

People can take the outside view, but they don't want to use it

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How to make good predictions

“Inside View”



Think about the event as unique
Ask: *What will happen **this time**?*

“Outside View”



Use base rates to make predictions
Ask: *What **usually** happens?*

Why do people fail to take the outside view?

- Do people naturally think about what usually happens?
- Do people actively reject using what usually happens to make predictions because they think that “this time will be different”?

Data from 2 experiments:

MTurk workers predicted the outcomes of

Major League Baseball games and were

Paid a 5¢ bonus for each correct prediction.



Study 1

157 participants predicted the winners of
39 baseball games scheduled for the next 3 days

Do people think about what usually happens when predicting future events?

Predict the
Winner for
each game

“This Time” Winner Predictions

Thursday May 8th, 2014 at 12:05 pm

Minnesota Twins @ Cleveland Indians

Team	Wins	Losses	Probable Pitcher
Minnesota Twins	15	17	Kevin Correa
Cleveland Indians	15	19	Justin Masterson

Who will win this game?

Minnesota Twins



Cleveland Indians



Predict the
Winner for
each game



Predict the
Usual Outcome
for each game

“Usual” Winner Predictions

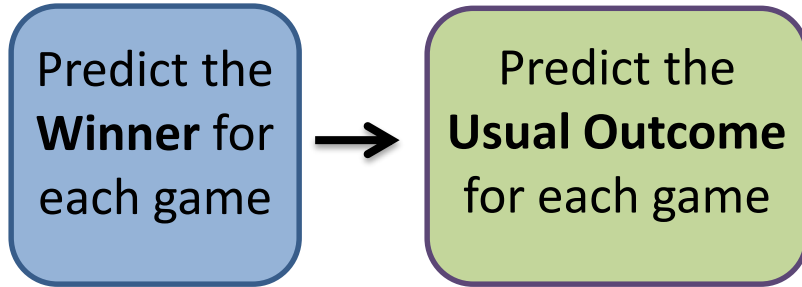
Thursday May 8th, 2014 at 12:05 pm

Minnesota Twins @ Cleveland Indians

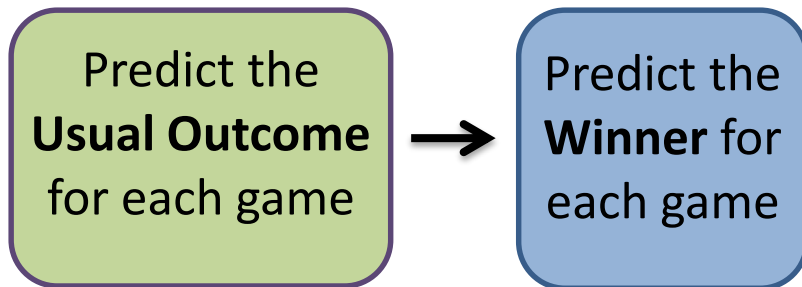
Team	Wins	Losses	Probable Pitcher
Minnesota Twins	15	17	Kevin Correa
Cleveland Indians	15	19	Justin Masterson

Imagine these two teams played this exact game 101 times.

How many games (out of 101) do you think the **Cleveland Indians** would win?



OR



Do people reject using what usually happens to predict the future?

Predict the **Winner** for each game



Predict the **Usual Outcome** for each game

OR

Predict the **Usual Outcome** for each game



Predict the **Winner** for each game



Review **inconsistent** predictions



Choose which task will **determine payment**



If you choose to be paid bonuses based on which teams you predicted to win the game, you will earn 5 cents each time the team you predicted to win is the team that actually wins.

If you choose to be paid bonuses based on which teams you predicted would win the majority of 101 games, you will earn 5 cents each time the team you indicated would win the majority of 101 games wins the actual game.

Time	Teams	who you said would win the majority of 101 games	who you predicted to win the actual game
7:05pm	Tampa Bay Rays Baltimore Orioles	Baltimore Orioles	Baltimore Orioles
7:05pm	Washington Nationals Philadelphia Phillies	Washington Nationals	Washington Nationals
7:05pm	St. Louis Cardinals Pittsburgh Pirates	Pittsburgh Pirates	St. Louis Cardinals
7:07pm	Boston Red Sox Toronto Blue Jays	Toronto Blue Jays	Toronto Blue Jays
7:08pm	New York Yankees Detroit Tigers	New York Yankees	Detroit Tigers
7:10pm	Chicago Cubs Cincinnati Reds	Cincinnati Reds	Cincinnati Reds
7:10pm	Atlanta Braves New York Mets	Atlanta Braves	Atlanta Braves
8:10pm	Cleveland Indians Chicago White Sox	Cleveland Indians	Cleveland Indians
	Oakland Athletics		

“Inconsistent” Predictions

[Payoff instructions repeated]

