

Investigating NBA Shot Data

- Data scraped from stats.nba.com
- Data set downloaded from kaggle:
<https://www.kaggle.com/dansbecker/nba-shot-logs>
- Data produced by SportVU



<https://www.stats.com/>
[Sportvu-basketball-media](https://www.sportvu.com/basketball-media)
<https://www.nba.com/>

Let's watch a video:

- <https://www.youtube.com/watch?v=QPoZcFnHg14&t=11m27s>

Sample Data Point:

SHOT DISTANCE	CLOSEST DEF. DISTANCE	SHOOTER HEIGHT	CLOSEST DEF. HEIGHT	SHOOTER NAME	DEFENDER NAME	GAME CLOCK	SHOT CLOCK
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Sample Data Point:

SHOT
DISTANCE
(feet)

27.6

CLOSEST
DEF.
DISTANCE

SHOOTER
HEIGHT

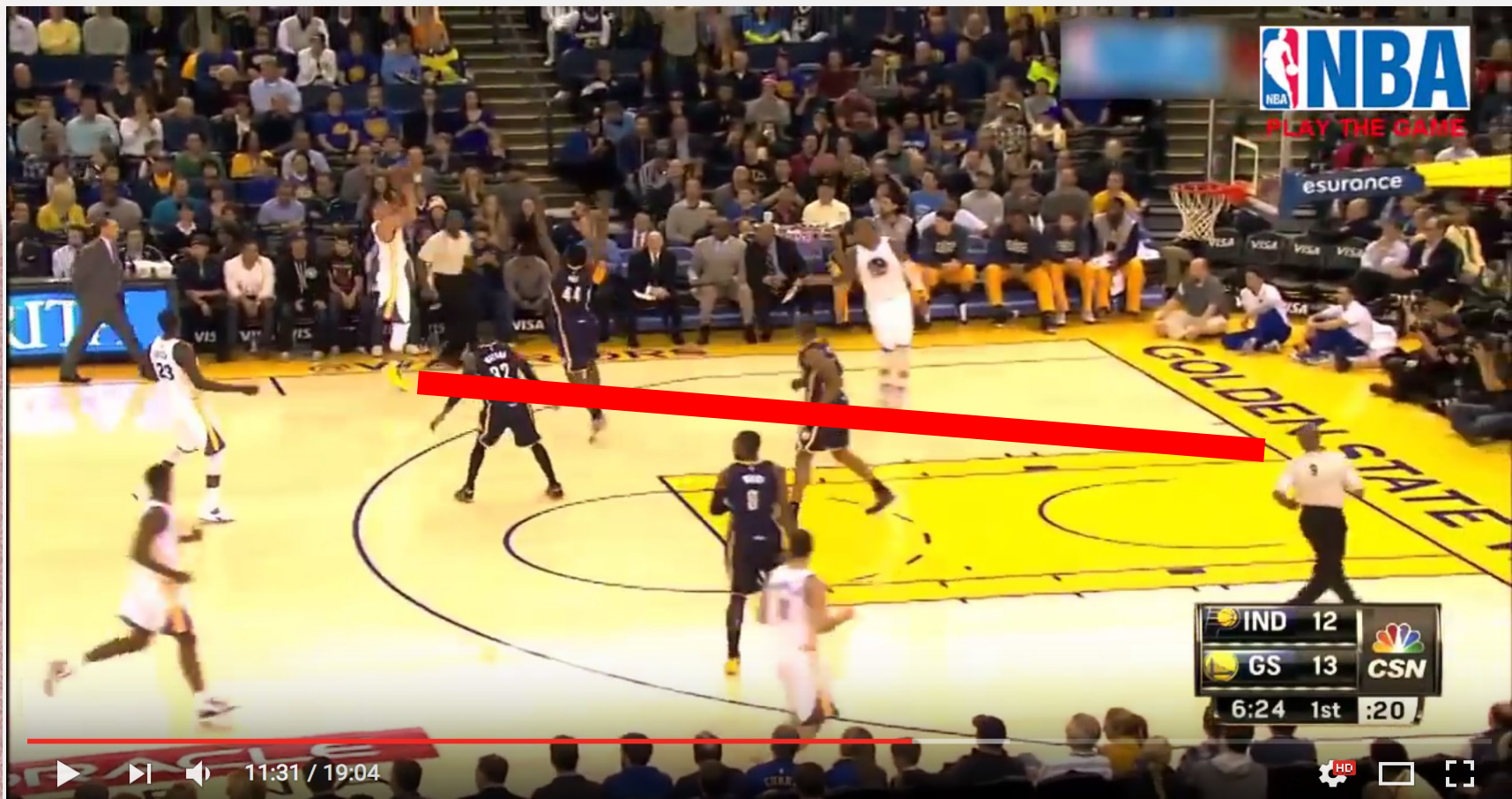
CLOSEST
DEF.
HEIGHT

SHOOTER
NAME

DEFENDER
NAME

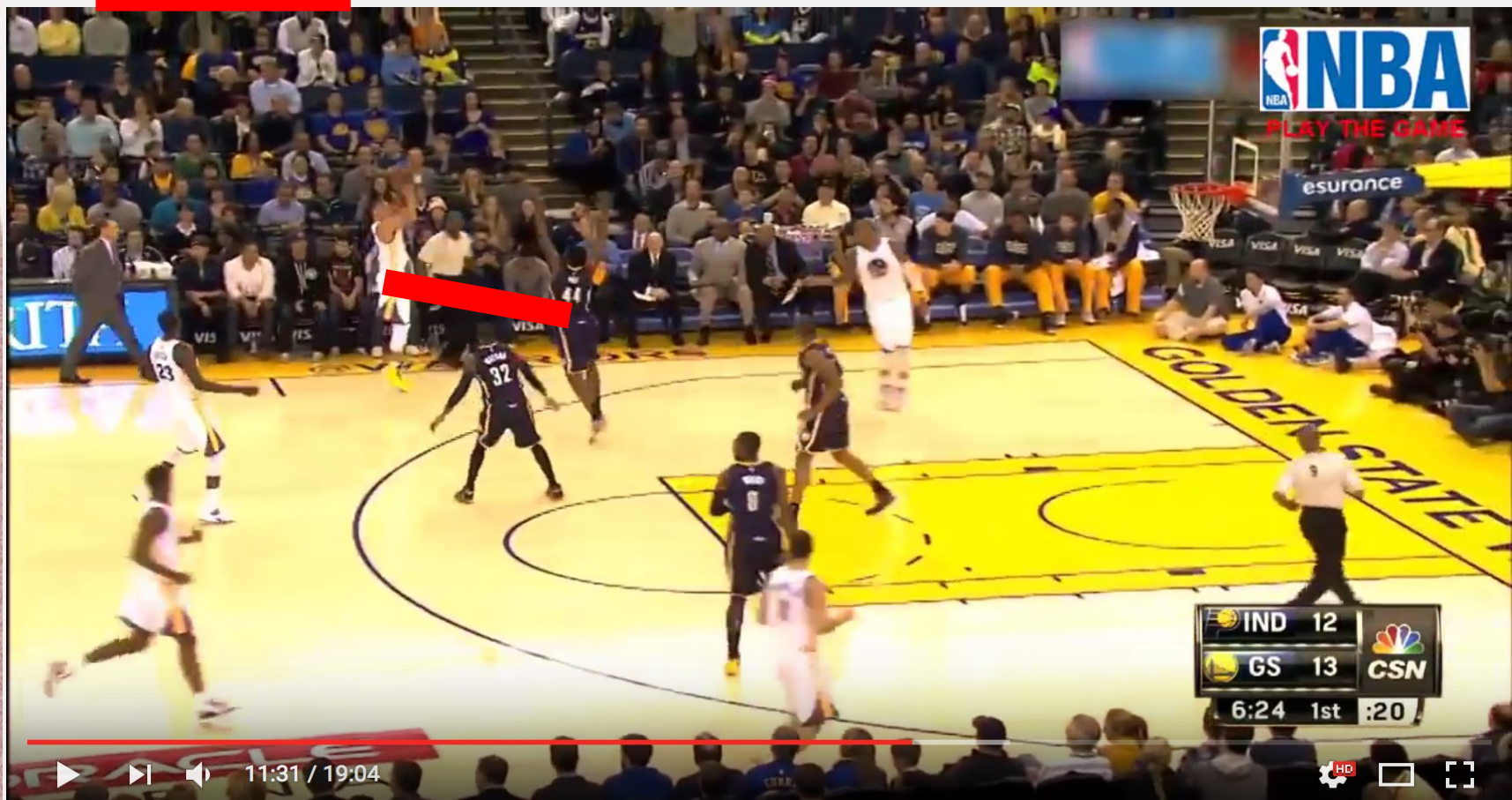
GAME
CLOCK

SHOT
CLOCK



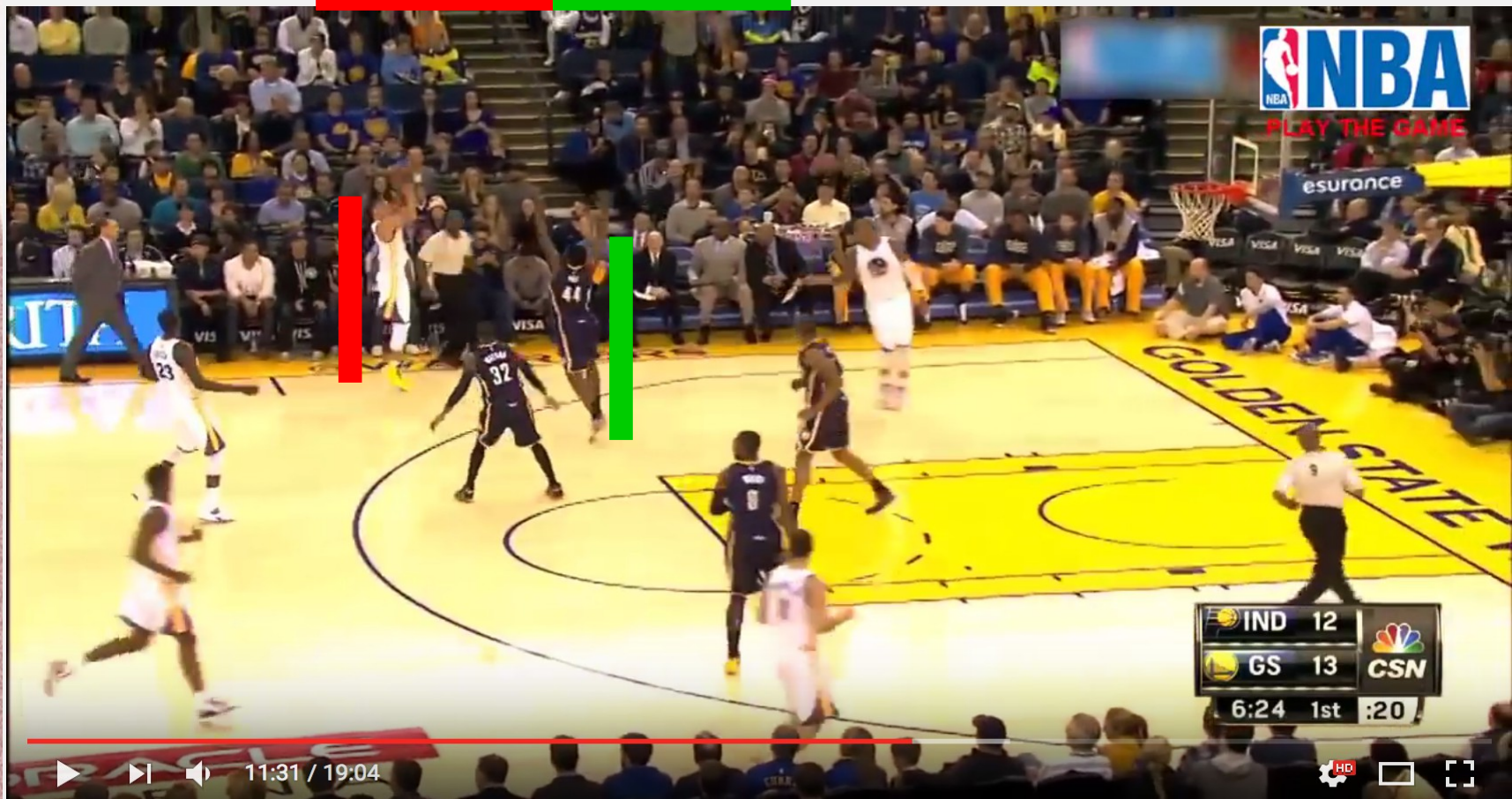
Sample Data Point:

SHOT DISTANCE	CLOSEST DEF. DISTANCE	SHOOTER HEIGHT	CLOSEST DEF. HEIGHT	SHOOTER NAME	DEFENDER NAME	GAME CLOCK	SHOT CLOCK
27.6	6.5						



