

ABSTRACT

BACKGROUND: Match tempo (MT) is a tactical determinant of performance as it dictates the speed and flow of ball movement and decision-making on the field. A higher MT often reflects an ability to maintain possession under pressure, increasing opportunities to attack. This analysis aimed to evaluate the effects of training load on MT in Division I women's soccer. **METHODS:** Thirty-three NCAA DI women's soccer players (mean±SD; age=20.2±1.5 yrs) were tracked across a competitive season for training load (total distance [TD; m], accelerations [#], decelerations [#], high intensity running [HIR; m >15kph], and sprint distance [m >21kph]) using wearable GPS tracking devices, two (MD-2) and one day (MD-1) prior to match day. MT was measured as mean passes per minute of attacking ball possession in players that averaged at least 20 minutes of play. Bivariate correlations were used to characterize relationships, with stepwise linear regressions applied to significant outcomes. **RESULTS:** MD-2 TD ($r=0.549$, $p=0.02$), accelerations ($r=0.528$, $p=0.015$), and HIR ($r=0.594$, $p=0.007$) were positively correlated with MT, accounting for 41% of the variance. In contrast, MD-1 decelerations showed a negative correlation with MT ($r=-0.452$, $p=0.03$) and explained 21% of MT variance. No other training components were identified as significant predictors of MT ($p > 0.05$). **CONCLUSION:** MD-2 training load is a significant predictor of tactical performance. HIR and accelerations (which simulate a high press) are crucial for maintaining possession under pressure and increasing attacking opportunities during MD. In contrast, excessive MD-1 decelerations may hinder the speed of ball movement and decision making, potentially due to muscle soreness from the high eccentric loads experienced during deceleration events. Simulating a high press on MD-2 while decreasing eccentric load in MD-1 is a scientific based approach that aims to improve MT in Division I women's soccer.

INTRODUCTION

Match tempo (MT) is defined as the number of passes completed per minute of attacking ball possession. In soccer, it can be used as a tactical determinant of as it dictates the speed of ball movement and decision-making on the field. The impact of training load in tactical performance outcomes in women's soccer has not been evaluated.

PARTICIPANTS

n=33 NCAA DI women's soccer players (≥20min avg of playing time)

PRACTICAL APPLICATION

MD-2 training load is a significant predictor of tactical performance. Excessive MD-1 decelerations may hinder the speed of ball movement and decision-making, potentially due to muscle soreness from the high eccentric loads experienced during deceleration events.

MD-2 vs MD-1 Deceleration Relationship with MT

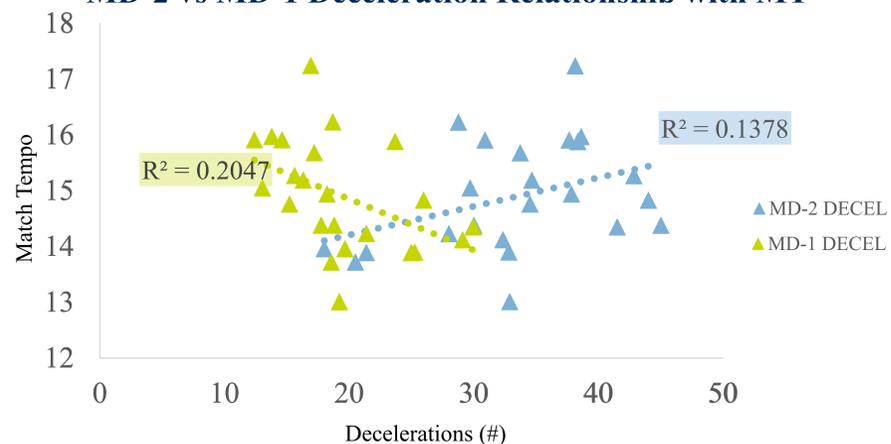


Figure 1. Separate linear regressions between MD-1 and MD-2 decelerations and MT.

	MD-2	MD-1
Match Tempo		
TD [m]	0.55 *	-0.22
HIR [m]	0.59 *	-0.39
SD [m]	-0.13	-0.29
ACC [#]	0.53 *	-0.29
DECEL [#]	0.37	-0.45 *

Table 1. Correlational Matrix between match tempo and training load two days (MD-2) and one day (MD-1) prior to a game. * $p < 0.05$

Simulating a high press on MD-2, while reducing eccentric load on MD-1 appears to be associated with improved match tempo in Division I women's soccer.

PURPOSE

The purpose of this study was to evaluate the effects of training load on MT in Division I women's soccer.

METHODS

EXTERNAL TRAINING LOAD

Tracked across a competitive season two days (MD-2) and one day (MD-1) prior to match day (MD).

MD-2

MD-1

Total distance [TD; m]

High intensity running [HIR; m >15kph]

Sprint distance [m >21kph]

Accelerations [#]

Decelerations [#]



TACTICAL PERFORMANCE

MD

Match Tempo

[Number of passes per minute of ball possession]



Bivariate correlations were used to characterize relationships, with stepwise linear regressions applied to significant outcomes.

CONCLUSION

HIR, TD, and ACC are key performance indicators to determine pressing quality in MD-2, while monitoring the number of DECEL in MD-1 is crucial for maintaining possession under pressure during MD.

RESULTS

Stepwise Regression Results

MD-2 Variables: 41% of variance

- TD ($r=0.549$, $p=0.02$)
- ACC ($r=0.528$, $p=0.015$)
- HIR ($r=0.594$, $p=0.007$)

MD-1 Variables: 21% of variance

- MT ($r=-0.452$, $p=0.03$)

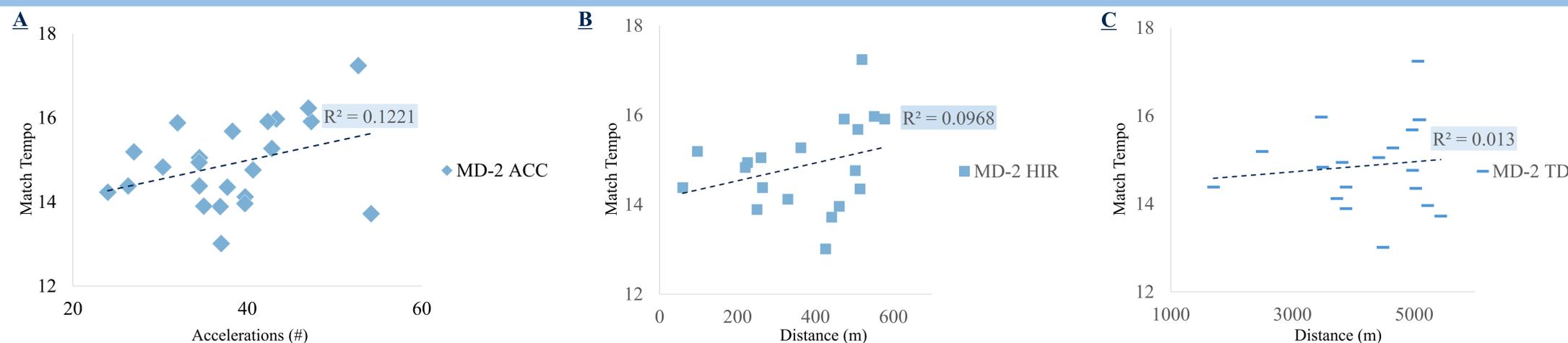


Figure 2. A. Linear regression between MD-2 number of accelerations and MT. B. Linear regressions between MD-2 HIR and MT. C. Linear regressions between MD-2 TD and MT.