They Can't All Be Stars

The Matthew Effect, Cumulative Status Bias, and Status Persistence in NBA All-Star Voting

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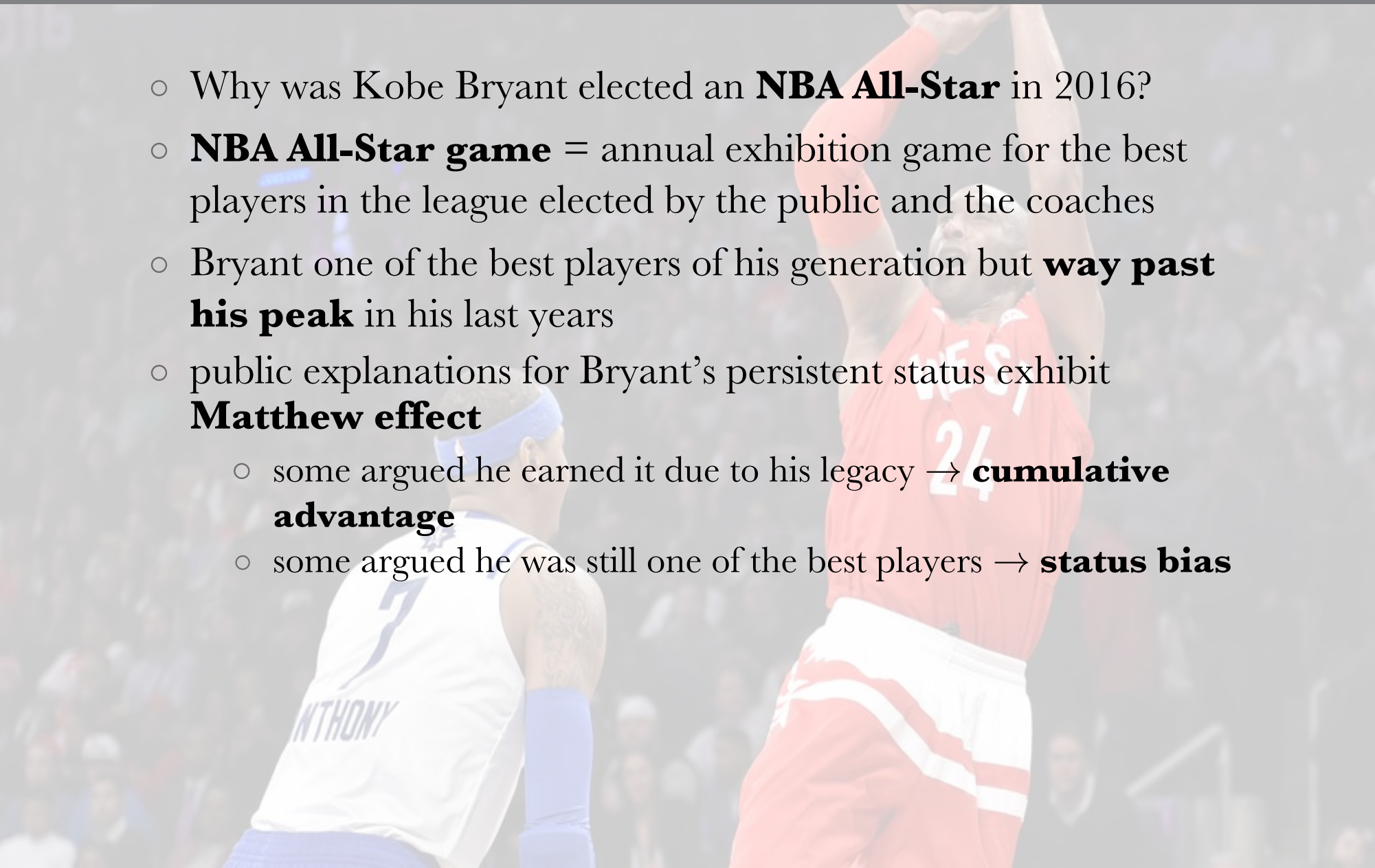
The Curious Case of Kobe Bryant's 2016 All-Star Election



- Why was Kobe Bryant elected an **NBA All-Star** in 2016?
- **NBA All-Star game** = annual exhibition game for the best players in the league elected by the public and the coaches
- Bryant one of the best players of his generation but **way past his peak** in his last years
- public explanations for Bryant's persistent status exhibit **Matthew effect**
  - some argued he earned it due to his legacy → **cumulative advantage**
  - some argued he was still one of the best players → **status bias**

A Feedback Loop of Status Distinction

Matthew 25:29

"For unto every one that hath shall be given, and he shall have abundance: but from him that hath not shall be taken away even that which he hath"

- **Merton (1968):** high status helps academics accrue further advantages (e.g. grants, citations)
- people use status signal as a short-cut to infer performance/quality ($\rightarrow$ **uncertainty**)

$\rightarrow$ self-reinforcing process of **cumulative (dis-)advantage** $\rightarrow$ Matthew effect

$\rightarrow$ **feedback** loop that leads to stable status hierarchies (Ridgeway & Correll 2006)

Mechanisms

- **mechanism 1**: *socially endogenous investment* = actors use add. resources to improve their performance
- **mechanism 2**: *status bias/socially endogenous inference* = biased evaluation of performance because of status signals

