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: ~20 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 levels
    - 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 (WellCat)
      - ~800 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
  - **WellCat 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

### Seniors
- **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

### Research Goals
- Systematic development, implementation, and evaluation of employee wellness programs in academic settings (PreK-12 and University)
- Examination of the impact of wellness programs on employee health outcomes (except BMI) & psychological constructs
- Examination of the relationship between motivation and exercise adherence
- Examination of the effectiveness of Total Wellness programs on health-related physical fitness
- Examination of the effects of yoga training on cardiovascular, pulmonary, and muscular health/fitness

### 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

### Research Assets
- Mountain bikes
- Archery equipment
- Orienteering equipment
- Geocaching equipment
- Treadmills
- Stationary leg ergometers
- Air displacement plethysmography (BodPod)
- Electrocardiograms (EKG)
- Skinfold calipers
- Blood lactate analyzers
- Dynamometers
- Indirect calorimetry
- Accelerometers
- Heart rate telemetry systems
- Spirometers
- 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

### 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

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- 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

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