A Closer Look at Youth Sports Experiences: Validation of the Youth Experiences Survey for Sport (YES-S) using the Rasch Model

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Sport Development - Sport Development (Youth Sport) Saturday, June 1, 2019
Poster 9:20 AM
Abstract 2019-336 Room: Napoleon CD corridor

In light of decreasing participation rates in youth sports, monitoring the status of sports experiences is crucial in the sports program design: how it affects the recruitment and retention process, why students make great efforts to participate in sports, and what emotions they feel as they challenge in sports participation. Based on the positive youth development (PYD) framework, the Youth Experiences Scale for Sport (YES-S) was developed to measure sports experiences (McDonald et al., 2012; Sullivan et al., 2015). The scale includes five factors: personal and social skills (PSS), initiative (I), goal setting (GS), cognitive skills (CS), and negative experiences (NE). Recently, the YES-S deserves more attention from sports practitioners interested in improving students’ sports experiences.

The purpose of this study is two-fold: (a) examine the construct validity of the modified YES-S including psychological health (PS) factor (The Aspen Institute, 2018) (b) provide a detailed analysis of the item appropriateness to improve the instrument, specifically taking into account the psychometric characteristics of the items and categorical response format. A total of 1,199 high school students (49.9% female, 49.5% male) were recruited through state high school associations in North Carolina (N=520), Michigan (N=544), and National (N=135). We employed the Rasch-Andrich rating scale model (Wright & Masters, 1982) and followed the analytical steps outlined by Linacre (2017).

Results of testing model fit revealed that three items from negative experience (NE 5, 6, 7) were flagged due to high Infit and Outfit statistics misleading the overall YES-S score. The item most likely to agree is Initiative 3; I put all my energy into this activity (-1.02 logits; SE=0.07) and the item least likely to agree is Cognitive Skills 3; I have improved: Computer/internet skills (1.21 logits; SE=0.06). The students’ YES-S score ranged from -4.76 to 4.87 logits (Avg.=1.58 logits, SE=0.43). The item-person map showed that there is no item which can differentiate the high scorers (i.e., located at logits 1.5~4.8). Thus, developing more items is suggested. The item separation was 13.17 which indicates that the scale has good variability. However, the person separation is 1.66 (less than 2.0), which implies that the instrument is not sensitive enough to distinguish high scorers. The reliability of the scale was excellent. Regarding the categorical function of the scale, we found that the four-point Likert scale did not function very well; the probability of the second category and the third category did not meet the thresholds. Also, we identified that five items potentially have the gender bias.

This proposal will make a unique contribution to the current sports management literature and youth development efforts to obtain a more comprehensive understanding of which positive experiences can be adopted for implementing youth sports programs and which negative experiences can be minimized in the programs. This study will also make a methodological contribution by adopting an appropriate technique—the Rasch model to determine psychometric information about the instrument. Incorporating this novel methodology into research on sports management will help researchers successfully implementing it in their needs.