Promoting Adolescent Health-Related Fitness Knowledge Using Five for Life Curriculum

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Background/Purpose: Developing healthy behaviors and concepts in school is vital to building a culture of health in our society. Teaching fitness-related knowledge has become critical in developing students' healthful living behaviors (Corbin et al., 2007). While many large scale studies have examined adolescent physical activity and fitness-related behaviors, there is limited understanding about what adolescents know about health-related fitness. This study examined adolescents' health-related fitness knowledge improvement over a year as they learned Five for Life—Intermediate curriculum (Focused Fitness, 2015; Spokane Valley, WA).
Method: This study was conducted using a large-scale dataset. The participants were 81,519 middle school students (48.8% female) from 57 middle schools in an eastern state. The participants ranged from 10 to 15 years old. The 57 middle schools implemented the Five for Life intermediate curriculum embedded into their physical education classes. Content validated knowledge tests were conducted either online or in paper-based format. All items were multiple-choice format with four choices and only one correct answer. Data collection occurred from June 2011 to June 2015, simultaneously throughout these schools. All test scores were scaled on a 10 point system for consistency.
Analysis/Results: Data were weighted based on school size, and aggregated at the school level for analyses. We conducted descriptive statistical analyses on pre and posttest scores. Pearson product-moment correlation analyses were then conducted to examine the association between them. Lastly, we conducted a paired samples t-test to evaluate the difference in pre and posttest scores and we computed Cohen's d for effect size. At the school level, adolescents on average scored 5.78 (SD = .77) and 7.59 (SD = .96) on the pretest and posttest, respectively. Correlation analyses showed that the pre and posttest scores were highly correlated (r = .79, p < .01). Paired samples t-test showed that adolescents scored significantly higher in the posttest than they did in the pretest, t = –23.39, df = 56, p < .01. We computed the effect size based on school level results, with Cohen d = 2.09 (95% CI = 1.45–2.73), Glass' Δ = 1.89, indicating a large effect size.
Conclusions: These results demonstrated that adolescents had limited understanding of health-related fitness concepts as evidenced in the low pretest score (average 5.78 on a 10 point scale). This finding points out the need to enhance health-related fitness education in physical education classes. Despite the limitation of pre-posttest design with no comparison group, the large effect size suggested that at school level Five for Life curriculum was effective in improving adolescent health-related fitness knowledge on a large scale. Practitioners should expect to enhance adolescent health-related fitness knowledge if they teach using this curriculum. Future studies should include a comparison group to identify the relative effectiveness in comparison with others available to physical educators.

Promoting Health in a Virtual World: Virtual Reality and Autism

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Background/Purpose: Autism spectrum disorder (ASD) is a lifelong developmental disability that is characterized by deficits in social communication and social interaction and constrained, repetitive patterns of behavior, interests, or activities (American Psychiatric Association, 2013). Approximately 1 in 68 children in the United States has been classified with ASD (CDC, 2014). Effective technology like Virtual Reality (VR) based programs for addressing social, behavioral, and adaptive skills in children with ASD are gradually gaining attention among researchers and practitioners. The purpose of this study was to provide a systematic overview of how virtual reality based therapy could help children with ASD.
Method: Keyword and reference searches were conducted in PubMed, Google Scholar, and ClinicalTrial, and the inclusion criteria included: (a) study design: cohort studies, pre-post studies, or cross-sectional studies; (b) main outcome: physical and mental health improvements through virtual reality approach; (c) population: children with ASD; (d) language: articles written in English; and (e) article type: peer-reviewed articles or theses. A total of 67 articles were identified in the search, among which 39 were excluded in the title and abstract screening and 16 were excluded after full-text review. The remaining articles were carefully evaluated and results were summarized.
Analysis/Results: Among the 12 studies, 6 studies demonstrated that VR-based approach can help facilitating improvements in social communication skills such as contextual processing and cognitive flexibility