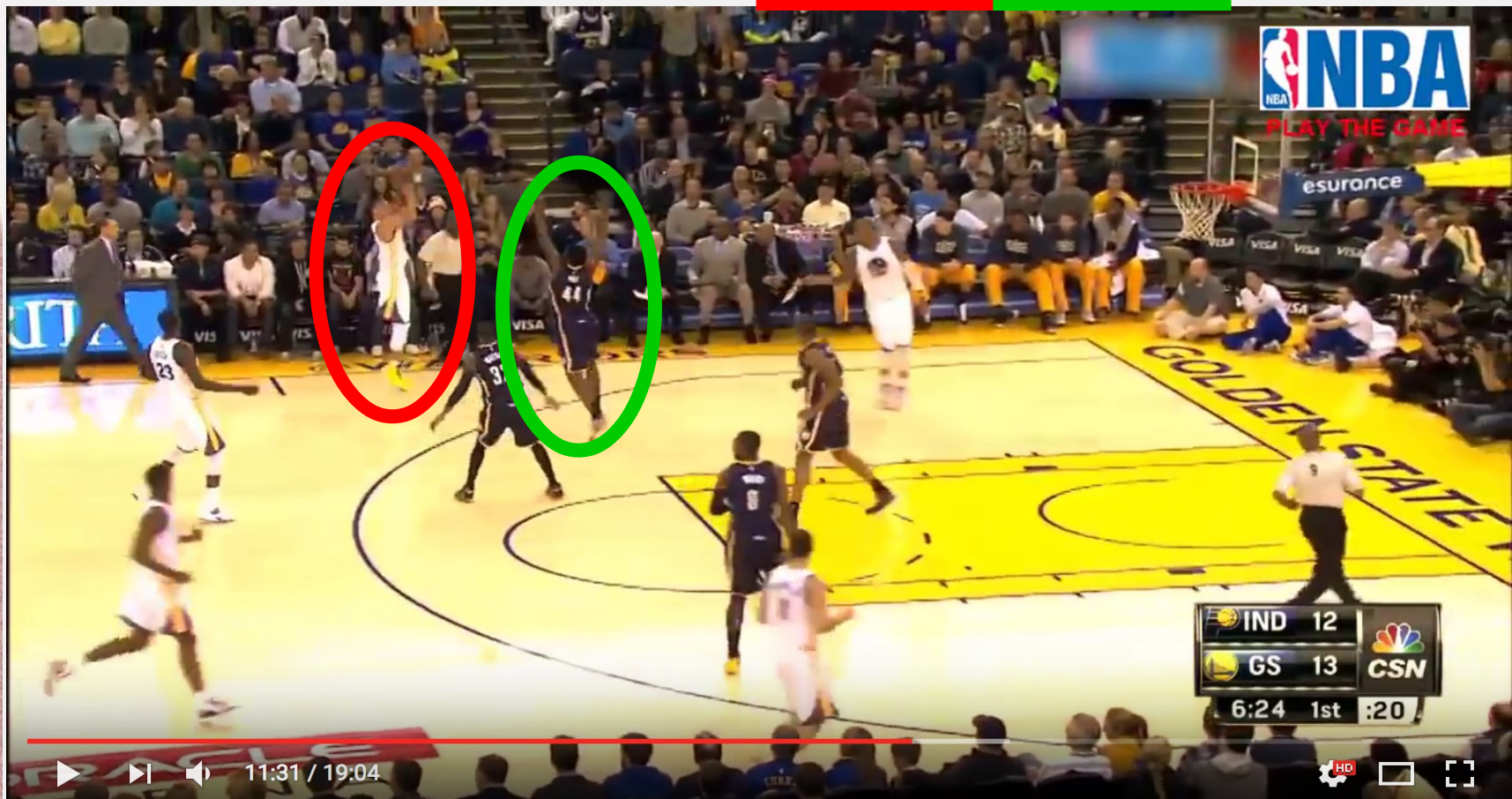
Sample Data Point:

SHOT DISTANCE	CLOSEST DEF. DISTANCE	SHOOTER HEIGHT (inches)	CLOSEST DEF. HEIGHT	SHOOTER NAME	DEFENDER NAME	GAME CLOCK	SHOT CLOCK
27.6	6.5	75	79				



Sample Data Point:

SHOT DISTANCE	CLOSEST DEF. DISTANCE	SHOOTER HEIGHT	CLOSEST DEF. HEIGHT	SHOOTER NAME	DEFENDER NAME	GAME CLOCK	SHOT CLOCK
27.6	6.5	75	79	Steph Curry	Solomon Hill		



Sample Data Point:

SHOT DISTANCE	CLOSEST DEF. DISTANCE	SHOOTER HEIGHT	CLOSEST DEF. HEIGHT	SHOOTER NAME	DEFENDER NAME	GAME CLOCK	SHOT CLOCK
27.6	6.5	75	79	Steph Curry	Solomon Hill	6:24	20



FOCUS ON

Sample Data Point:

SHOT DISTANCE	CLOSEST DEF. DISTANCE	SHOOTER HEIGHT
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27.6	6.5	75
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CLOSEST DEF. HEIGHT