- status-based model of market competition: if first mechanism dominant → retaining status meritocratic (Podolny 1993, 2005, Lynn et al. 2009)

Previous Research

- Matthew effects found in a variety of different settings: **science** (Allison et al. 1982, Bol et al. 2018), **business** (Benjamin & Podolny 1999), **culture** (Link et al. 2013), **sports** (Kim & King 2014)
- studies show status biased evaluations in citations, research grants, wages, performance evaluations,...
- plenty evidence for socially endogenous inference as well
- but studies usually...
  - ...do not analyse effect of status signals **subsequent status**
  - ...have **difficulty to isolate status bias** from performance
  - ...do not investigate **accumulation over time**

Our Contribution and Research Questions

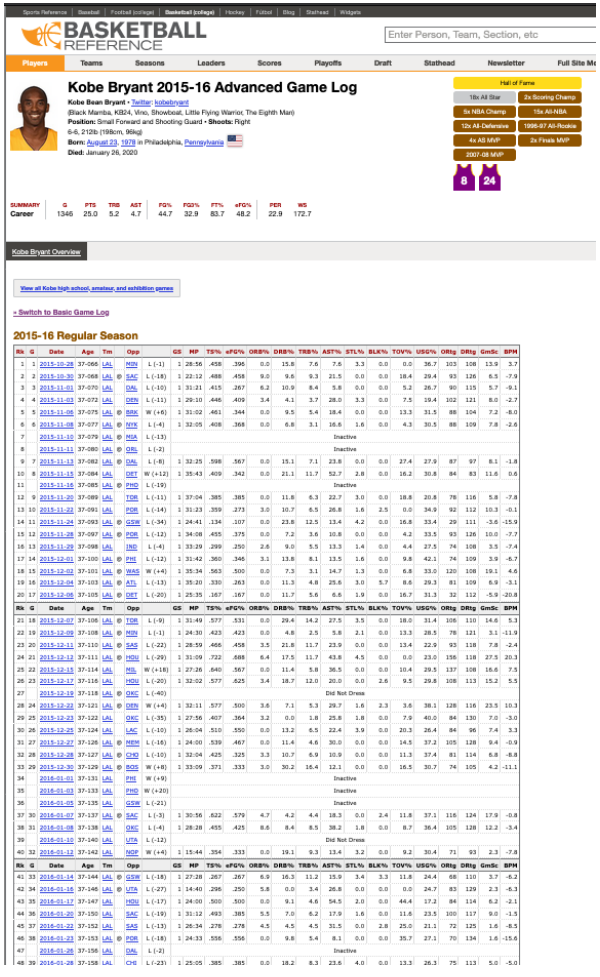
- we **add** an explicit investigation of how status leads to confirmation of that status → **status persistence**
- we **isolate status bias** from performance pre- and post-treatment
- we model accumulation over time and isolate **cumulative status bias**
- we use a setting with clear-cut meritocratic criteria and low uncertainty → **conservative test**

- **RQs:** Does an NBA All-Star nomination last year increase the chance of becoming an NBA All-Star this year?
- How large a role does status bias play?
- Is the process cumulative, thus further entrenching status year after year?

Empirical Setting and Data I

- NBA All-Star game played midseason **every year**
- **fans elect 5 starters** for each team (East vs. West) ideally based on performance
- **coaches add 7 reserves** for each team
- **data** on all NBA players 1984-2016 (N=1,890, n=10,627)
- data on who was elected to the **All-Star** game each year (N=172, n=626)

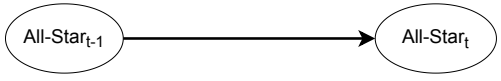
Empirical Setting and Data II



- information on characteristics such as race, height, position,...
- statistics on **performances** (points, rebounds, assists,...)
- information on player's **situation** (team performance (win %), average minutes played, made playoffs, big market team)
  - data on all games for every player (1.2 million game logs)
  - construct averages for (1) the season up to the All-Star game and (2) the entire period between All-Star games

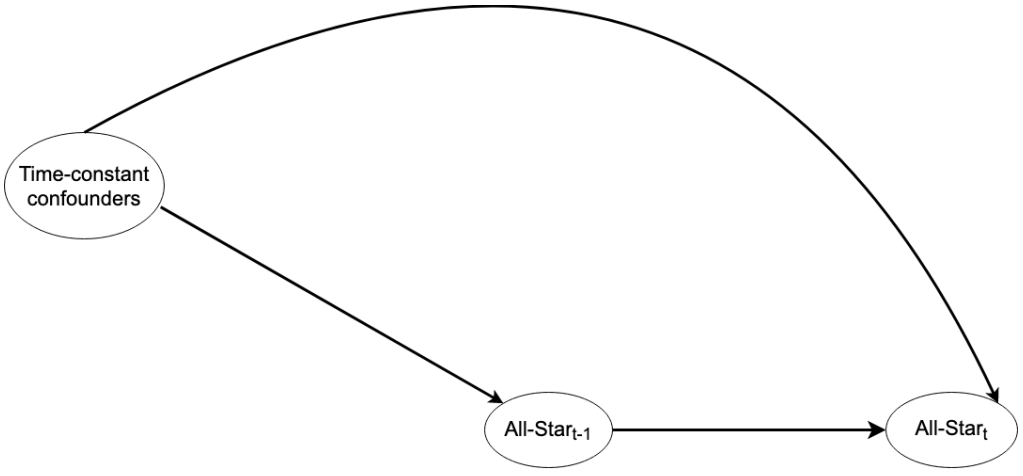
Modelling I

$$log(y_{it}) = \beta_0 + \beta_1 x_{it-1}$$



- **logistic regression** with player-clustered SE
- **unadjusted association** between All-Star at t-1 and t

