High volumes of sedentary instructional time during the school day contradicts research supporting the role of physical activity (PA) in enhancing students’ attention, academic achievement and executive function (EF).

**PURPOSE:** To describe PA, EF and academic performance in 5th grade student participants prior to a multimodal classroom curriculum called POWER that incorporates both PA and the teaching of EF skills.

**METHODS:**
A convenience sample of six 5th grade classes in two diverse schools in New Jersey were studied. Three classes in one school received POWER starting September 2019 (POW); 3 waitlist control classes in the other school (CONT) will begin POWER in January 2020. Students were wrist-worn accelerometers for a full school week and completed the Youth Activity Profile (YAP). EF was assessed by 3 cognitive tests from the NIH Toolbox (NIHTB). Academic performance was assessed via STAR math tests. Data are reports as mean (standard deviation). Groups comparisons were made by independent samples t-test.

**RESULTS:**
86 students (POW n = 49; CONT n = 37; mean age = 10 (0.2) years) completed the YAP and NIHTB cognitive tests at baseline. A subset of 70 students (n = 35 in each group) wore accelerometers. POW spent 77.4% (2.6%) of the school day in sedentary behavior and 20.2% (2.6%) in MVPA, while CON spent 87.2% (1.4%) and 11.39% (1.3%) respectively in sedentary and MVPA. The YAP activity score at school was 3.5/5 for POW and 3.2/5 for CON. The age-corrected composite score for NIHTB was 94.1 (10.8) for POW, and 97.4 (9.5) for CON (national average=100). Students’ scaled score for the STAR math assessment was 735 (86.3) and 730.5 (78.7) (~70th percentile) for POW and CON, respectively.

**CONCLUSIONS:**
POW PA was significantly higher than CON (p = .001), possibly due to intervention teachers’ implementing some aspects of POWER earlier than instructed. Students tested below age-corrected national averages on both the NIHTB and academic tests; there were no significant differences between groups (p = .15 and p = .81).

It is well known that High-Intensity Interval Training, such as CrossFit, positively influences physical and mental well-being. However, few rigorous studies evaluated both psychological and physical fitness variables in young people.

**PURPOSE:** To investigate if 8 weeks of CrossFit training program could positively influence the psychophysical well-being in adolescents.

**METHODS:** 30 healthy participants (n=18 males and 12 females) were matched into pairs based on gender and randomly allocated into an intervention group (n=15; 18.2 ± 0.8 years) that performed the 8 weeks CrossFit training program or control group (n=15; 18.3 ± 0.8 years). At baseline and after 8 weeks, physical fitness tests (i.e. squat, push-up, lunge, and 20-meter run) and psychological measures (PCS and MCS indexes of the Short Form-12, and Regulatory Emotional Self-Efficacy scale (RESE, negative and positive)) were performed.

**RESULTS:** After 8 weeks, the intervention group showed significant improvements in the number both of maximal repetitions for the squat test (Δ 6.6 ± 2.58, p < 0.001), push-up test (Δ 5.87 ± 4.23, p < 0.05), and lunge test (Δ 7.89 ± 3.11, p < 0.001) and of maximal laps for the 20-m run test (Δ 3.60 ± 2.27, p < 0.01). Also, higher scores for the PCS (Δ 4.7 ± 1.3, p < 0.01) and MCS (Δ 5.2 ± 0.9, p < 0.001) indexes, and the RESE negative (Δ 6.0 ± 3.9, p < 0.001) and RESE positive (Δ 4.0 ± 2.7, p < 0.001) scales were found in the intervention group. No statistical differences were detected in the control group for all dependent variables.

**CONCLUSION:** Findings suggest that an 8-week Crossfit intervention program could positively affect the general physical well-being and mental attitude and improve the emotional perceived self-efficacy in managing negative affect and in expressing positive emotions in healthy adolescents.
PURPOSE: With about 80% of women over age 50 reporting little/no regular physical activity (PA), this group is the most sedentary population in the U.S. Social media and new technologies provide an opportunity for home-based health promotion and behavioral interventions.

METHODS: Telephone interviews were conducted on a sample of healthy women over the age 50 years. A semistructured interview guide was used to acquire information on common internet use, health information search habits, and the motor ability of children aged 7-8 years.RESULTS: All women were in their mid-50's with a mean age was 55.5 years (range 53-56 years). All women were peri- or post-menopausal, and were either married or widowed. Facebook was the most commonly used online social app and was used to “keep up” with family and friends, to access support groups and read health articles. Fitbit was used by the majority of interviewees to track daily steps, sleep patterns, and calories burned during workouts. The participants also liked the goal-setting, self-monitoring, and social component (competition/social comparison) provided by Fitbit. MyFitnessPal was a commonly used app to track activity and monitor the relationship between calories consumed and calories expended. A number of women, particularly those with health conditions, accessed online sources to research medications/drug interactions and learn more about their condition. Participants reported that they were distrustful of much online information and were skeptical of many health web sites. Additionally, the women indicated that they would like to see more age-related content and access to communities of women of similar age.

CONCLUSIONS: Internet access to social groups and health/PA information is important to women over the age of 50. This demographic is receptive to information and interventions accessed online that are age-appropriate and include a strong social support component.

