High School Sport Specialization Levels Among NCAA Track and Field Athletes

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BACKGROUND

- Sport specialization has been defined as year-round intensive training in a single sport at the exclusion of other sports.
- Highly specialized athletes are at risk for suffering an overuse injury; track and field athletes being at a greater risk than other sports.
- High levels of running related injuries and risk of menstrual dysfunction in female track and field athletes.

PURPOSE STATEMENT AND HYPOTHESES

The purpose of this study is to investigate the high school sport specialization rates across NCAA Division I, II, and III track and field athletes in Western New York.

We hypothesize that:

1. There will be a greater amount of highly specialized, female distance runners compared to male distance runners.
2. Female distance runners will have a statistically significant higher level of specialization compared to male distance runners.
3. Field event specialists will have a statistically significant lower level of specialization compared to distance runners and sprinters.
4. Evaluate the distribution of specialization amongst the different events.

STUDY DESIGN

Study Design: Cross-Sectional study

Dependent Variables: Level of specialization in track and field athletes

Independent Variables: Athlete’s main T&F event: distance (competes distances >800m), sprint (competes at distances <800m, including hurdles), field event specialist (including jumping and throwing events), athlete sex

Participants: Must have been over 18 years old and a member of their institutions track and field team

Consent and Ethical Approval: Consent was obtained via completion of the survey; ethical approval was obtained through the Brock University REB committee as well as the Daemen College HSRRC.

MATERIALS AND METHODS

Instrumentation:
Our study will use a modified version of a widely utilized survey to assess specialization rates among participants. The survey will ask questions regarding participants’ training habits, average weekly mileage, and their high school competitive events. The survey was created and distributed via surveymonkey.com

Statistical Analysis:
- Chi-square analysis to compare the distribution of specialized athletes between sexes and between events
- Kruskal-Wallis ANOVA to compare differences in the level of specialization in track and field athletes, including differences between the sexes and differences between the events.
- Statistical significance was found when \( P < 0.05 \)

RESULTS

- Our study had a total of 28 participants (n = 28) with 28.5% having a low level of specialization, 32.1% having a moderate level of specialization and 39.3% having a high level of specialization. Female distance athletes did not specialize at a statistically significant rate compared to male distance runners; there were no statistically significant between event differences found in our study.

CONCLUSIONS

Roughly 71% of athletes surveyed displayed a moderate to high level of specialization; sprinters displayed the greatest amount of specialized athletes however our study was unable to demonstrate a significant relationship between sport specialization and track and field athlete event type. Future research should further examine the relationship between distance covered during training and specialization levels as it relates to injuries.

Limitations:
1. Recall bias during survey
2. Sample size limited; difficult to extrapolate results to larger track and field community

Clinical Significance: Clinicians and coaches should be aware of the training habits of track and field athletes; periodic rest may help to prevent high levels of specialization in sprinters

BIBLIOGRAPHY

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