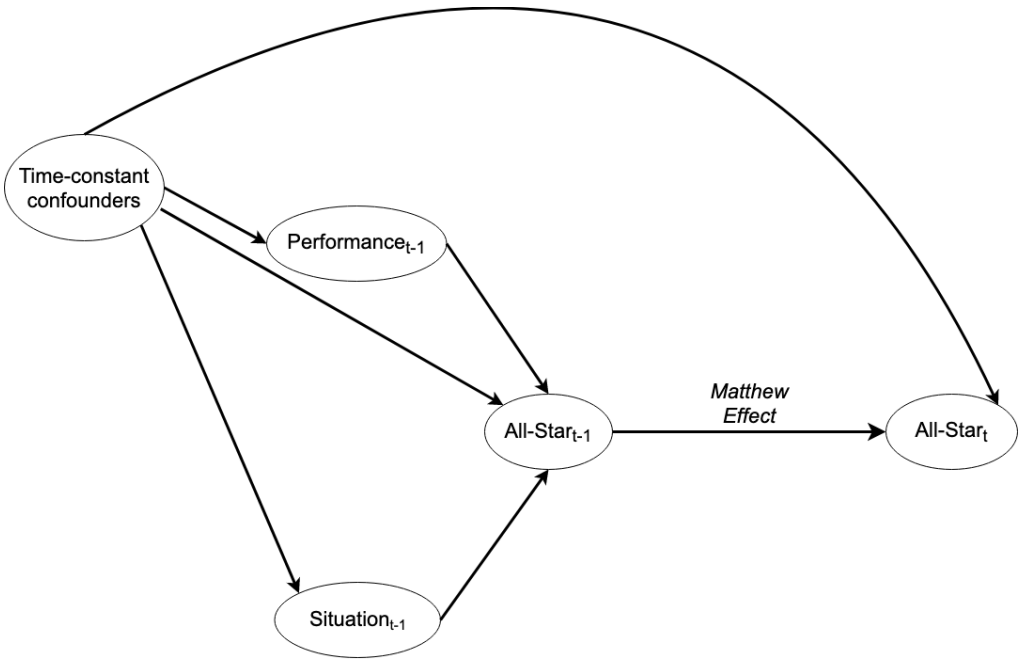
Modelling II



$$log(y_{it}) = \beta_0 + \beta_1 x_{it-1} + \beta_2 z_i$$

- adjust for **constant confounders** z_i (age when entering league, time since, height, position, race)

Modelling III

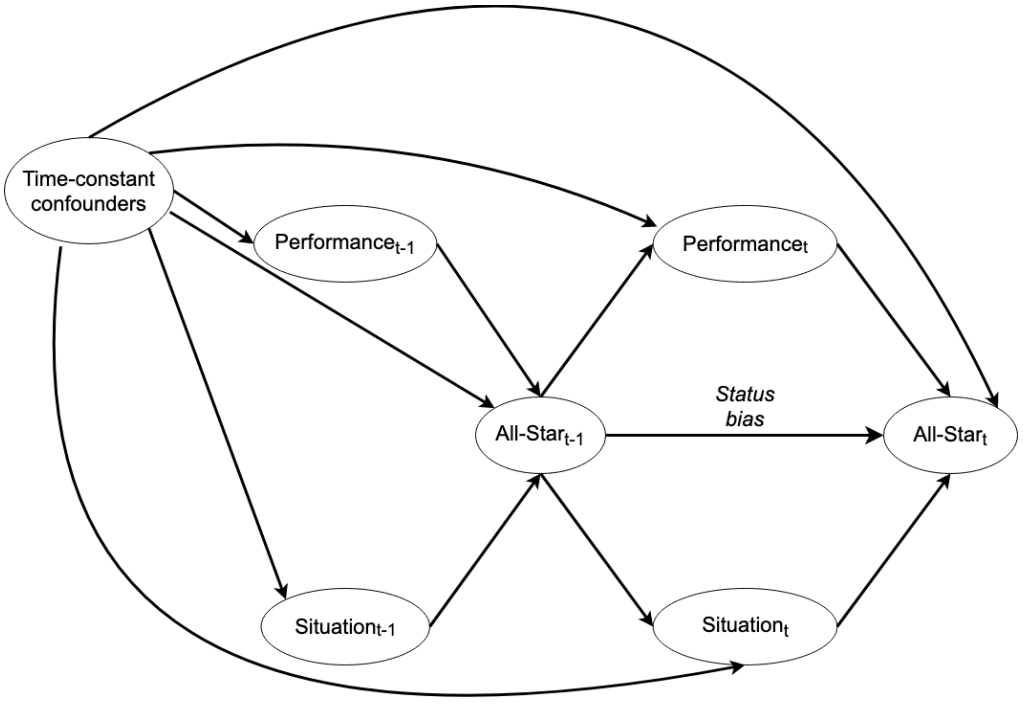


$$log(y_{it}) = \beta_0 + \beta_1 x_{it-1} + \beta_2 z_i + \beta_3 w_{it-1}$$

- adjust for **pre-treatment performance and situation** w_{it-1} (pts, rbs, ass, team win%, av min, playoffs, big market team)

