

Physical Activity across the Lifespan: Testing Models Responsive to Culture & Community

Research Goals: Plan, develop, implement, and evaluate theory- and evidence-based physical activity programs that are (1) culturally relevant, (2) situated in high-need communities with known health disparities, (3) sustainable, and (4) designed to inspire participants' engagement in physical activities throughout their lifetimes.

YOUNG CHILDREN



FUN & FIT 4 LIFE

Summer, weekend, and after-school programming targeting positive youth development, physical activity, health, and college readiness delivered at low or no cost (since 2010)

Participation

- Summer programs on Texas State campus: ~60 children/year (ages 8-13)
- After-school programs on Texas State campus serving children from Boys & Girls Club and Conway Neighborhood (San Marcos Housing Authority): ~50 children/year (ages 5-10)

Select Outcomes (2016)

Measured physical activity levels, perceived physical competence, personal and social responsibility, coaching climate ($n=60$, mean age=10.5 years; 68% identified as African American, Hispanic, or multiracial)

- Children engaged in moderate to vigorous physical activity for 50% of each camp session, on average.
- When camp coaches emphasized a mastery learning environment, children were more likely to (a) believe they were good at physical activities, (b) try hard and set goals, and (c) help and respect others

ADOLESCENTS



AQUARENA SPRINGS OUTDOOR EDUCATION

Outdoor and adventure education and physical activities targeting at-risk adolescents (since 2013)

Participation

- Youth cycling for students at San Marcos High School: ~28 high school students/year
- Outdoor/Adventure Education with Meadows Center for Water and the Environment offered through:
 - Boys & Girls Club after-school program ~22 students/year
 - Goodnight and Miller Middle Schools ~45 students/2016-17
 - Rebound Disciplinary Alternative Education Program/Phoenix Alternative School ~76 students/2016-17

Youth Cycling Outcomes

- Significant increase in fitness levels from pre- to post-season
- Significant positive changes in psychosocial behaviors and academics

Boys & Girls Club Outcomes

- 36% of the time engaged in moderate to vigorous physical activity; 6% at very vigorous level
- Significant increase in personal and social responsibility from pre- to post-camp; kids perceived high levels of a mastery climate

ADULTS



TOTAL WELLNESS

Low-cost, high-quality, accessible group and individual services targeting physical activity, nutrition, and behavior change (since 2001)

Participation (over 2,000 unique participants each year)

- Texas State University Employee Wellness Program (*WellCats*): ~880 employees/year
- San Marcos CISD Employee Wellness Program (*Rattler Strong*): ~300 employees/year
- Total Wellness-San Marcos @ San Marcos Activity Center: ~630 San Marcos city residents/year
- Total Wellness @ Mariposa (senior living) Apartment Homes: ~200 residents/year

WellCats Outcomes (2015 Pilot Study)

- Improvement in all measures of participants' fitness (except BMI) & psychological constructs
- Increase in number of employees utilizing wellness leave and total number of hours claimed
- Decrease in total sick leave hours claimed, saving the University \$90,000 in lost wages

Selected Faculty and Student Research Projects

- Effectiveness of Total Wellness programs on health-related physical fitness
- Systematic development, implementation, and evaluation of employee wellness programs in academic settings (PreK-12 and University)
- Relationship between motivation and exercise adherence
- Effects of yoga training on cardiovascular, pulmonary, and muscular health/fitness

SENIORS



PROGRAM GOALS

- Change behavior – establish and sustain participants' habitual physical activity through fun, low-cost, accessible activities
- Target populations who most need support – low-income, minorities, seniors, employees
- Create community-wide culture of physical activity
- Improve the productivity and overall health and well-being of employees in academic settings
- Lower organizational and individual health care costs
- Provide hands-on training for over 300 Texas State exercise & sports science, athletic training, health education, physical fitness & wellness, and recreation administration students each year:
 - » integrate and apply theory, knowledge & skills, and practice to develop professional skills
 - » conduct meaningful research to satisfy graduate degree requirements
 - » become change agents for better health options/public spaces for physical activity across entire communities

RESEARCH ASSETS

- Mountain bikes
- Archery equipment
- Orienteering equipment
- Geocaching equipment
- Treadmills
- Stationary leg ergometers
- Air displacement plethysmography (BodPod)
- Electrocardiogram (EKG)
- Skinfold calipers
- Blood lactate analyzers
- Dynamometers
- Indirect calorimetry
- Accelerometers
- Heart rate telemetry systems
- Sphygmomanometers
- FitnessGram®
- Valid, reliable, and developmentally appropriate assessments of psychological constructs
- Participatory photo mapping

NEEDED RESOURCES & COLLABORATORS

- Graduate Research Assistants for data collection and analysis
- Incentives to support program participation
- Actigraph Accelerometers
- Dexa Scanner
- Surface Pro Laptops for data collection
- Go Pro Video Cameras
- Glucose and Cholesterol Monitoring Systems
- Experts in health communication and health behavior change

RESEARCHERS

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FUTURE RESEARCH

Investigate impact of various interventions – year-round vs. summer; different types of activities – on participants' behaviors, perceptions, and attitudes

Conduct longitudinal studies of relevant indicators (e.g., school performance and persistence, physical activity, psychosocial and health outcomes) on participants and control group

Develop, implement, and evaluate interventions designed to remove barriers to employee participation in wellness activities and create workplace culture supportive of physical activity

Determine cost-effectiveness of theory-based and culturally relevant physical activity programs