Please choose how you want your bonus payment to be determined:

pay my bonuses based on
which teams I predicted to win
each game



pay my bonuses based on
which teams I said would win
the majority of 101 games



Summary statistics on inconsistency

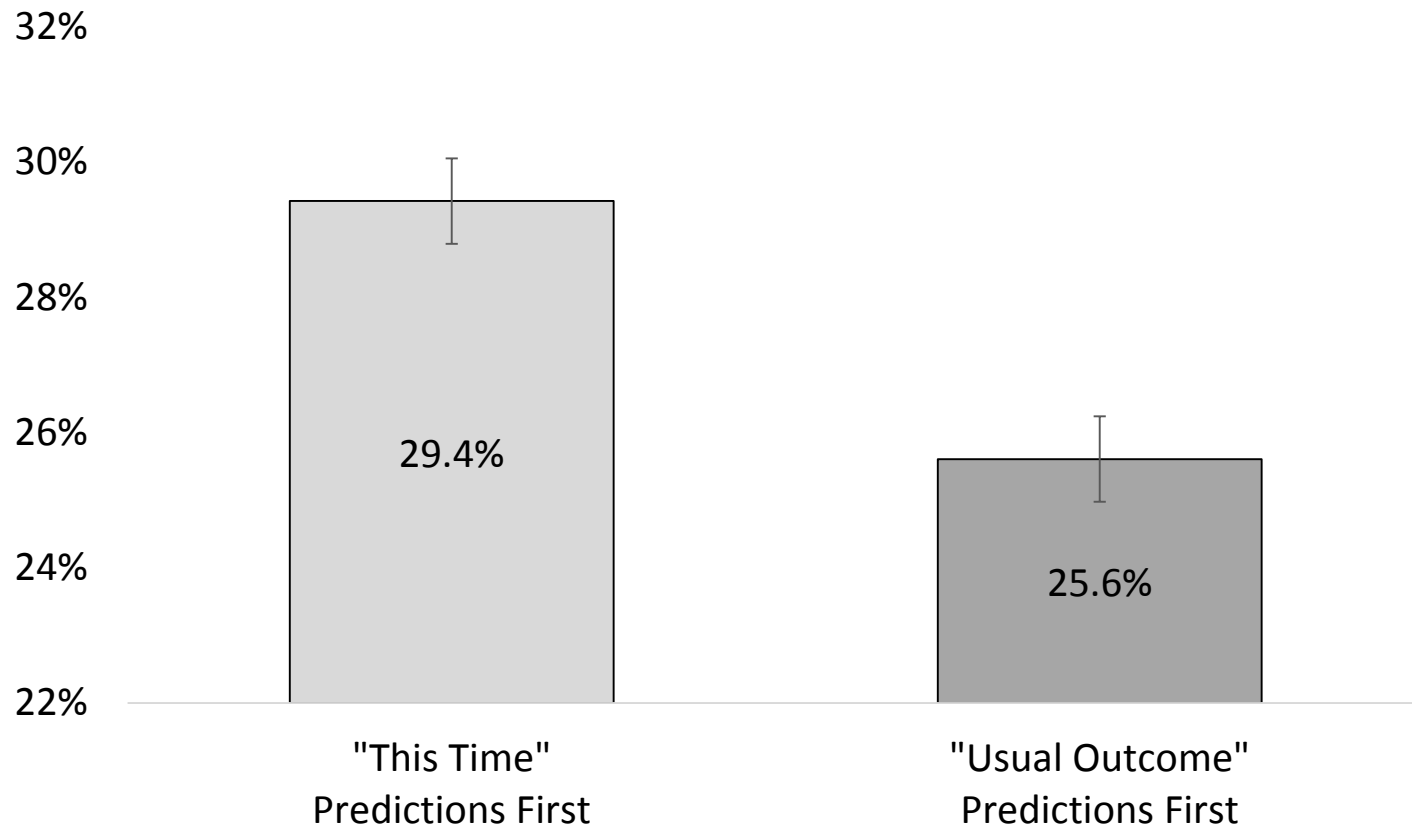
98.7% of participants made at least one inconsistent prediction.

of inconsistent predictions (out of 39)