→ estimates **total Matthew effect**

Modelling IV-V

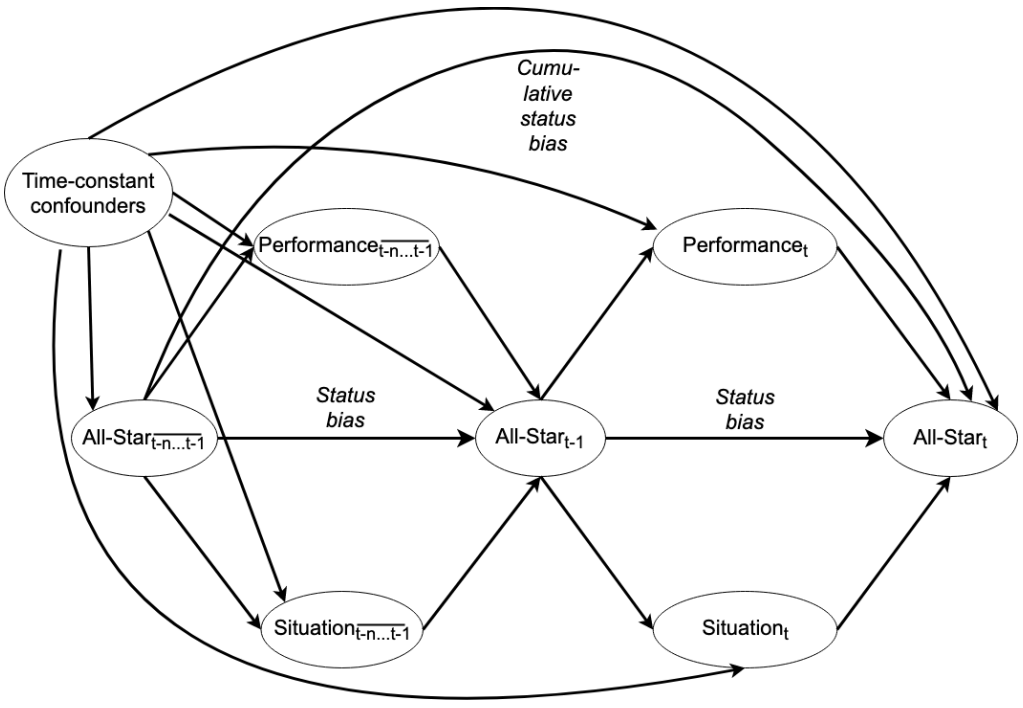


$$log(y_{it}) = \beta_0 + \beta_1 x_{it-1} + \beta_2 z_i + \beta_3 w_{it-1} + \beta_4 w_{it}$$

- adjust for **post-treatment performance and situation** w_{it} (pts, rbs, ass, team win%, av min, playoffs, big market team)

→ estimates **status bias**

Modelling VI-VII



$$log(y_{it}) = \beta_0 + \beta_1 x_{it-1} + \beta_2 z_i$$

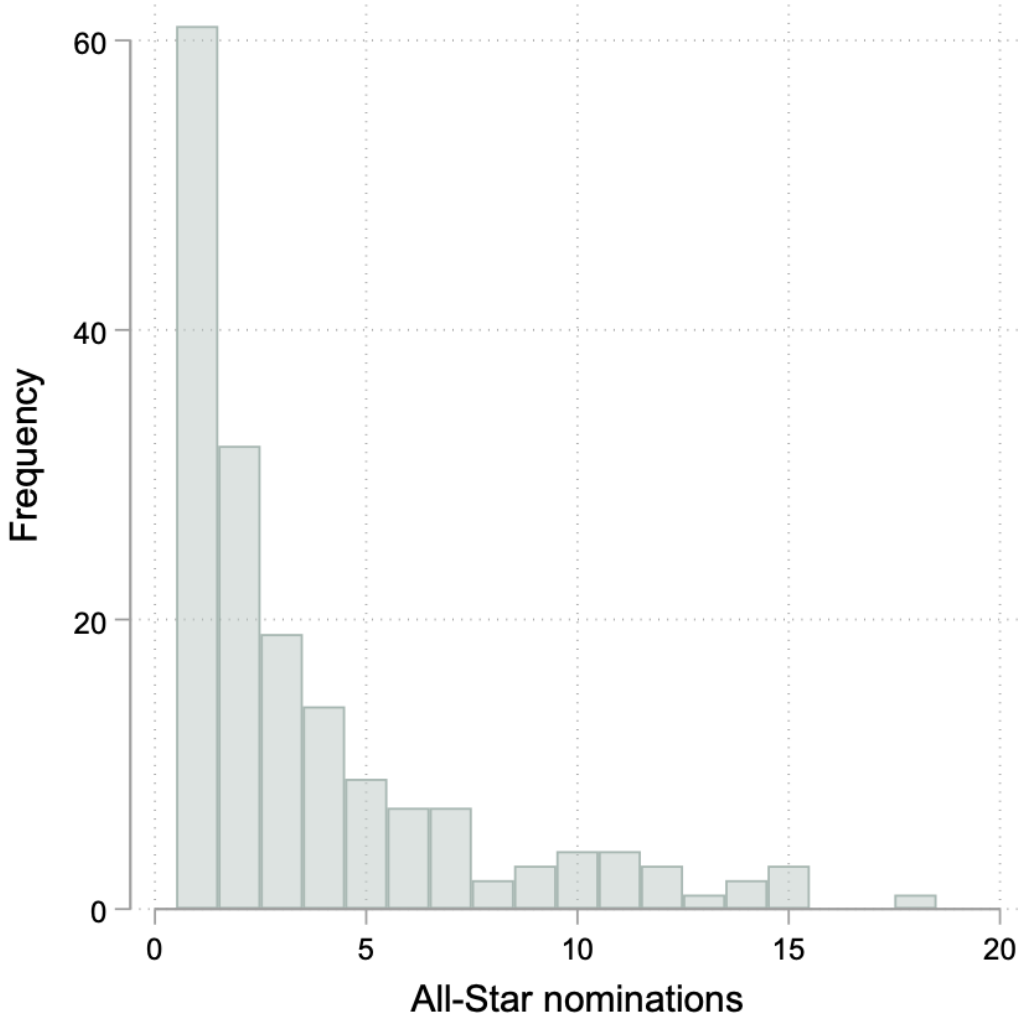
$$+ \beta_3 \overline{w_{it-n...t-1}} + \beta_4 w_{it}$$