79

SHOOTER NAME

Steph Curry

DEFENDER NAME

Solomon Hill

GAME CLOCK

6:24

SHOT CLOCK

20

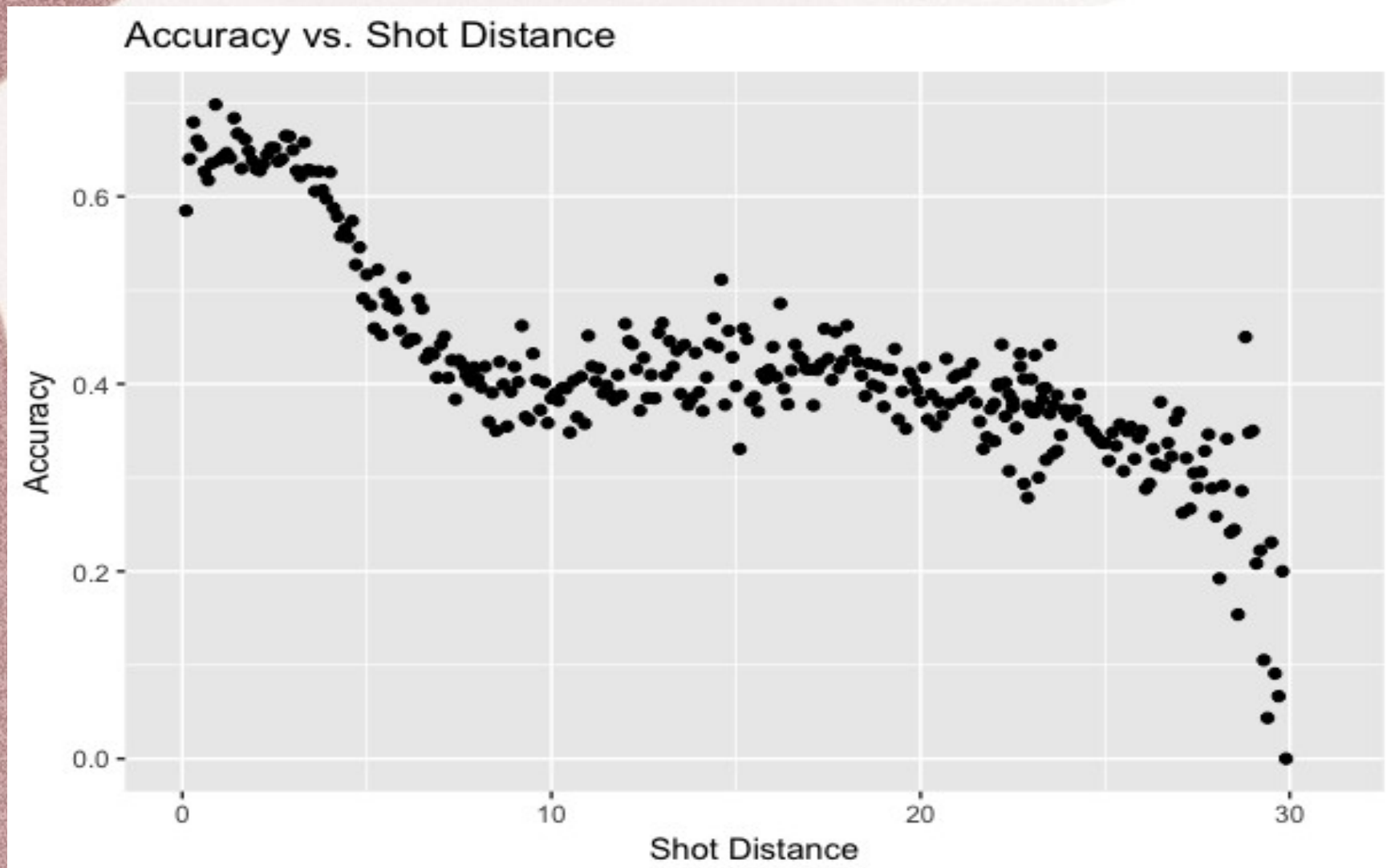


Investigating the data:

