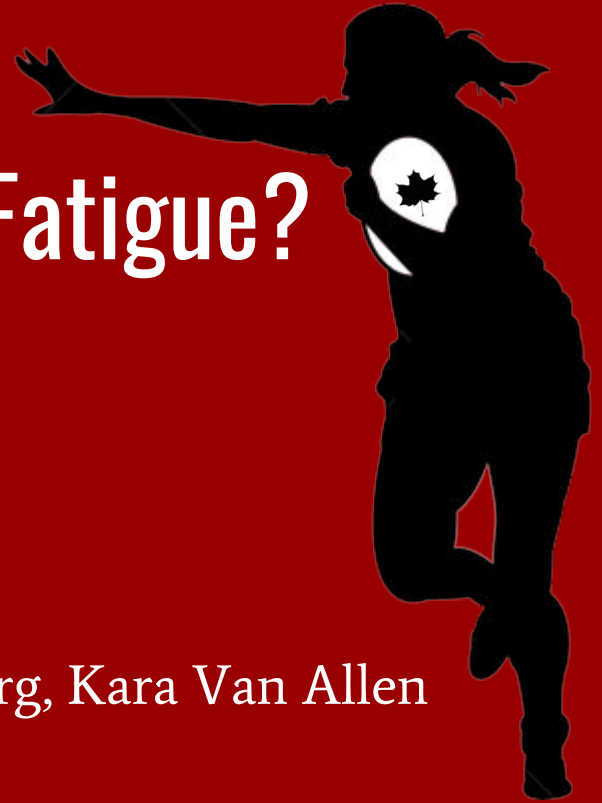# How Can You Measure Fatigue?

Trust Your Athletes!

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Team A-Super-NOVA
Audrey Bertin, Arielle Dror, Clara Rosenberg, Kara Van Allen
Smith College

Is A Self-Reported Fatigue Score Really So Bad?

- Main argument against: **too subjective**
- **The Reality:** consistent with objective data (when averaged for the team)
  - 77% of variation in fatigue explained by objective wellness predictors: hours of sleep, USG, pain, illness, menstruation, nutrition (13% on the individual level)
  - 95% explained when other self-reported wellness predictors included: soreness, irritability, motivation, sleep quality (56% on the individual level)

How Are Performance & Weather Related To Fatigue Score?

- **Statistically significant predictors:**
  - Contact (**+**)
  - Avg x-acceleration / "agility" (**-**)
  - Contact:avg speed / "action" (**-**)
  - Number of games played previously in tournament (**-**)
  - Humidity (**-**)
  - Precipitation (**+**)

https://bit.ly/2JPPjQD
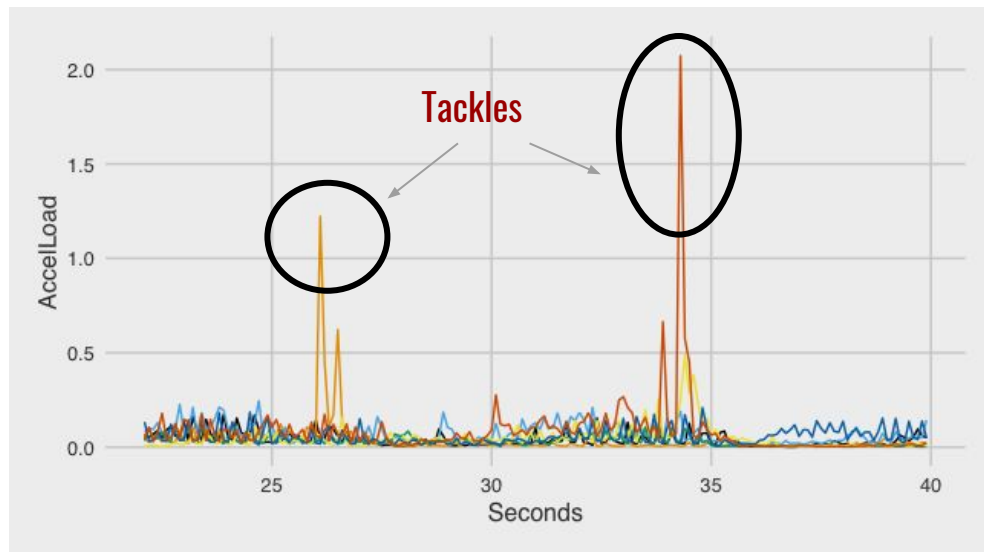
Fatigue Score As A Predictor Of Winning

- Logistic model with mean subjective fatigue score ("freshness") of team as only predictor and outcome (W/L) as response
  - Odds Ratio = 3.26
- Likely relationship
  - The less fatigued the team is overall (corresponding w/ higher fatigue score), the greater chance of winning

Perceived Fatigue vs Outcome
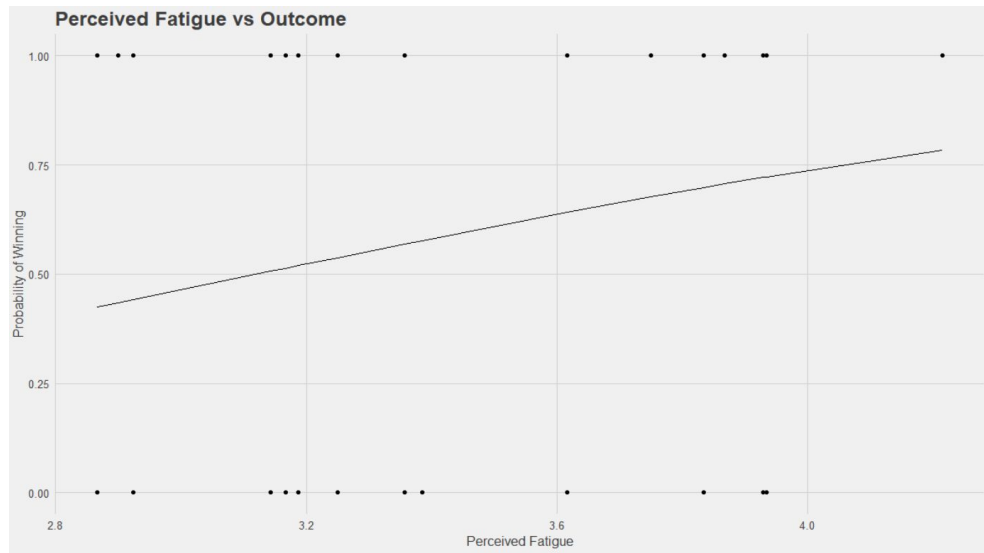
Conclusions and Implications

- Focus on a new way of measuring fatigue is misplaced
- To address fatigue beyond wellness factors, look at: player speed, player agility, & consecutive games played
- Reflects larger trend of women's self-reported health being mistrusted
  - Team's head coach and analyst are both men
- Future: Player position, more objective health measures