTIVES

The purpose of the study was twofold: (1) to explore the relationship between stages of change for physical activity and perceptions of the physical environment and (2) to explore the relationship between self-reported walking and the perceived environment.

### DESIGN IMPLICATIONS

The findings of the study help to identify the characteristics of the physical environment most strongly associated with physical activity participation. The study suggests that perceptions of aesthetics and practical features of the physical environment are significantly associated with stages of change for physical activity and actual walking behavior. Such design factors can be incorporated into environmentally based interventions to promote greater physical activity participation.

## Perceptions of the Physical Environment, Stage of Change for Physical Activity, and Walking Among Australian Adults

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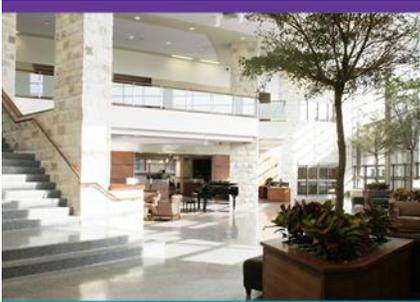
### Key Concepts/Context

The health benefits of regular physical activity are well-established. An understanding of the factors that influence physical activity behaviors is greatly needed to influence sedentary population groups to become more physically active. Psychological, physiological, demographic, and environmental factors are known to influence physical activity. The increasing interest in physical environmental factors such as pleasant walking paths away from traffic, bike paths, weather conditions, and neighborhood safety has arisen due to broader, integrated models developed to more comprehensively explain physical activity behavior.

### Methods

Random computer selection of telephone numbers was used to select a sample of 1,200 adults ages 40-60 years, living in Wollongong, New South Wales, Australia. The study analyzed data from a population survey of those 1,200 adults.

Several measures were collected: (1) sociodemographic measures (e.g., age, sex, or highest level of educational attainment), (2) self-reported physical activity measures (e.g., 2-week and 6-month recall measures of the frequency and average duration per session of participation in vigorous-intensity and moderate-intensity activities and walking over the previous 2 weeks), (3) self-reported walking (e.g., time spent walking in categories of 0-20 min/week, 21-120 min/week, or more than 2 hrs/week), (4) physical activity stage-of-change measures (e.g., precontemplation, contemplation, preparation, action, maintenance, and relapse), and (5) perceptions of the environment (perceived safety of walking in the area during the day and



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night, friendliness of the area, attractiveness of the local area, pleasantness of walking near home, and so on).

Principal components analysis (PCA) was used to identify groups of related environmental variables characteristics of underlying constructs in the data. Confirmatory factor analysis (CFA) was also conducted to verify a priori from PCA whether the factors truly represented the underlying constructs.

## Findings

Questionnaire data on perceptions of the environment were factor analyzed into the following measures: (1) aesthetics of the physical environment and (2) practical convenience of the physical environment. Both the aesthetic environment factor and the practical environment factor were significantly associated with the stage-of-change measures. For both factors, contemplators held more negative perceptions of the environment than those in maintenance, but one of the remaining differences between stages of change were statistically significant. After adjustment for education, sex, and age, stage was still independently associated with the aesthetic environment factor and the practical environment factor. The relationship between walking behavior and the environment factors are also existed. Those who did little walking (20 minutes or less per week) reported more negative perceptions of their aesthetic environment than those who reported walking for between 20 minutes and 2 hours and those who reported walking for more than 2 hours. In addition, those who walked for less than 20 minutes and those who walked for between 20 minutes and 2 hours both reported that shops, parks, and beaches were less near to their homes than those who reported walking more than 2 hours per week.

## Limitations

The authors mentioned some limitations:

- Self-perceived environmental measures may be biased, but the consistent associations suggest the possibility of a strong relationship.
- Although the physical activity measures have been shown to be reliable and valid, further development of the measures is needed.
- Causal relationships cannot be established in the study.