



Exploring the Perceived Recovery Status Scale's Sensitivity to Training Stress in Women's Lacrosse

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Introduction

- Monitoring athlete recovery is critical for optimizing performance and reducing injury risk during training.
- The Perceived Recovery Status (PRS) scale is a quick, athlete-reported measure of recovery that is easy to collect in field settings.
- While the PRS scale is widely used, its validity in reflecting training-induced stress from sport-specific practices remains underexplored.
- Acute workload, quantified by GPS-derived Player Load (PL), is a commonly used indicator of external stress but may not fully capture the athlete's internal recovery experience.
- Recovery is multidimensional; subjective perception is influenced by physiological, psychological, and contextual factors not fully captured by external workload alone.
- This study assessed whether PRS scores were related to acute PL and evaluated individual variability in how athletes interpret and respond to PRS ratings.

Methods

- Participants:** Forty athletes from a Division I women's lacrosse team participated in the study.
- Training Load Collection:** GPS monitors during all practices and competitions from September 2024 to April 2025. A total of 162 unique team sessions with valid data were recorded for athletes.
- PRS:** Athletes reported their PRS score once weekly following a standardized dynamic warm-up. PRS data were collected on 25 different occasions
- Load Metric:** Acute training load was defined as the 7-day rolling average of Player Load, calculated for each
- Statistical Analysis:** Linear mixed-effects models were used to account for the nested structure of repeated observations within athletes. AIC, BIC, RMSE, R²
 - Four models were tested: a null model, a random intercept model, a random slope model, and a random intercept + slope model.

Results

Figure 1. Trends in Average PRS and Acute Player Load Across Season

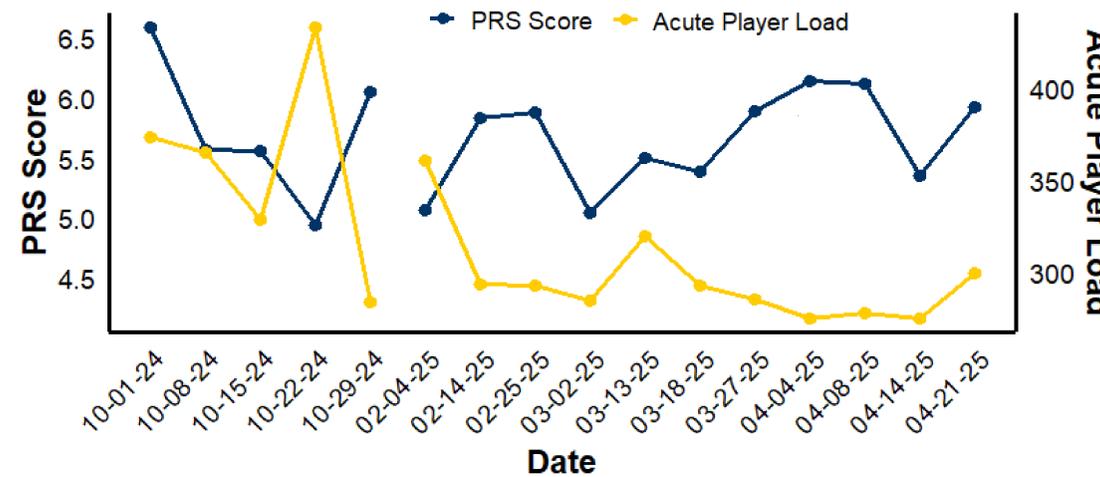


Table 1. Linear Mixed Model Comparison

	Null Model	Random Intercept	Random Slope	Random Intercept + Slope
Intercept (SD)	5.65 (0.18)	7.05 (0.38)	7.12 (0.32)	5.63 (0.18)
Slope (SD)	—	-0.005* (0.001)	-0.005* (0.001)	-0.40* (0.10)
R ² Marginal	NA	0.040	0.055	0.065
R ² Conditional	0.317	0.351	0.304	0.385

