

Research UPDATE

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Summary

This article presents the findings of a study which investigated the association between physical activity and access to facilities. The facilities considered for this study were public-use sports fields and buildings throughout metropolitan Edmonton.

Key Terms

Self-efficacy can generally be defined as the belief that one is capable of successfully performing a task or behaviour, even under challenging circumstances.

Perceived environment variables capture the way environments are construed by individuals, e.g. in terms of environments being conducive to physical activity.

Accessibility of facilities is defined as the ease with which a facility can be reached, e.g., travel distance, location.

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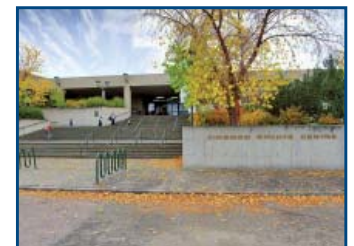


Using Local Sports Facilities More Effectively to Promote Physical Activity

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Background

Research indicates that changes in the physical environment, such as renovating parks (Tester & Baker, 2009) and enhancing access to multi-use trails (Merom, Bauman, Vita & Close, 2003) can be effective in increasing physical activity in urban centres (Heath et al., 2006). Given that a large majority of Canadians are not physically active enough to experience health benefits (Colley et al., 2011), and that the majority of Canadians live in urban areas (Statistics Canada, 2007), the role of the built environment is an important public health issue.



Kinsmen Sports Centre, Edmonton

For our study, individual- and neighbourhood-level measures were employed to examine the associations between accessibility and physical activity:

- Individual-level measures include individual socio-demographics and self-efficacy, individuals' objective accessibility to sport complexes, and individuals' perceptions of their neighbourhood environment (such as perceived access to facilities for physical activity, as well as perceived risk from crime and from traffic).
- Neighbourhood-level measures include actual risk from crime and from traffic (expressed as number of crime incidents and of traffic violations, respectively, per neighbourhood population), socio-economic status (SES), and neighbourhood density of sport complexes.

Examining Objective vs. Perceived Accessibility

Our study primarily focused on:

- the associations between objective assessment of accessibility vs. perceived accessibility of facilities for physical activity; and
- the levels of self-reported physical activity among adults in Edmonton, Alberta.

The recreational facilities were public-use sports fields and associated buildings (sports complexes) throughout metropolitan Edmonton. At most of these sport complexes in Edmonton, the activity takes place outdoors (e.g., on outdoor sports fields, such as diamonds, rectangular fields, and tracks), although many locations also have some indoor facilities (e.g., school gyms, swimming pools).

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Methods and Measures

Geographic Information Systems (GIS) technologies were employed to locate individuals' households (based on their postal codes) and to link built environment and SES data to each respondent. The City of Edmonton provided data on built environment and SES of 195 residential neighbourhoods, as well as data on the location of 362 sport complexes.

Using a multi-purpose questionnaire, individual-level measures were obtained, including socio-demographics, self-reported physical activity, self-efficacy, and perceptions of the neighbourhood environment (such as perceived access to facilities for physical activity, perceived risk from crime, and perceived risk from traffic).

Our Findings

We found that accessibility of facilities and individual-level factors are associated with physical activity:

- Accessibility of facilities measured objectively was associated with increased likelihood of being active as recommended, whereas accessibility of facilities measured subjectively was not associated with increased likelihood of being active as recommended.
- Older individuals were less likely to be active as recommended.
- Women were less likely to be active as recommended.
- Individuals with higher educational levels were less likely to be active as recommended.
- Individuals with higher levels of self-efficacy were more likely to be active as recommended.

We also found that factors measuring safety objectively and subjectively were not significantly associated with physical activity (see a review by Foster & Giles-Corti, 2008). However, the potential mismatch between the objective and subjective environmental variables and the potential bias recall of our respondents may have influenced our results (Ball et al., 2008).


These findings suggest that interventions need to be tailored differently to men and women, as well as to various age and socio-economic groups (see Marcus et al., 2006). For instance, sports fields could offer programs that are tailored to women, such as programs for mothers and daughters (e.g., Ransdell et al., 2003), or to older individuals, such as group exercise classes combined with home-based individual counselling (e.g., Ashworth, Chad, Harrison, Reeder & Marshall, 2005). Also, mass media campaigns to raise awareness of individuals about the benefits of an active lifestyle should reach various socio-economic groups (e.g., Spence et al., 2009).

Future Directions: Recreational Facilities and Nearby Neighbourhood Environments

Although the presence of recreational facilities can be a positive factor in helping many individuals to achieve recommended levels of physical activity, past research suggests the negative or positive qualities of areas surrounding facilities may influence their use for physical activity (Kaczynski, Johnson, & Saelens, 2009). It appears that a synergetic effect occurs between the presence of good quality recreational facilities and a safe neighbourhood environment, which may provide incentives for active lifestyles (Sugiyama, Leslie, Giles-Corti, & Owen, 2009). Therefore, future research should consider sport complexes in conjunction with their surrounding environments.

Conclusion

Our study adds further support for health-promoting strategies that should concentrate on increasing the availability and accessibility of facilities for outdoor active recreation, as well as on increasing the quality of neighbourhood environments.

Programs for women, older individuals, individuals with higher levels of education, or individuals with lower levels of self-efficacy are necessary to increase use of facilities. If such environmental- and individual-level strategies were carried out by urban centres, sport fields and facilities could be used as catalysts of physical activity in the neighbourhood. 

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