The Effect of Self-Concept, Physical Activity, and Screen Time on Blood Pressure and Heart Rate in 11-12 year old Middle School Children

Author List:
Presenting Author: Elizabeth Gulledge
Additional Author: Marti Rice

Presenting Author: Elizabeth Gulledge
Address: 2451 Waid Circle S
Southside, Alabama 35907
United States
Ph: 256-442-8245
Fax:
Email: gulledge@jsu.edu
Institution: The University of Alabama at Birmingham

Additional Author: Marti Rice
Address: 1530 3rd Ave., South
Birmingham, Alabama 35294-1210
United States
Ph: 205-975-7802
Fax: 205-996-7183
Email: schauf@uab.edu
Institution: The University of Alabama at Birmingham

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Abstract:
Introduction: The increase in sedentary behaviors in children along with the decrease in time spent engaged in PA has contributed to increases in BP and HR. Variables such as self-concept, PA and screen time have been associated with BP and HR in adolescents. The purposes of this pilot study were to: 1) evaluate the feasibility of sample recruitment and evaluation of instrumentation and 2) examine associations between self-concept, physical activity (PA), screen time, blood pressure (BP), and heart rate (HR) in 11-12 year old male and female children. The specific aims of this pilot study were to: 1) determine recruitment issues. 2) Evaluate reliability and validity of instrumentation, and 3) to examine preliminary associations among self-concept, PA, sedentary behavior, body mass index (BMI), BP, and HR.

Method(s): Using a prospective, cross-sectional design to address the aims, a sample of 17 African American (10 males; 7 females) 11-12 year old students were recruited from 6th grade
students attending summer school in a southeastern state. The participants had their BP, HR, height, and weight measured and completed instruments measuring self-concept, PA, and screen time.

**Results:** Participants had a mean BMI of 22.3 (15.35 to 40.46); mean SBP of 122.35 mm Hg (range of 105 to 144); mean DBP of 67.59 mm Hg (range of 54 to 93); mean HR of 72 BPM (range of 47 to 95). Positive associations were noted between BMI and PA, SBP, and HR in females. Negative associates were noted between BMI and Physical Competence (self-concept), PA and SBP and DBP in both males and females. The mean score of the PA instrument indicated that the average participant was not meeting physical activity guidelines. Reliability of the PACE+ was .855. Results of the self concept scale (Harter’s SPPC) were analyzed in terms of each subscale. The range of reliabilities for the SPPC subscales was .303 to .748.

**Discussion & Conclusions:** In all subscales of the SPCC, females scored significantly lower than males. Gender differences were also apparent in HR. Reliabilities for some of the subscales of the SPCC were low, probably due to small sample. In conclusion, a full scale study will be inclusive of a more heterogeneous sample as well as consideration of a more reliable screen time measure.

**Abstract History:**
This abstract has not been presented or accepted for presentation in whole or in part at the SNRS or other scientific meeting.

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Submitted by:
gulledge@jsu.edu