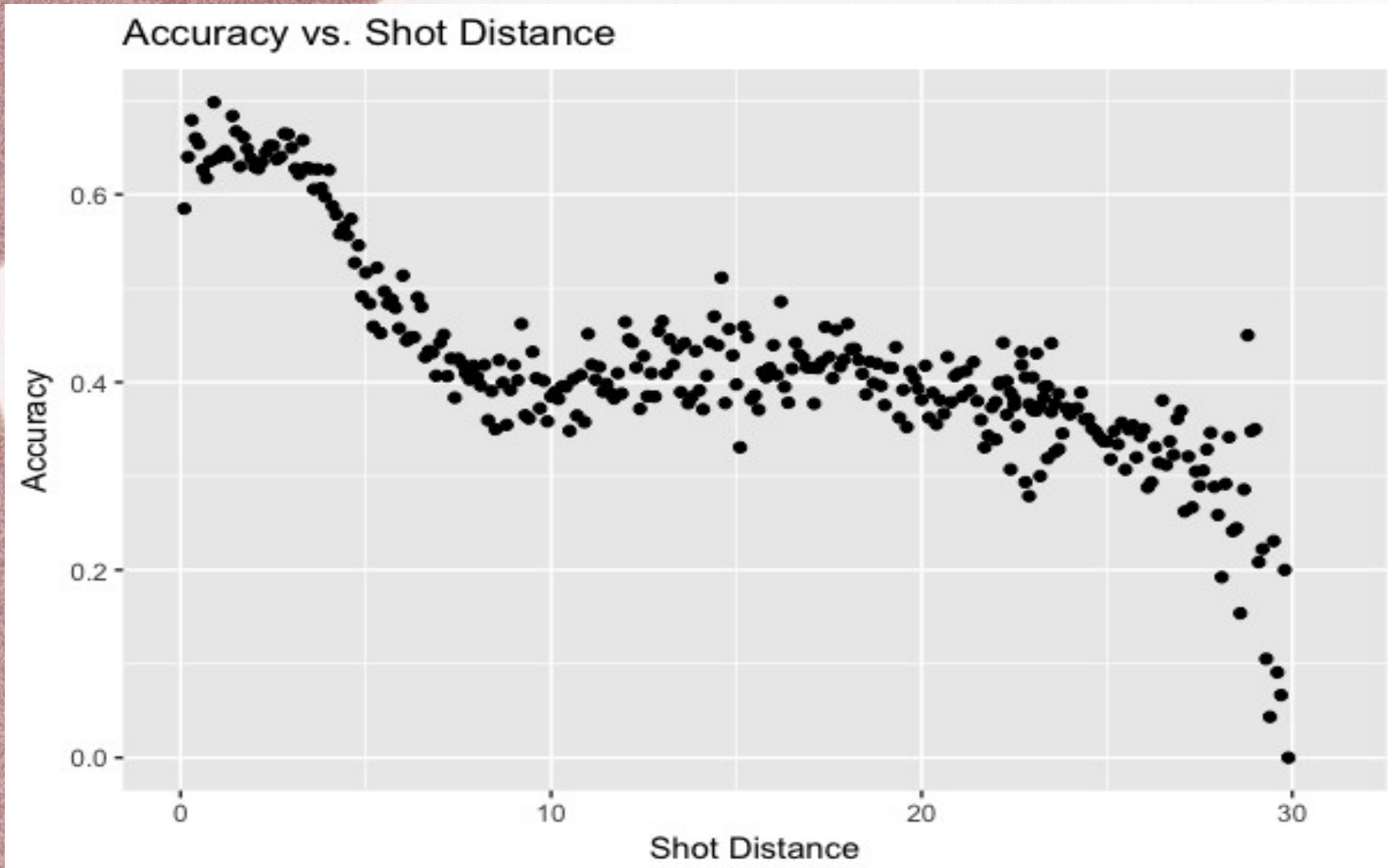
Question: How does a shooter's accuracy vary with shot distance?

Investigating the data:

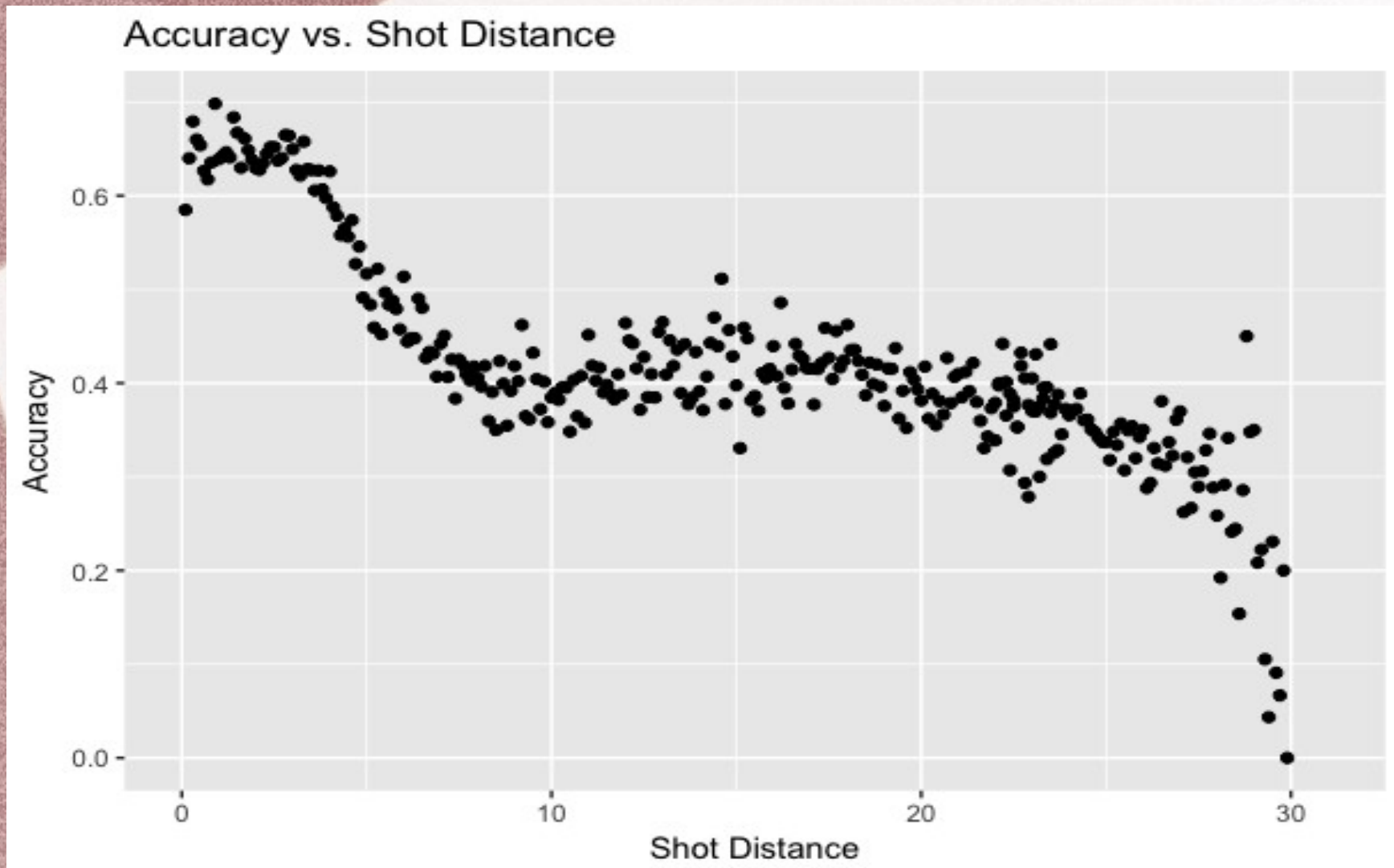
Question: How does a shooter's accuracy vary with shot distance?