$$+ \beta_5 \overline{x_{it-n...t-1}}$$

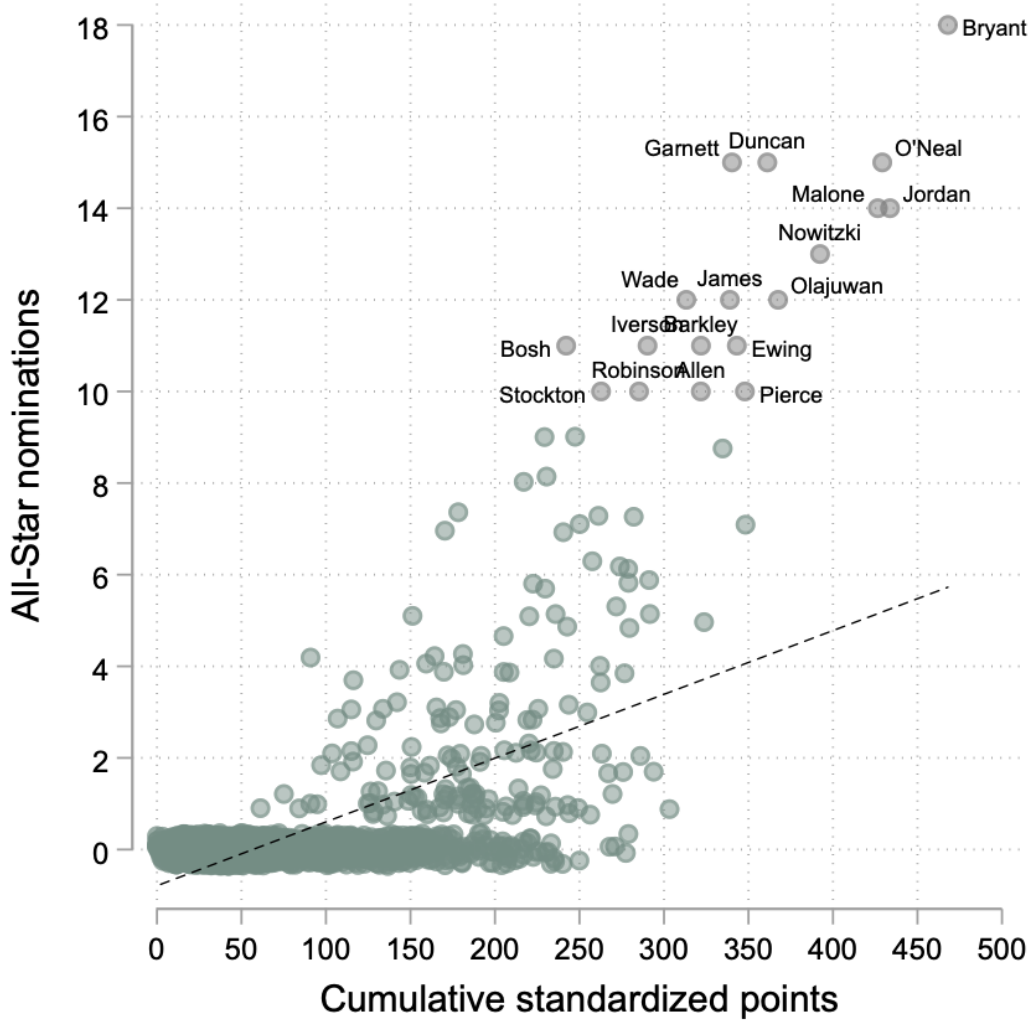
- adds **cumulative All-Star elections** $\overline{x_{it-n...t-1}}$ and cumulative mediators $\overline{w_{it-n...t-1}}$ (+interaction)