Min	Q1	Median	Mean	Q3	Max
0	6	9	10.8	16	39

Average % participants predicting inconsistently

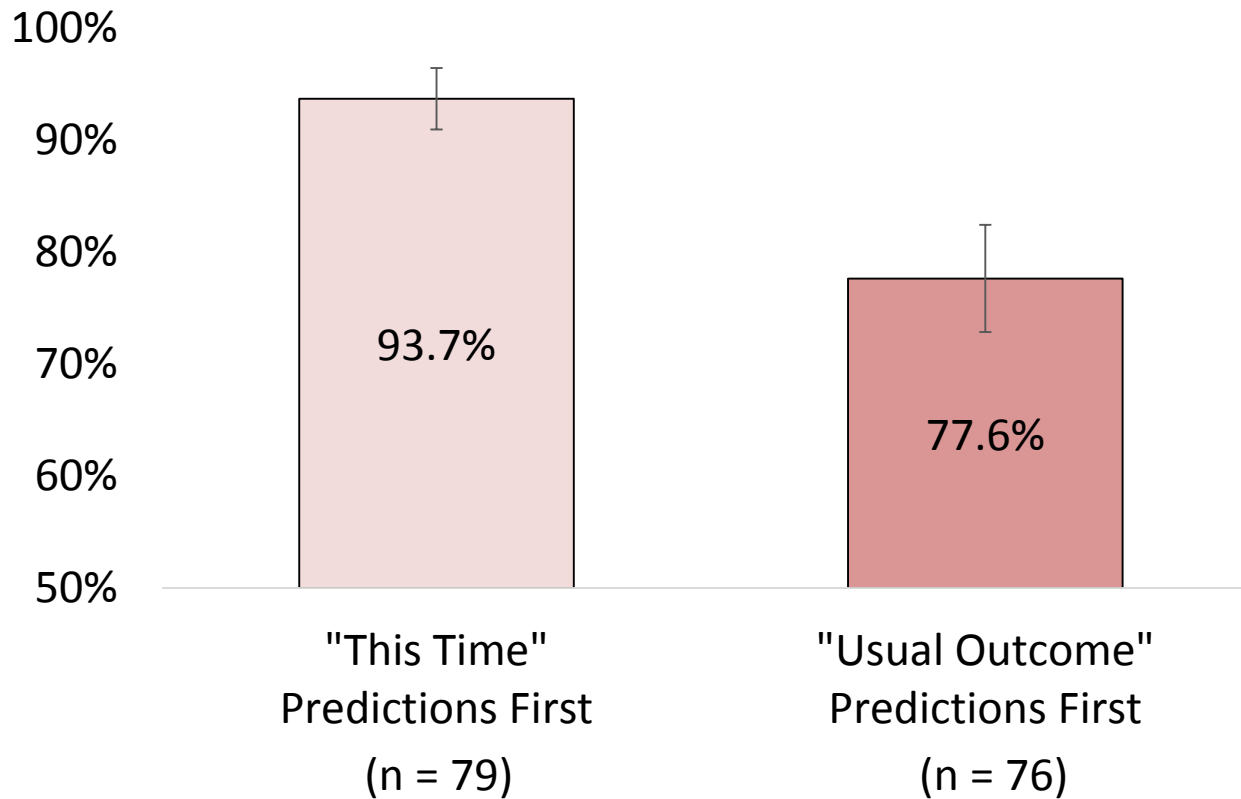
Study 1 (39 games)



$t(38) = 4.3, p < .001$

% participants choosing to be paid based on what they predicted would happen *this time*

Study 1 (155 participants with inconsistent predictions)



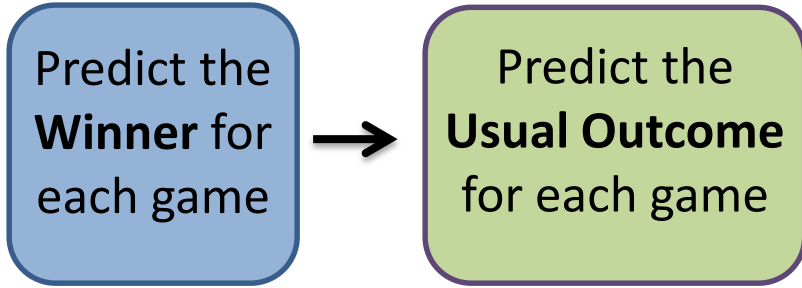
Differences from 50%: $X^2s > 22.9$, $p < .0001$

Order effect: $X^2 = 6.9$, $p < 0.01$

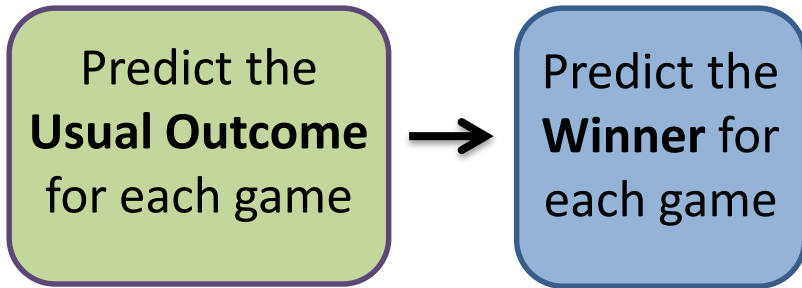
**Are people more confident in their
predictions about what will happen
*this time?***

Study 2

232 MTurk workers predicted the winners of
15 baseball games scheduled for later that day
and rated their confidence in each prediction



OR



“This Time” Winner Predictions

Tuesday August 26th, 2014 at 7:05 pm EDT

Tampa Bay Rays (64 wins, 67 losses) @ Baltimore Orioles (74 wins, 55 losses)

Probable starting pitcher for the Tampa Bay Rays: Alex Cobb
Probable starting pitcher for the Baltimore Orioles: Wei-Yin Chen

Who will win today's game?

Tampa Bay Rays



Baltimore Orioles



How confident are you that the team you selected will win today's game?

not at all
confident



moderately
confident



extremely
confident



“Usual” Winner Predictions

Tuesday August 26th, 2014 at 7:05 pm EDT

Tampa Bay Rays (64 wins, 67 losses) @ Baltimore Orioles (74 wins, 55 losses)

Probable starting pitcher for the Tampa Bay Rays: Alex Cobb
Probable starting pitcher for the Baltimore Orioles: Wei-Yin Chen

Imagine these two teams played today's game 101 times.