Figure 2. Within-Athlete Variability in Reported PRS Scores

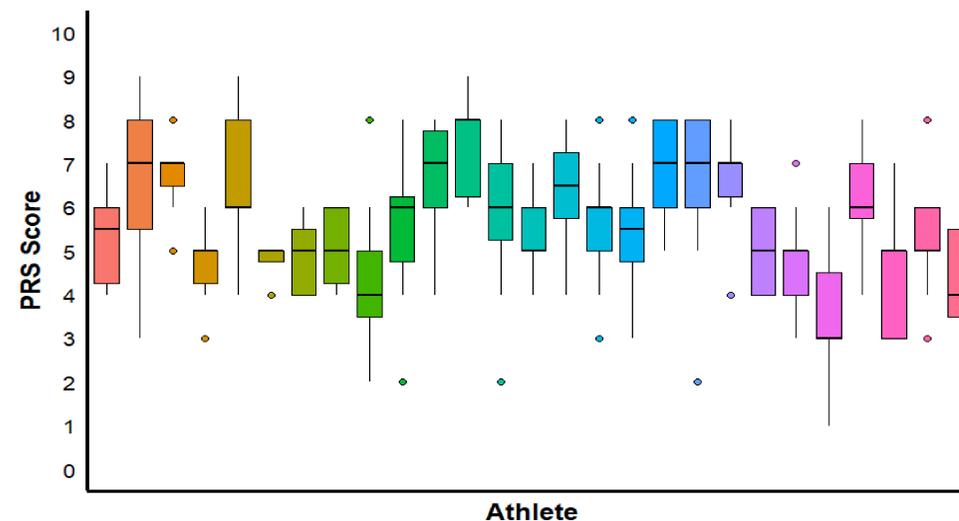
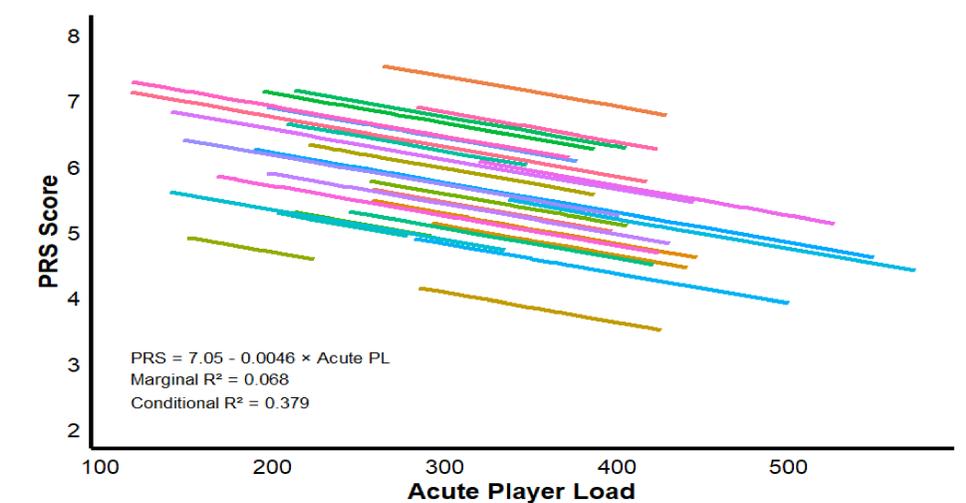


Figure 3. Random Slope Model Comparing PRS and Acute Player Load



Discussion

- Although acute player load was significantly related to PRS, the effect size was small, and most variance was attributable to individual athlete differences.
- The variability in random intercepts suggests that athletes start from different "baselines" when rating recovery, even under similar workloads.
- The inclusion of random slopes in the best-fitting model shows that athletes differ not just in their baseline PRS scores but also in how training stress affects them.
- Because on-field training load is only one of many stressors faced by athletes, its isolated relationship with perceived recovery is inherently limited.

Practical Applications

- The PRS scale may offer value as a low-burden tool to track athlete recovery during the season.
- Weekly PRS check-ins can support individualized monitoring, especially when viewed in the context of each athlete's historical pattern rather than team averages
- Combining PRS with other monitoring tools (e.g., GPS metrics, wellness questionnaires) may help provide a broader picture of recovery.

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