What's going on here?



What's going on here?



SHOT
DISTANCE

CLOSEST
DEF.
DISTANCE

SHOOTER
HEIGHT

CLOSEST
DEF.
HEIGHT

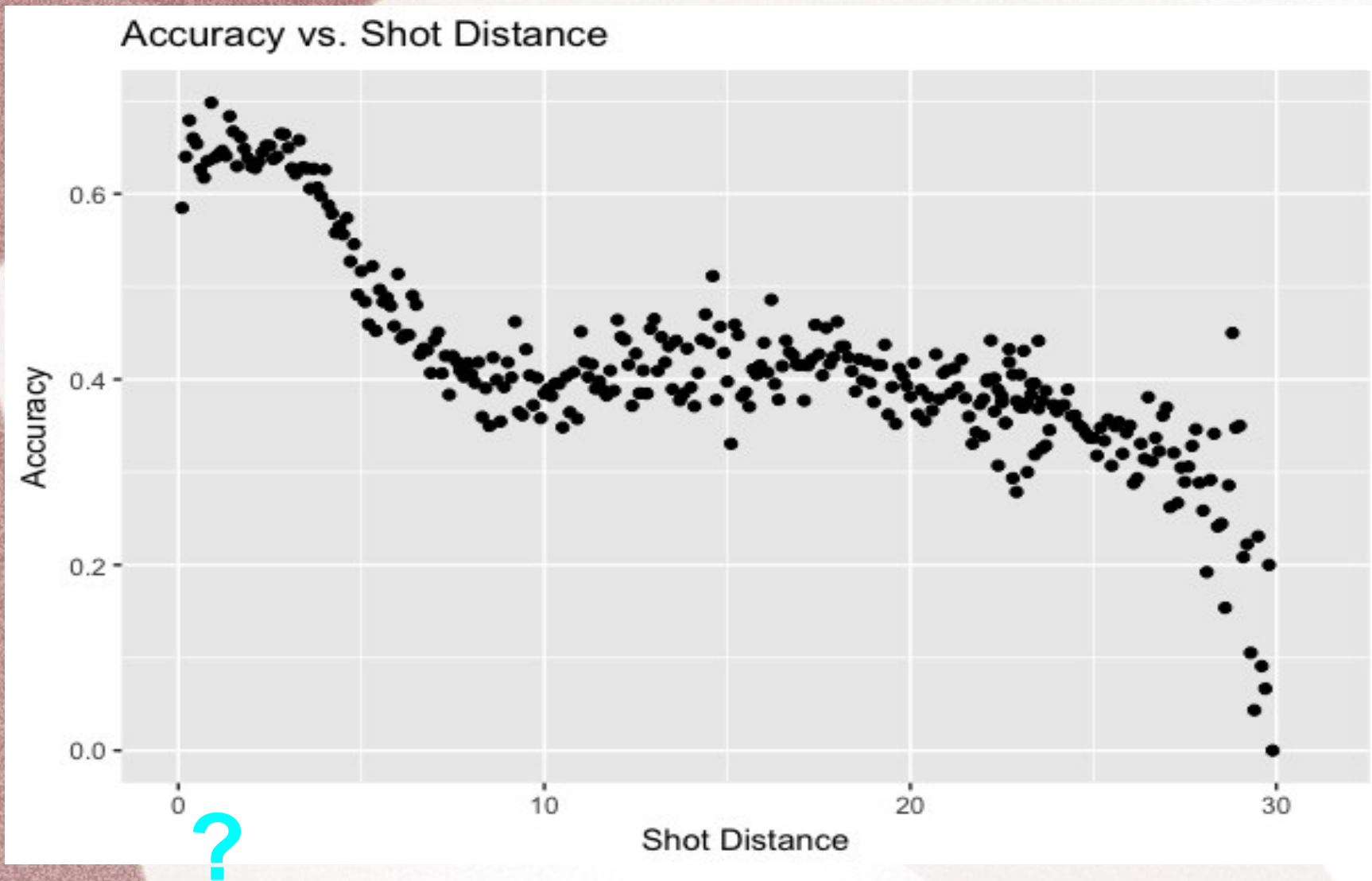
SHOOTER
NAME

DEFENDER
NAME

GAME