1083 Board #209 May 27 2:30 PM - 4:00 PM The Relationship Of Physical Activity And Motor Ability Development In Children Aged 7-8 Years Hongjuan Li, Liang Ma. Beijing Sport University, Beijing, China. (Sponsor: Zhengzhen Wang, FACSM)

Email: janerobin@126.com

(No relationships reported)

Two thirds of children do not meet physical activity (PA) guidelines in China. The fundamental movement skills (FMS) level is a good predictor of physical activity levels and weight status in children. Also, early motor skill has long-term effect on individual’s PA level. So, understanding the relationship of FMS and PA is important for physical activity intervention planning.

PURPOSE: To analyze the relationship of daily physical activity participation and the motor ability of children aged 7-8 years.

METHODS: The Movement Assessment Battery for Children-2 (M-ABC-2) and the Test of Gross Motor Development - 2nd edition (TGMD-2) were used to test the motor ability of 91 children aged 7-8 years. The ActiGraph GT3X+ accelerometer was used to measure the physical activity participation for 7 consecutive days.

RESULTS: The total time of boys spent in moderate physical activity (MPA) and moderate-to-vigorous physical activity (MVPA) was 21.4±7.5min and 27.3±11.2min, respectively, which was higher than those of girls (17.5±7.4min and 22.2±9.7min, P<0.05). The score of object control subscale in boys was 6.73±2.49, which is better than that of girls (5.71±2.14, P<0.05). Children’s fine motor skill and locomotor skill were positively correlated with MVPA, MPAs for boys (t=0.35, P<0.05).

CONCLUSION: In this study, children spent less time in MVPA, especially in girls. The development of object control ability in boys is better than that of girls; there is a positive correlation between children’s fine motor skills and physical activity. Therefore, children need to learn and practice FMS for participation and maintenance of PA. FMS should be tested in primary schools, so weaknesses could be identified in children and improved via proper intervention.

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1084 Board #210 May 27 2:30 PM - 4:00 PM Hkjc Physical Activity Tracker (a Wrist Tracker) Validation Study Qi Yujie1, Wang Lin1, Li Wai Yee1, Stanley Sai-chuen Hui, FACSM2, 1Shanghai University of Sport, Shanghai, China. 2The University of Hong Kong, Hong Kong, Hong Kong. 3Chinese University of Hong Kong, Hong Kong, Hong Kong.

Email: 15921092796@163.com

(No relationships reported)

PURPOSE: To investigate whether the number of steps from the tracker can accurately reflect the energy expenditure and movement intensity in various exercise activities.

METHODS: Fifteen participants (9 males,6 females; age range:19-36 years; body mass index range:18.4-29.7) were fitted with JC tracker on the wrist to record steps and Cosmed K5 metabolic analyzing system to measure energy expenditure. Participants performed low, moderate and high intensity exercise respectively, in which the exercise was randomly selected, including running, cycling, arm curl and squat. They performed these activities for 5 min or reached to the targeted number of repetition. Descriptive statistics and one-way ANOVA were used to test if with the change of exercise intensity, the number of steps of the JC tracker will change accordingly.

RESULTS: The Mean VO2 (mL/min/Kg) was significantly changed as the exercise intensity elevated in running (low intensity:14.1±3.03;moderate:28.5±3.21;high:34.9±7.08,P<0.05), stationary bike (low intensity:11.5±2.3;moderate:25.4±2.8;high:29.6±2.08,P<0.05), and arm curl (low intensity:6.88±1.6;moderate:10.17±5.82;high:14.5±4.3,P<0.05), but the changes are not obvious in the squat exercise (low intensity:15.3±1.2;moderate:16.5±2.15;high:19.0±2.40,P<0.05). However, as the Mean VO2 changed, there was no significant difference of steps measured by the tracker. Moreover, although there was a trend of increasing the number of steps in the running exercise (low intensity:607.5±79.9;moderate:736.4±97.8;high:742.2±95.35), it was not statistically significant (p=0.252).

CONCLUSIONS: The JC tracker can reflect the changes in energy consumption in the dynamic movement, such as running; while doing stationary cycling, arm curl or squat, the tracker did not accurately reflect the participants’ actual energy expenditure. A tracker with both heart rate and steps may be able to more accurately measure and reflect energy expenditure and physical activity levels regardless of motion.

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1085 Board #211 May 27 2:30 PM - 4:00 PM Understanding Associations Of Children’s And Parents’ Enjoyment With Their Subsequent Co-participation In Physical Activity Patrick M. Filanowski1, Emily Slade2, Sarah M. Camhi, FACSM1, Jessica A. Whiteley1, Ronald J. Iannotti3, Laurie A. Milliken, FACSM1. 1Xavier University, Cincinnati, OH. 2University of Kentucky, Lexington, KY. 3University of Massachusetts Boston, Boston, MA. 4CDM Group, Inc., Bethesda, MD.

(Sponsor: Laurie Milliken, FACSM)

Email: filanowskip@xavier.edu

(No relationships reported)

PURPOSE: To determine if children’s or parents’ enjoyment of physical activity (PA) is associated with future co-participation in PA.

METHODS: Each parent-child dyad (n=28; age (mean±SD), parents: 38.0±6.6 years, children: 6.0±1.7 years) was guided through five PAs (walking, jumping games, body-weight exercises, tag, dancing) in a research fitness center. Immediately after completing each PA, researchers provided the Visual Analog Scale (“1-Do not like it at all” to 5-“Like it very much”) to assess children’s and parents’ independent enjoyment of the PA. Dyads were asked to complete the PAs at home during the following week. Parents reported their dyad’s participation in the PAs one week later. Separate logistic regression analyses were performed to examine the association of children’s and parents’ PA enjoyment with subsequent completion of the PAs at home.