→ estimates **cumulative status bias**

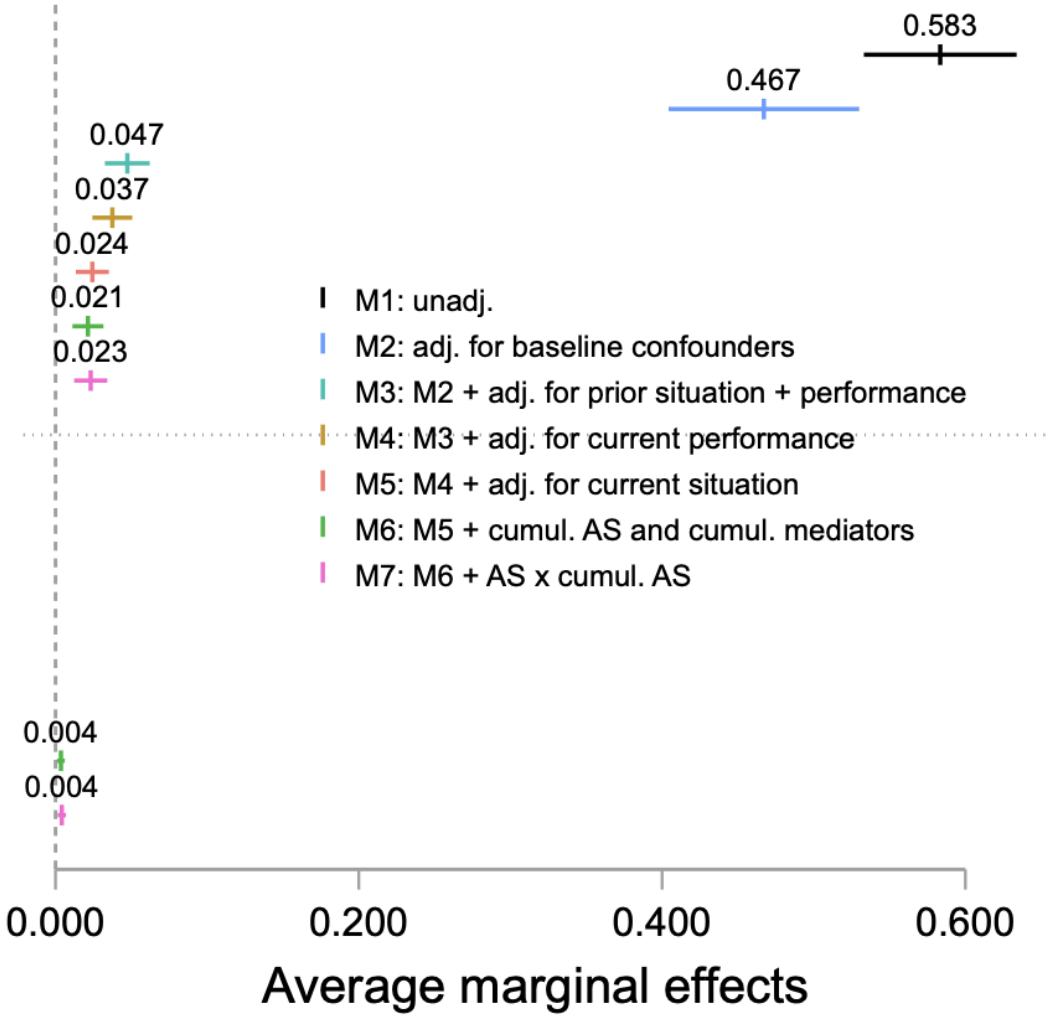
Distribution of NBA All-Star Elections Across Players Ever Nominated



