

## Predicting pathways of male and female AFL player success

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### Topic

A common question in Australian rules football is how well state-level (VFLM, VLFW) performance translates into success at the elite level (AFLM, AFLW).

- Raw comparisons between state-level and elite players are biased: only a subset of state-level athletes are drafted, and they may already differ in age, position, or performance profile.
- Propensity score matching (PSM) provides a way to create comparable groups of players, balancing observed characteristics before comparing outcomes.
- With the [fitzRoy R package](#), researchers can access both match and player statistics from AFL Tables, making it possible to conduct a rigorous causal-style analysis of talent pathways.

### Plan

- Use the [fitzRoy](#) package to collect historical player-level data.
- Organise the data to contain statistics for players in state and elite level.
- Explore the statistics and demographics of players that didn't transition to elite level.
- Subset to players who made the transition.
- Conduct clustering of state-level players into groups based on demographics, age, height, position.
- Obtain estimates of the PSM and use it to match players who transition with similar players who do not.
- Estimate the “treatment effect” of elite selection on subsequent performance outcomes, and test whether state-level performance indicators predict elite-level success.

