



Velocity Project

Abstract—Research Report

Title: Contemporary Evaluation of Sport Specialization in High School Track and Field Athletes

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Purpose

Physical activity and sport participation positively impact athletes' physical and mental health; however, sport specialization is extremely common in high school athletics and has been associated with negative health outcomes. The Wisconsin Sport Specialization Questionnaire (WISSQ) is a new, valid, reliable measure that was created from the consensus-based definition

of sport specialization. Higher WISSQ scores (range 0-100) indicate greater specialization; component scores assess physical, motivation, and social domains. The purpose of this study was to describe sport specialization in high school T&F athletes using the WISSQ and evaluate the relationship with health-related quality of life (HRQoL).

Subjects

38 high school track and field (T&F) athletes (55% female; BMI 20.0 ± 3.4 kg/m²; running experience 8.1 ± 2.5 y; 12, 9, 8, 9 athletes were in grades 9-12, respectively)

Methods

A prospective cohort study at 1 Wisconsin high school during the 2024-25 seasons. Athletes completed a survey including demographic information, sport history, WISSQ, and PROMIS pediatric scale v1.0 global health 7 (PGH-7) at the start of the season. Higher PGH-7 scores indicate better HRQoL; the population mean is 50. Pearson correlation coefficients evaluated the association between WISSQ and PGH-7 scores.

Results

For all athletes, the total WISSQ score was 42.1 ± 13.5 (domains: 39.7 ± 10.0 physical, 56.2 ± 23.0 motivation, 33.1 ± 23.1 social). The PGH-7 was 44.6 ± 7.6 and was not correlated with the total WISSQ score ($r = -0.12$ [95% CI -0.44, 0.23]). A primary sport was identified by 25 (65.8%) athletes. WISSQ or PGH-7 scores were not different between the 18 (47.4%) who identified T&F or cross country (XC) as their primary sport. The WISSQ specialization score for T&F or XC primary sport athletes was 43.5 ± 11.7 ; 42.4 ± 8.5 physical, 59.2 ± 20.3 motivation, 34.7 ± 8.1 social domains. In this group, PGH-7 was 44.3 ± 8.1 and showed a moderate association with the total WISSQ score ($r = 0.32$ [95% CI -0.17, 0.68]). The WISSQ motivation domain demonstrated a strong association with the PGH-7 ($r = 0.64$ [95% CI 0.24, 0.85]) while the physical and social domains were not associated.

Conclusions

This is the first assessment of sport specialization in T&F athletes using the WISSQ. The identification of a primary sport has long been an assessment of sport specialization. However, the absence of difference in WISSQ score for athletes identifying a primary sport may indicate that beliefs and behaviors assessed in the WISSQ may discriminate specialization better. The positive association between sport specialization motivation and HRQoL is a novel finding. High school T&F athletes with greater sport motivation, without the physical or social ramifications of specialization, may concurrently engage in physical activity that positively contributes to HRQoL.

Clinical relevance

High school T&F athletes report relatively low levels of specialization, and average HRQoL. The WISSQ enables sport specialization assessments to evaluate the physical behaviors, sport motivations, and social consequences experienced by high school athletes.

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