Which team would win the majority of those 101 games?

Tampa Bay Rays



Baltimore Orioles



How confident are you that the team you selected will also win today's game?

not at all
confident

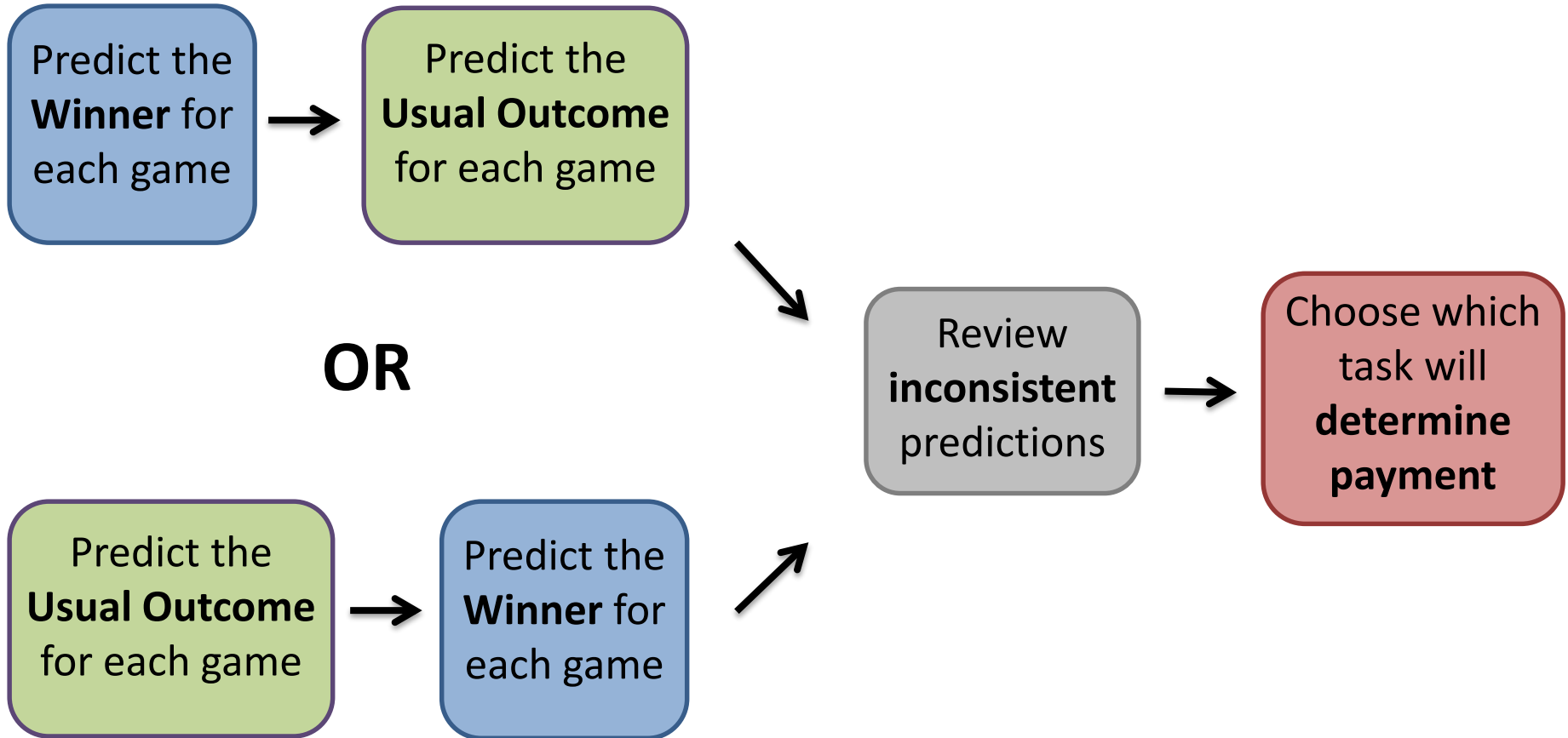


moderately
confident



extremely
confident





Summary statistics on inconsistency

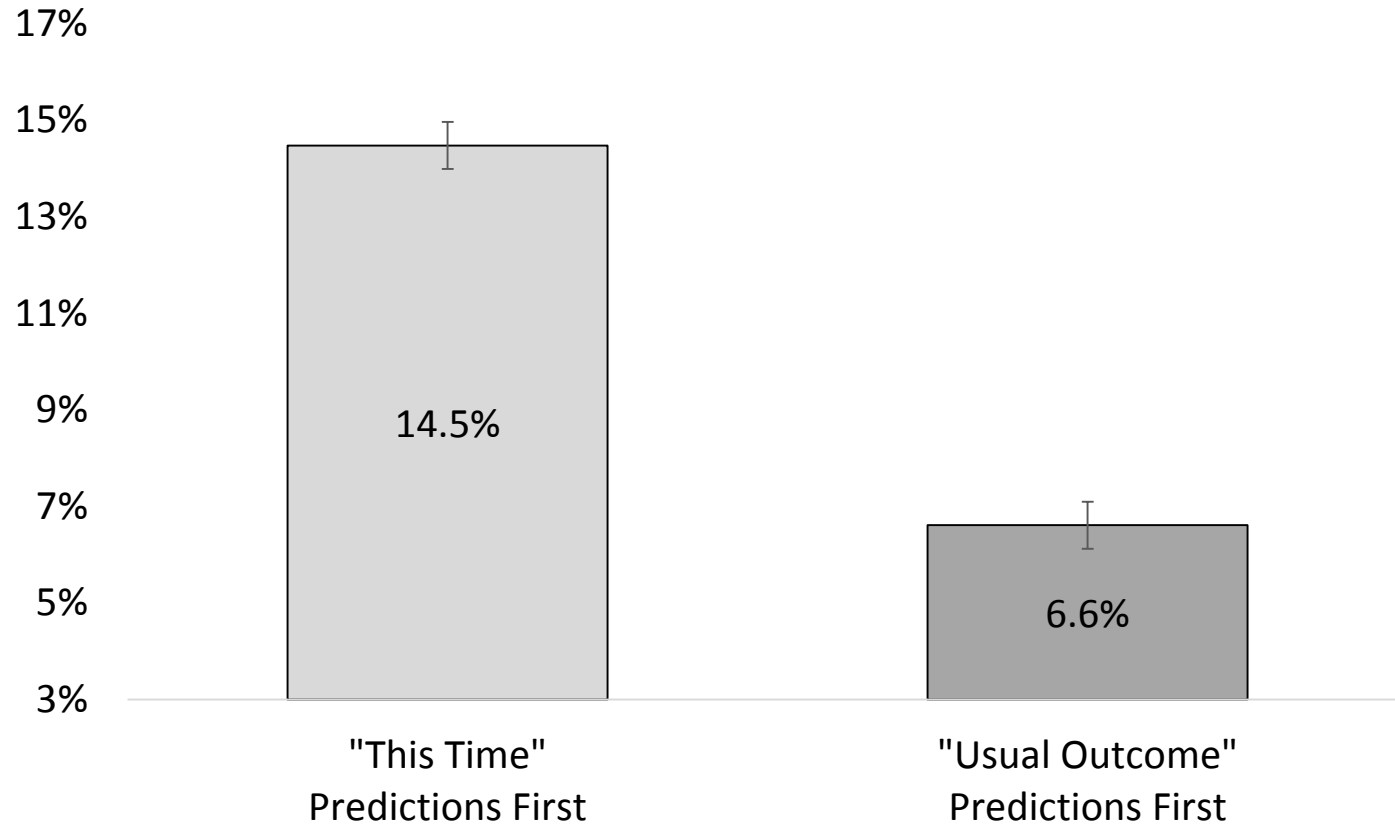
61.9% of participants made at least one inconsistent prediction.

of inconsistent predictions (out of 15)

