

Position Profiles Based on GPS Metrics: A NCAA Division III Men's Soccer Case Study

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ABSTRACT

According to the ACSM, wearable technology is the number one fitness trend for 2022. Division III schools are the biggest participant in the NCAA. In terms of the number of student-athletes, soccer is the second most popular sport in the NCAA. This is a continuation of research whose initial findings were presented by Lecher et al. (2022) in the 2022 Annual TACSM Annual Meeting and published by the International Journal of Exercise Science. **PURPOSE:** To analyze and interpret the game data from 2020-21 season to answer the head coach's additional questions of a) What is the profile per position (Center Back, Full Back, Deep Midfielder, Winger, Attacking Midfielder, and Striker) based on six specific key performance indicators (KPIs; Distance, Active Time, GPS Load per minute, Sprint Count, Sprint Mean Duration, and Sprint Mean Distance)? b) Are there significant differences in those profiles between halves (all games)? and c) Are the position differences per half significant between wins and losses? **METHODS:** All 29 players participated. Data were collected using the Titan 1+ GPS sensor. Game data were analyzed descriptively to examine KPI centroids by game outcome (win v. loss), period within game (first half v. second half), and position. Each KPI was examined using factorial analysis of variance with three factors identified above as explanatory variables. Descriptive statistics, inferential results, and effect sizes were produced and interpreted. **RESULTS:** Due to space limitations, we are presenting the profile of the Attacking Midfielder only: Distance=1.88mi, Active Time=19.40min, GPS Load= 1.88load/min, Sprint Mean Duration=4.87s, Sprint Mean Distance=23.80m, and Sprint Count=18.05. The differences in all the KPIs between halves in all positions and the differences per half between wins and losses by position were trivial and not statistically significant. **CONCLUSION:** The coaching staff will use the profiles to adjust practices per position for the 2022-23 season. In terms of the KPIs examined, the team performed similarly in both halves, while their differences per half per position cannot be associated with the game result. As with Lecher and colleagues, this case study could also have numerous practical implications as it demonstrates again how sports data analysts and sports practitioners can collaborate.