Preliminary Results from an Internet-Delivered Work-based Physical Activity Program
Nicole L. Rogers¹, Carolyn R. Ahlers-Schmidt², Nobuo Takeshima³, Michael E. Rogers, FACSM⁴

¹Department of Public Health Sciences, Wichita State University, Wichita, KS. ²Office of Research, The University of Kansas School of Medicine, Wichita, KS. ³Exercise Gerontology Laboratory, Nagoya City University, Nagoya, Japan. ⁴Human Performance Studies, Wichita State University, Wichita, KS

INTRODUCTION

Background
- Approximately 60% of the adult U.S. population remains inadequately active with 25% reporting no intentional activity
- Physical inactivity is a modifiable behavior and one that may be addressed in the workplace
- Research demonstrates that accumulating 10,000 steps/day is associated with lower Body Mass Index (BMI), skinfold thickness, % body fat (%BF) and blood pressure (BP) (Haskell et al., 2005; Thompson, Holloszy, et al., 2001; Wilk et al., 2000)

METHODS

Participants
- Two schools, intervention and control, participated
  - Subjects (Ss) were recruited by school principals
- Ss were screened for medical conditions, as identified by ACSM and AHA
- Ss wore a LIFECORDER EX accelerometer 2 consecutive weeks for baseline measures and daily to track daily steps
- Health measures were assessed prior to intervention
- Height (HT), Weight (WT), BMI, % BF

METHODS

Intervention
- The physical activity program was delivered via a secure web site
- The site consisted of six elements:
  - Education
  - PA tracking logs and graphs
  - Individualized PA goals
  - Team standings
  - Progression along a U.S. trail
  - Discussion board

Employees logged onto the site daily, recorded steps and non-walking (e.g. swimming) physical activity
- Non-walking physical activity (other activity) was converted to steps, combined with daily steps and reported as one measure of total physical activity
- Physical activity goals calculated every 2 weeks and reported as one measure of total physical activity
- Physical activity goals calculated every 2 weeks and reflect a 10% increase above the previous 2-week PA average
- Employees formed teams of 5 to “race” across the U.S.

RESULTS

Baseline Measures
- 58 female employees enrolled, 2 dropped
  - Intervention: n = 29: (41.1 ± 2.3 yr)
  - Control: n = 27: (41.5 ± 1.6 yr)
  - No differences between groups at baseline
- Descriptive statistics for baseline steps and the first 20 weeks of intervention steps were analyzed
  - This data set does not include “other activity” data

Step Categories
- Sedentary: <1,000 steps/day
- Low Active 5,000-7,499 steps/day
- Somewhat Active 7,500-9,999 steps/day
- Highly Active 10,000 steps/day

Bodyfat Percentage
- Body Fat Percentage: 39.1 ± 6.9 %

BMI
- Normal Weight: 18.5-24.9
- Overweight: 25-29.9
- Obese: 30 or greater

RESULTS

Body Comp - Activity Level Relationship
- Correlations indicate BF%, but not BMI, were correlated with Baseline Steps (r=-0.54, p<.01) and Physical Activity Level (r=0.48, p<.01)
- The one-way ANOVA indicated a significant increase in average daily steps at week 5
  - Steps were maintained weeks 5 through 20

CONCLUSIONS
- The results of this study suggest that an internet-delivered physical activity program can be successful in increasing physical activity levels in females who are, in general, inactive with high BF% and BMIs
- On average, participants increased steps by almost 2,000 steps, the equivalent to one mile.
- The findings of this study correspond with previous research. Ss who accumulate more steps/day have lower BF%. However, for our data there was no relationship between baseline steps and BMI values.
- We would like to thank the Suzuken-Kenz for use of their accelerometers