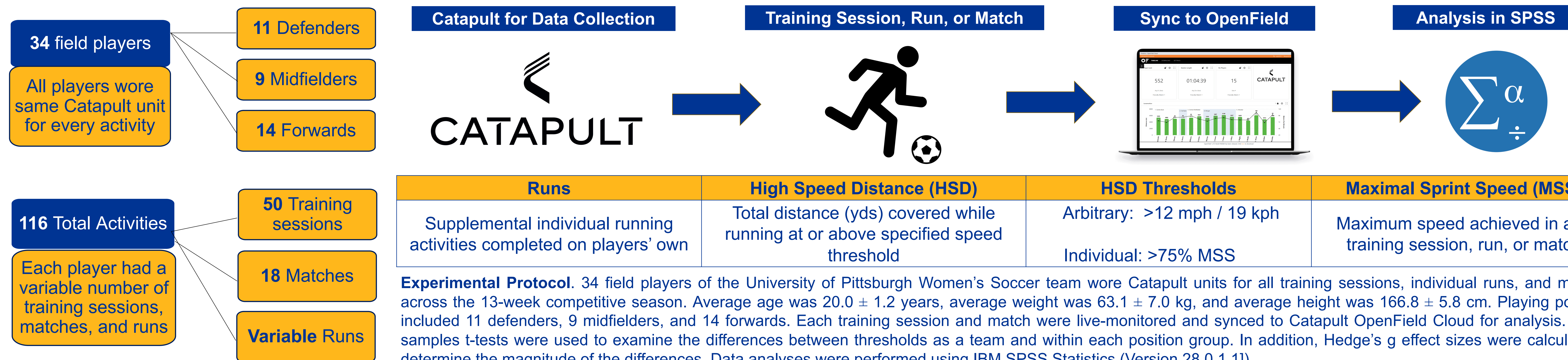


INTRODUCTION

In elite soccer, periodizing training – especially through tactical periodization based on match day proximity – is crucial for optimizing performance and maintaining player availability across the competitive season (2). Each day focuses on different physical qualities (e.g., speed, endurance) with various external load demands. High-speed distance (HSD) is an important metric monitored with GPS units due to its role in goal-scoring actions (3) and its association with reduced hamstring injury risk when properly prescribed in training (1). Current literature highlights a wide range of methods for defining HSD thresholds, including both arbitrary and individualized approaches. Individualized thresholds may better reflect player capacity and offer a more accurate method for monitoring external load. Yet, there is no standardized method – especially in women's soccer – which leads to difficulty with player comparisons and training prescription.

Purpose: To examine the differences in HSD thresholds and total HSD using arbitrary and individualized thresholds in NCAA Division I female soccer players.

METHODS



RESULTS

Table 1. Descriptive soccer player performance data across the 13-week competitive season.

Variable	Mean ± SD
Training Sessions	43.9 ± 8.7
Matches	12.6 ± 5.5
Individual Runs	4.8 ± 5.3
Individual maximal sprint speed (mph)	17.6 ± 0.9
Individual maximal sprint speed (kph)	28.3 ± 1.5
HSD >75% threshold speed (mph)	13.2 ± 0.7
HSD >75% threshold speed (kph)	21.3 ± 1.1
Arbitrary threshold HSD total (yds)	7876.0 ± 2738.6*
Individualized threshold HSD total (yds)	4029.4 ± 1453.4