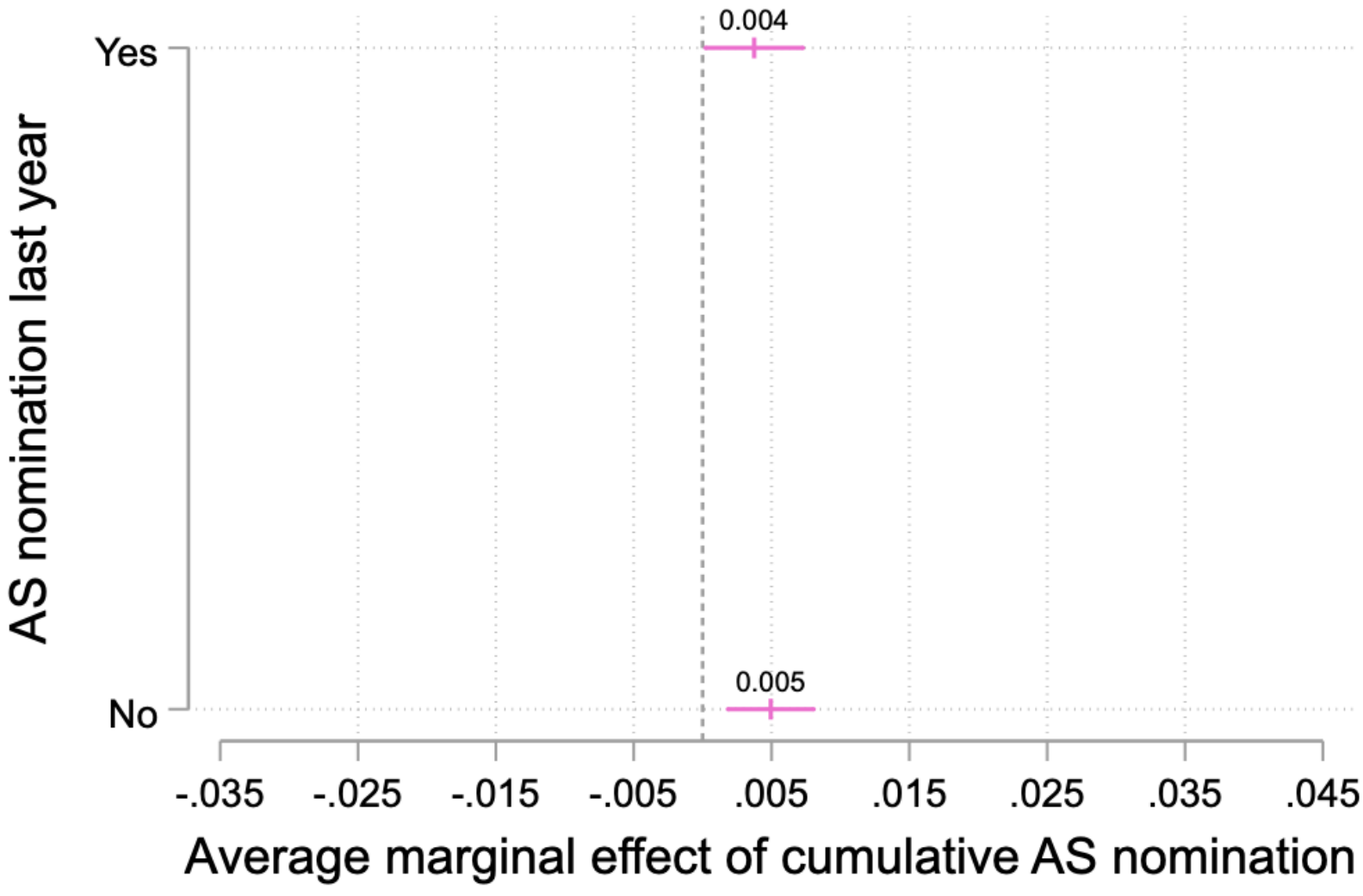
Cumulative All-Star Nominations and Points Scored