Min	Q1	Median	Mean	Q3	Max
0	0	1	1.6	2	11

Average % participants predicting inconsistently

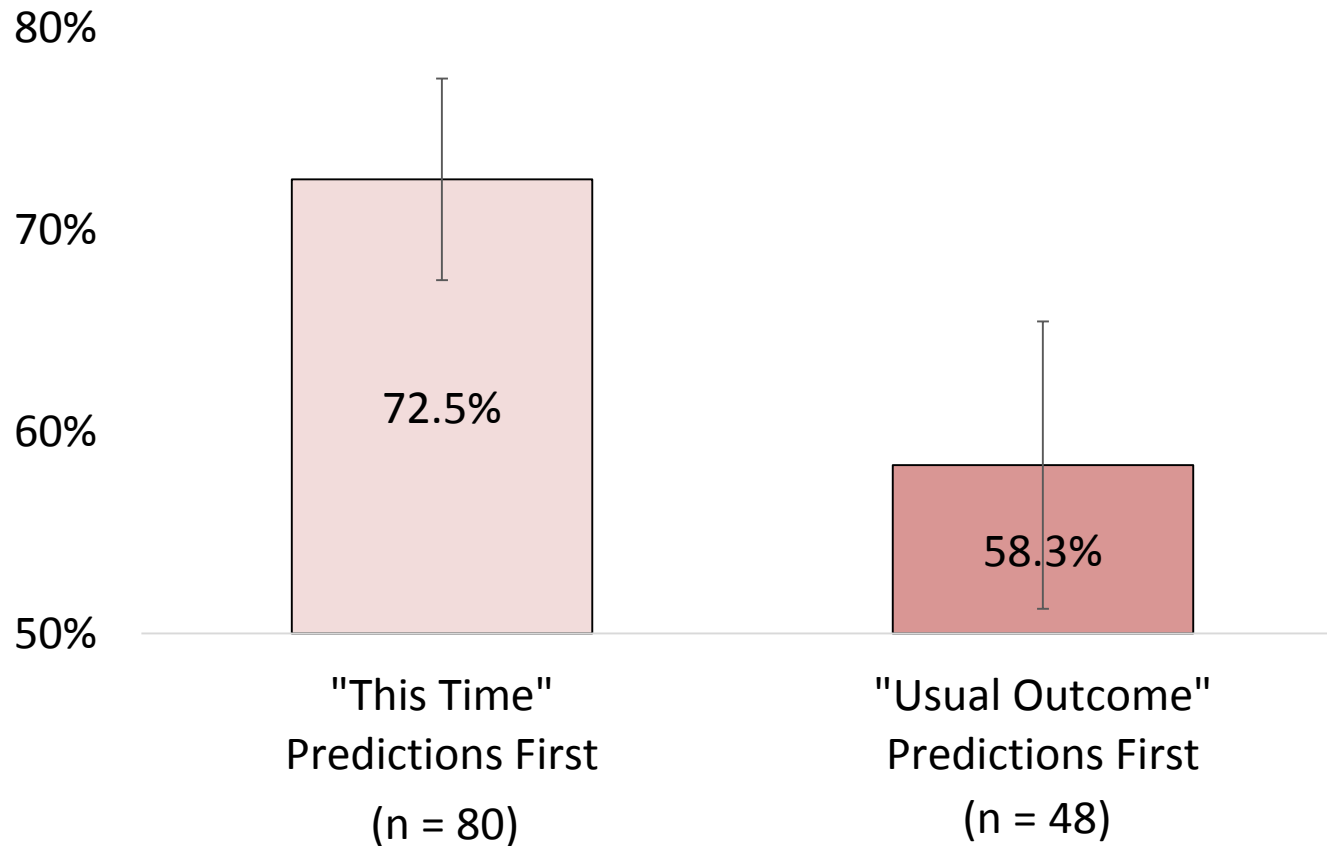
Study 2 (15 games)



$t(14) = 10.3, p < .0001$

