

ABSTRACT OF THE DISSERTATION

Psychosocial and Environmental Influences on
Adolescent Physical Activity and Fitness

By

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This dissertation examined relationships between predictors of physical activity (psychosocial and environmental resources), measures of physical activity (PA), and physical fitness in a sample of 192 adolescents (mean age 14.79 ± 0.46 years; 105 male/87 female). Psychosocial resources (perceived competence and social support for PA) were assessed via self-report. Environmental PA resources were assessed using Geographic Information Systems (GIS) technology. All gyms, schools, bike trails, parks and athletic fields within .5 miles of a participant's home were geocoded and summed to create a measure of environmental PA resources. Four measures were used to assess PA: accelerometry, 3-day recall, and self-reported sports participation both in- and out-of school. Fitness was assessed via dual energy x-ray absorptiometry (DEXA, which measured percent body fat), body mass index (BMI) percentile (calculated from height and weight), and maximal oxygen uptake (VO_{2peak} during a cycle ergometer ramp-type fitness test).

Linear regression analyses revealed: The associations between environmental resources and both PA (school sports participation) and fitness (BMI percentile and body fat) confirmed hypotheses (i.e. access to more environmental resources was associated with increased PA and fitness); however, the ways in which environmental resources were associated with PA and fitness depended upon adolescent gender. Perceived competence significantly predicted all measures of PA and fitness in the expected (positive) direction. Social support positively predicted all measures of PA and VO_2 peak. Further, school sports participation partially mediated the relationship between social support and VO_2 peak; however, there was no evidence that the PA variables mediated the relationship between perceived competence and fitness. The interaction between environmental resources and social support for PA was significantly associated with school sports participation: Adolescents who had greater access to environmental PA resources and also greater social support were more likely to engage in PA than adolescents with lower levels of environmental resources, social support, or both. Results are discussed in terms of Social Ecological Theory and suggestions are presented to inform future research and intervention.