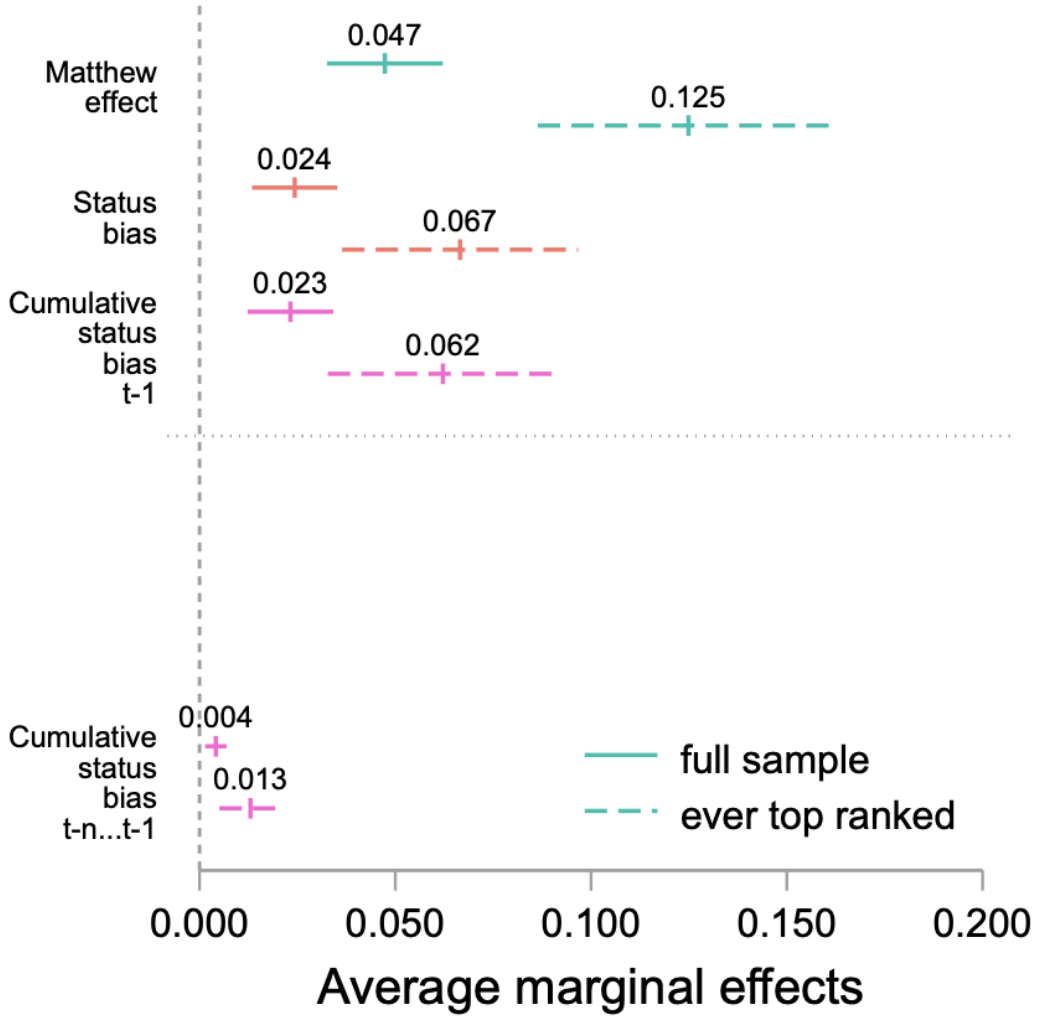
Average Marginal Effects



Variance in Cumulative Status Bias



Heterogenous Effects



Summary

- **status signal** of previous All-Star election increases likelihood of becoming All-Star again (4.7 perc. points) → **Matthew effect**
- **partly mediated** through better performance and situation but **status bias** still 2.4 perc. points
- prior All-Star elections further increase chance → **cumulative status bias** (0.4 perc. points)

Implications

- Matthew effect increases **status persistence**, to a significant degree because of **status bias**
- **cumulative status bias** means ever increasing divergence and **entrenchment of status positions**
- if **status allocation status-biased** itself, hard to reconcile even with lax understanding of meritocratic ideals
- conservative setting → if **(cumulative) status bias** can make it here, it **can make it anywhere**

Thank you for your attention!

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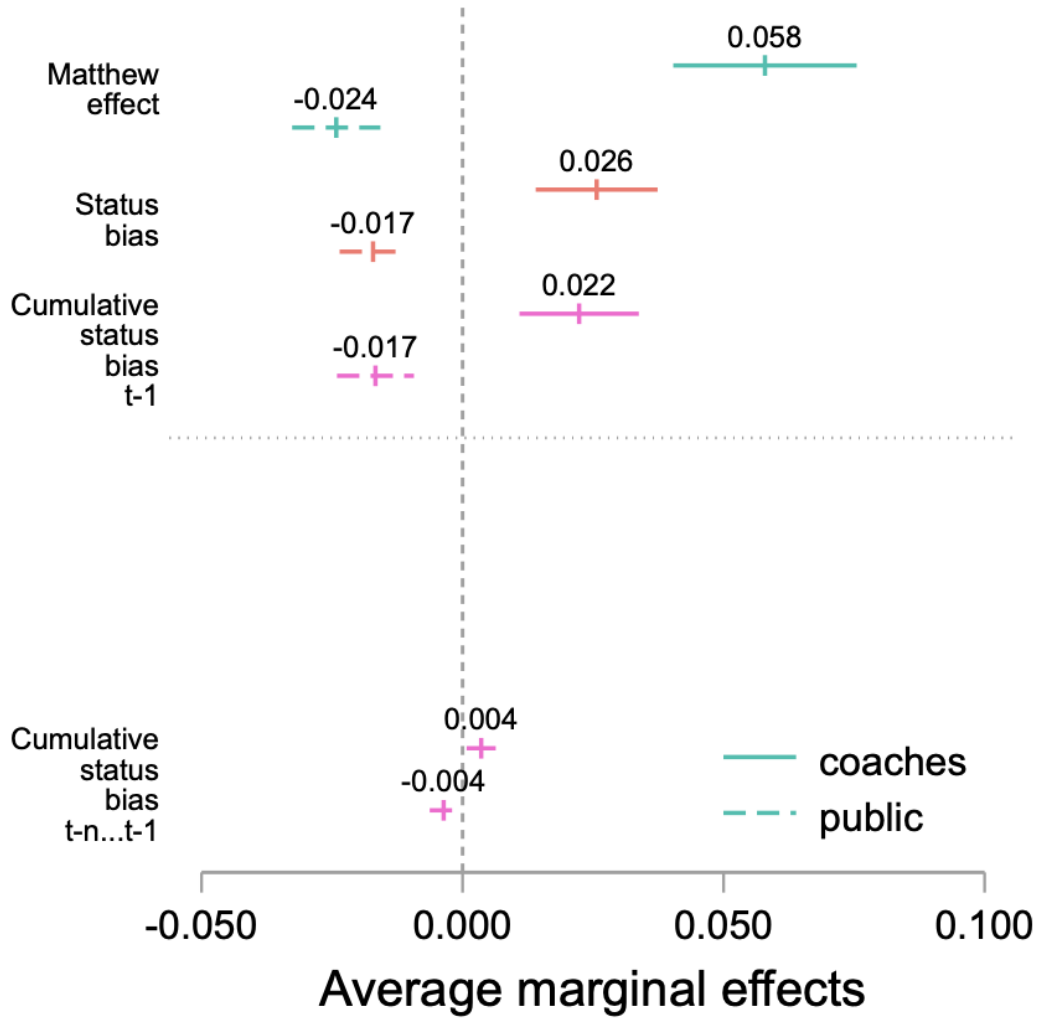
Uncertainty I: Coaches v. Public



Uncertainty II: Eras