% participants choosing to be paid based on what they predicted would happen *this time*

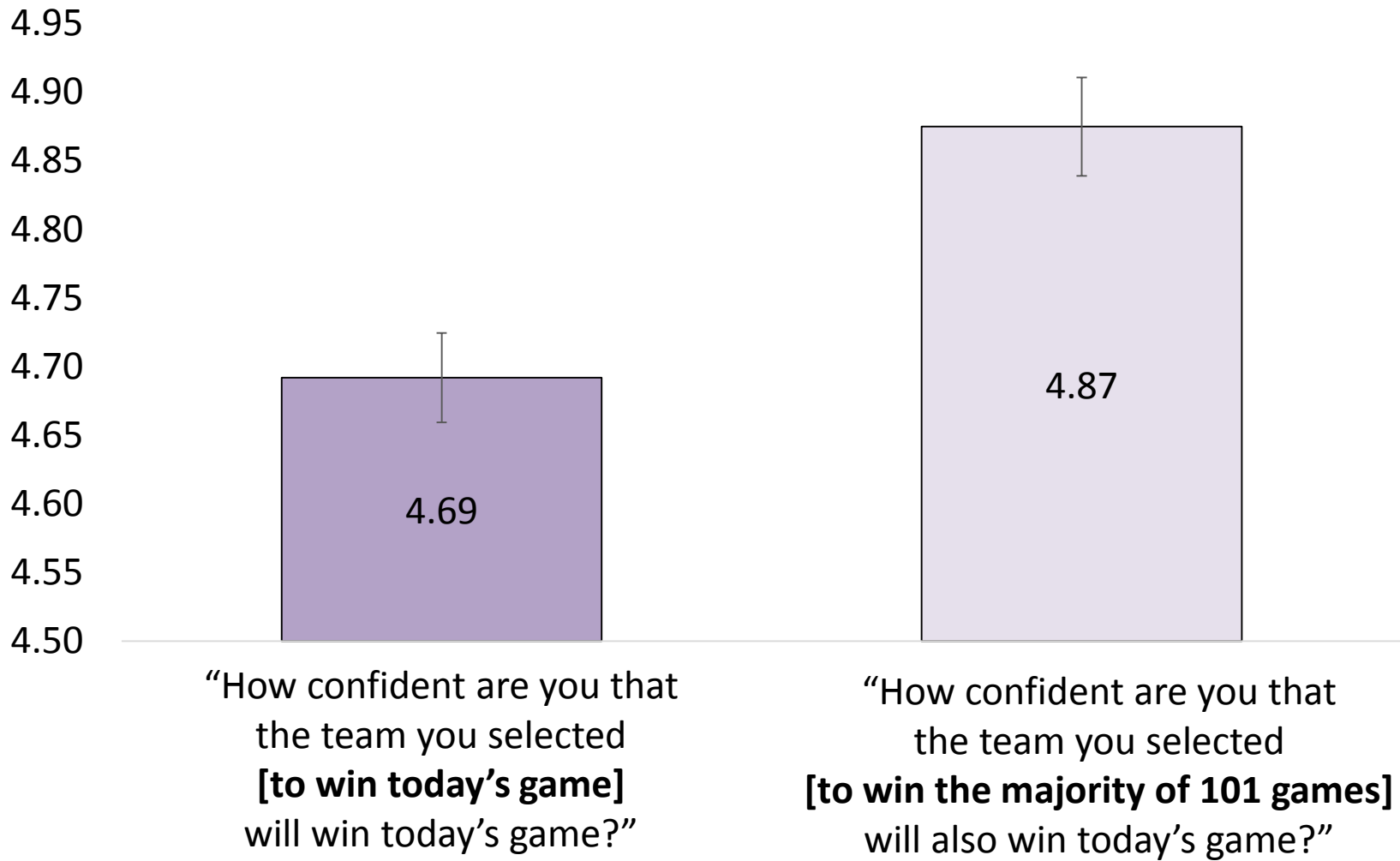
Study 2 (128 participants with inconsistent predictions)