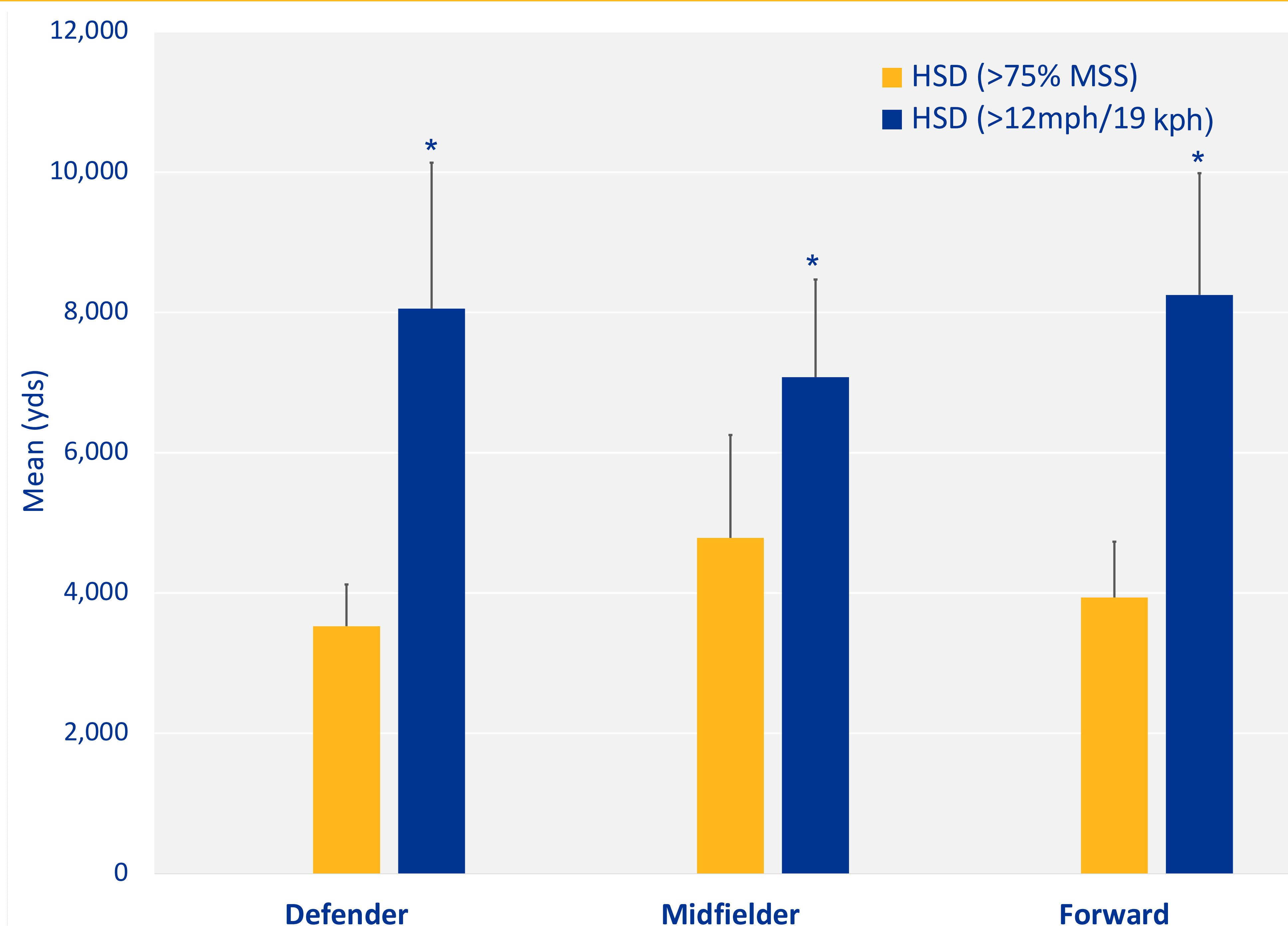


Figure 1. Average Individual and Arbitrary Total HSD by Playing Position. * = Significantly greater than individualized threshold HSD total for Defenders ($p < 0.001$, $g = 1.91$), Midfielders ($p = 0.010$, $g = 1.17$), and Forwards ($p < 0.001$, $g = 1.79$).

CONCLUSIONS

- Large, practically meaningful differences in HSD threshold and total HSD between the arbitrary and individualized methods.
- There was a large variation in total HSD based on the number of activities each player performed as well as different positional demands.
- Large, practically meaningful differences in HSD existed between thresholds within each field position.

PRACTICAL APPLICATIONS

- Establishing player-specific thresholds for HSD may be beneficial for accurately monitoring external load on an individual basis, while the use of arbitrary thresholds may allow for team-wide and positional comparisons.
- Arbitrary thresholds may overestimate amount of HSD accumulated for each player, as individualized methods can provide a stricter representation of high-intensity efforts.
- Establishing a population-specific standard would improve accuracy, training prescription, and player comparisons across teams and leagues.

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ACKNOWLEDGEMENTS

Thank you to Dr. Katelyn Allison and Dr. Timothy Suchomei for their guidance throughout this process, as well as Brenna MacDonald and the University of Pittsburgh Women's Soccer team for allowing me to work with them throughout the year.

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