Differences from 50%: $X^2s > 3.2$, $ps < .073$

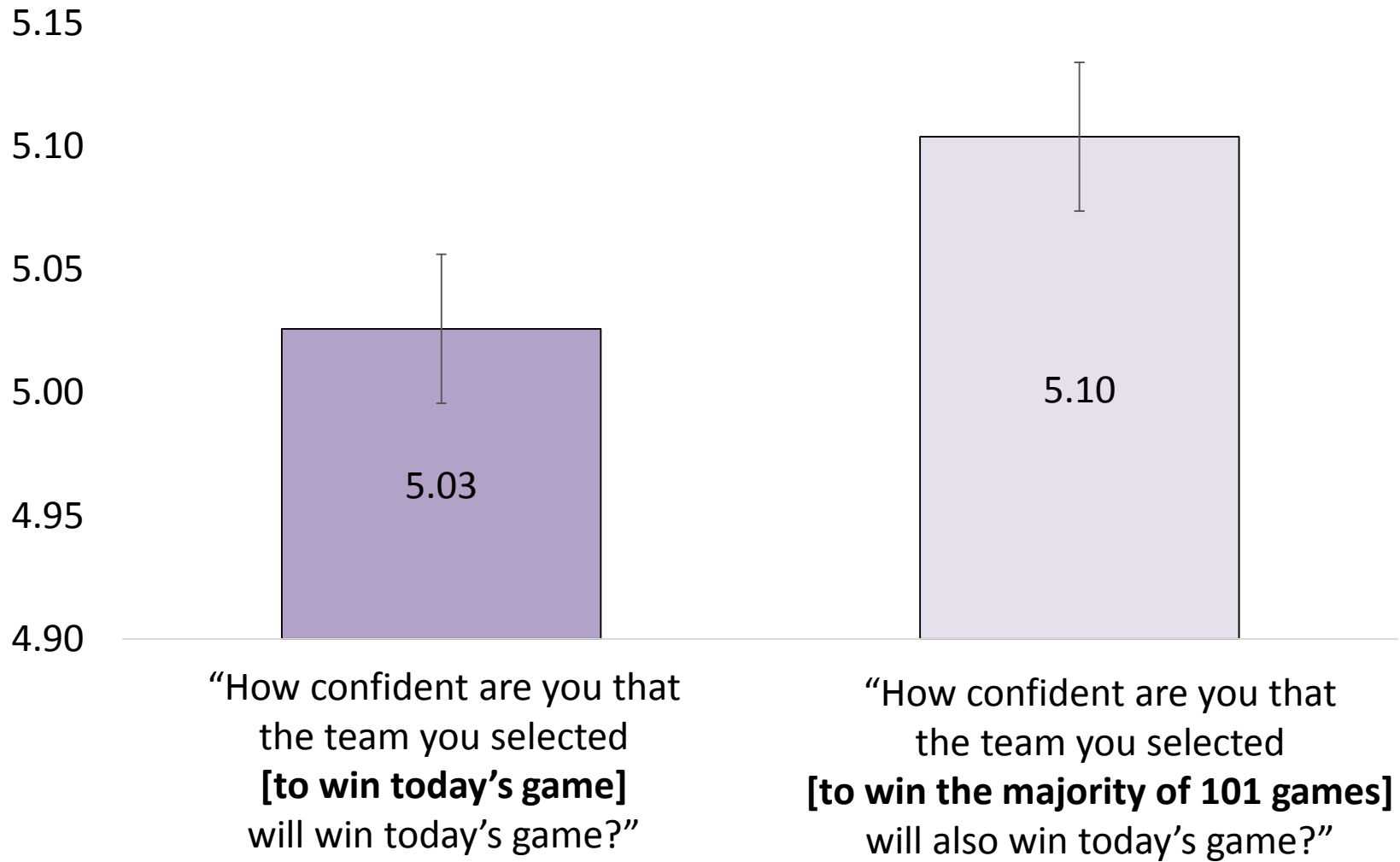
Order effect: $X^2 = 6.3$, $p = 0.012$

Average confidence of participants who chose to be paid based on what they predicted would USUALLY happen



$t(14) = 4.5, p < .001$

Average confidence of participants who chose to be paid based on what they predicted would happen THIS TIME



$t(14) = 2.6, p = .020$

How does thinking about what usually happens improve prediction quality?

DV: % of participants making “wise” predictions.

Good predictions are not always accurate predictions (and vice versa)

“A coin is biased to be 55% heads. Predict the next flip.”

Noisy measure: Did they get it right?

Better measure: Did they predict heads?

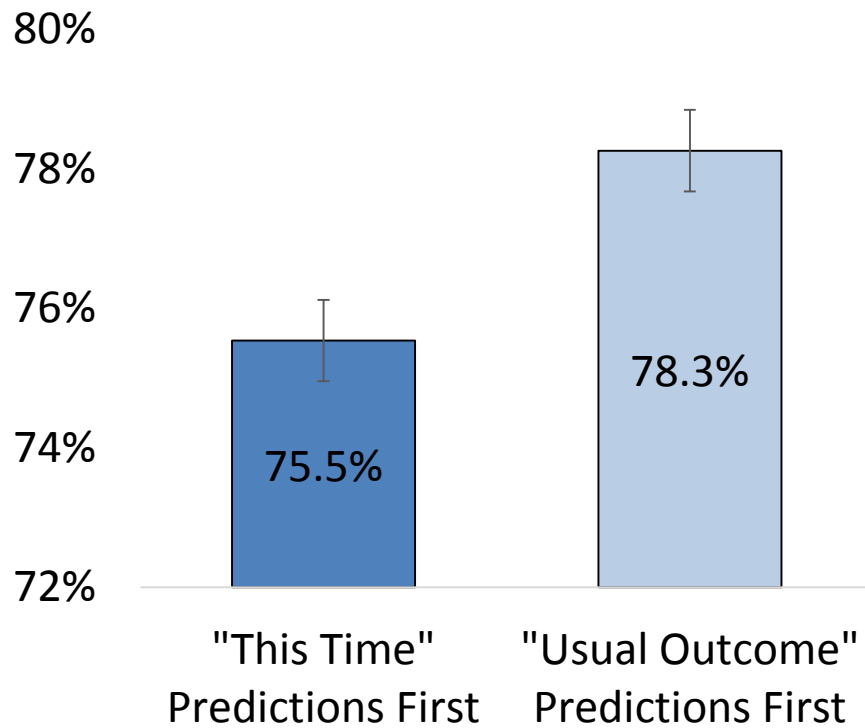


How does thinking about what usually happens affect prediction quality?

DV: % of participants predicting the team with the better Win/Loss record to win.

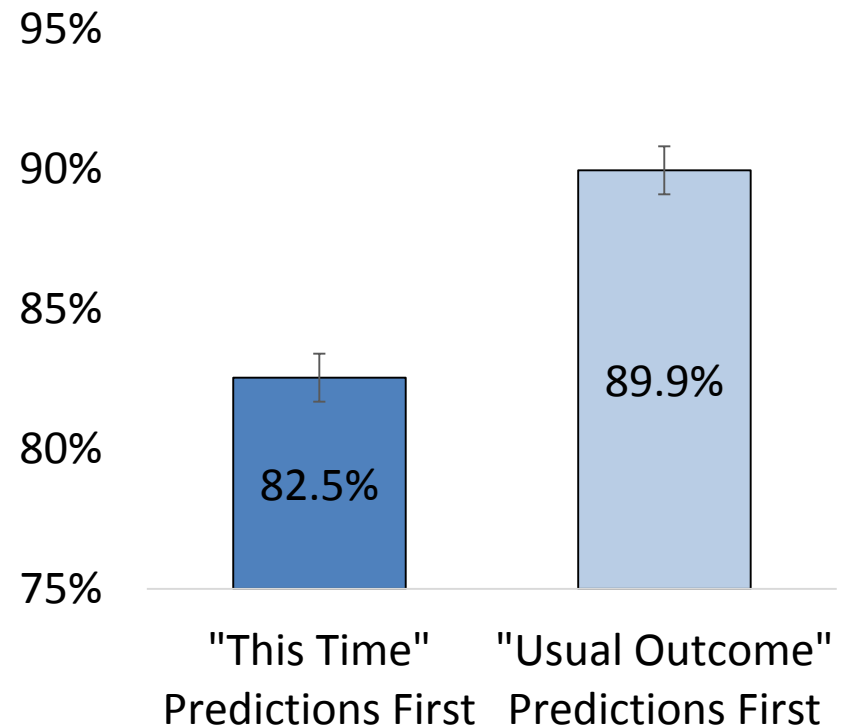
Average % of participants choosing the team with the better record

Study 1 (35 games*)



$t(34) = 3.3, p = 0.002$

Study 2 (15 games)



$t(14) = 6.1, p < 0.0001$

*excludes 4 games where teams had identical records

Conclusions

- People often don't think about what usually happens unless explicitly asked to.
- Forecasters prefer their inside-view predictions *despite being more confident in their outside-view predictions.*
- Asking people to think about what would usually happen first may improve prediction quality.

Thank you!