CLOCK

SHOT
CLOCK

What's going on here?



SHOT
DISTANCE

CLOSEST
DEF.
DISTANCE

SHOOTER
HEIGHT

CLOSEST
DEF.
HEIGHT

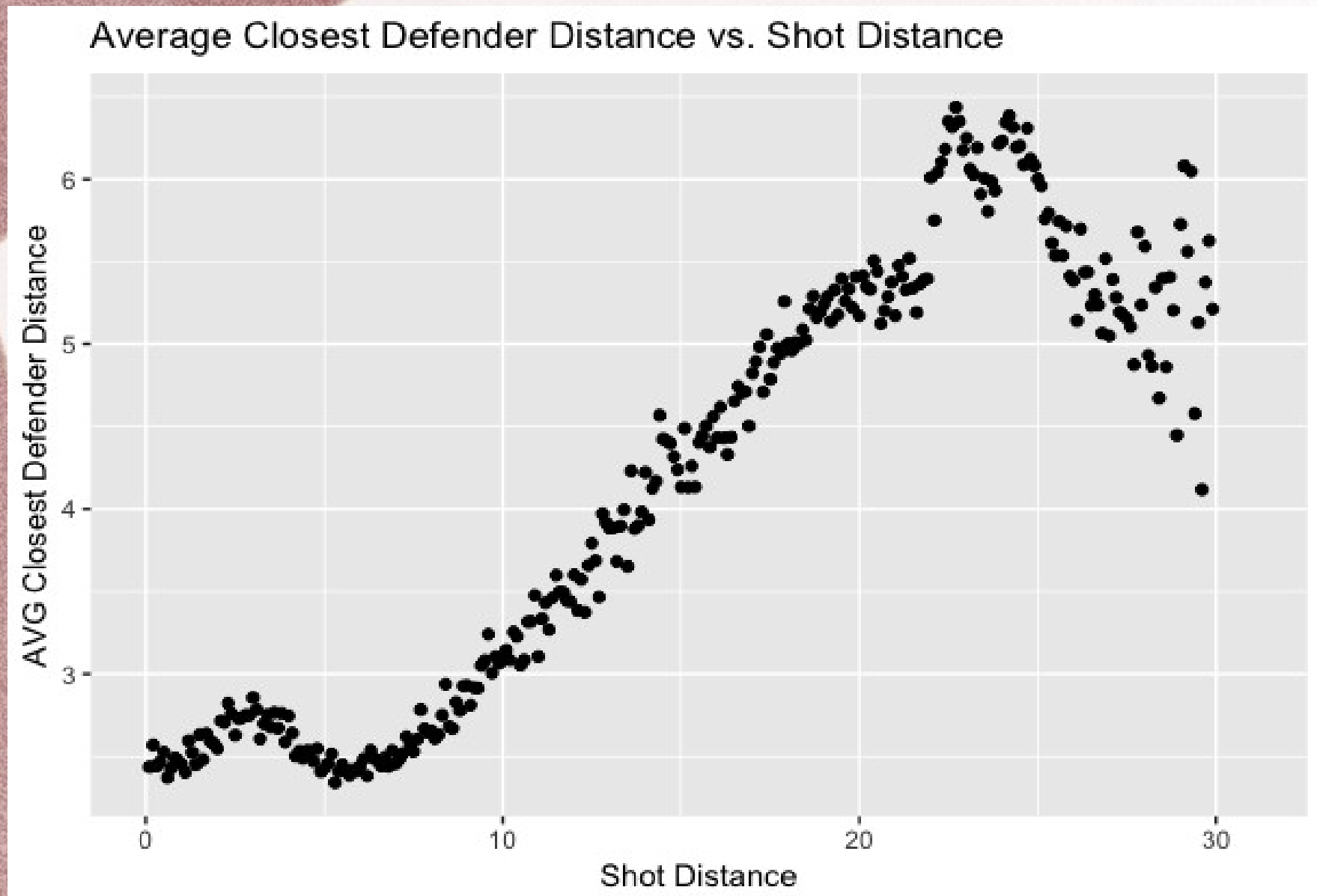
SHOOTER
NAME

DEFENDER
NAME

GAME
CLOCK

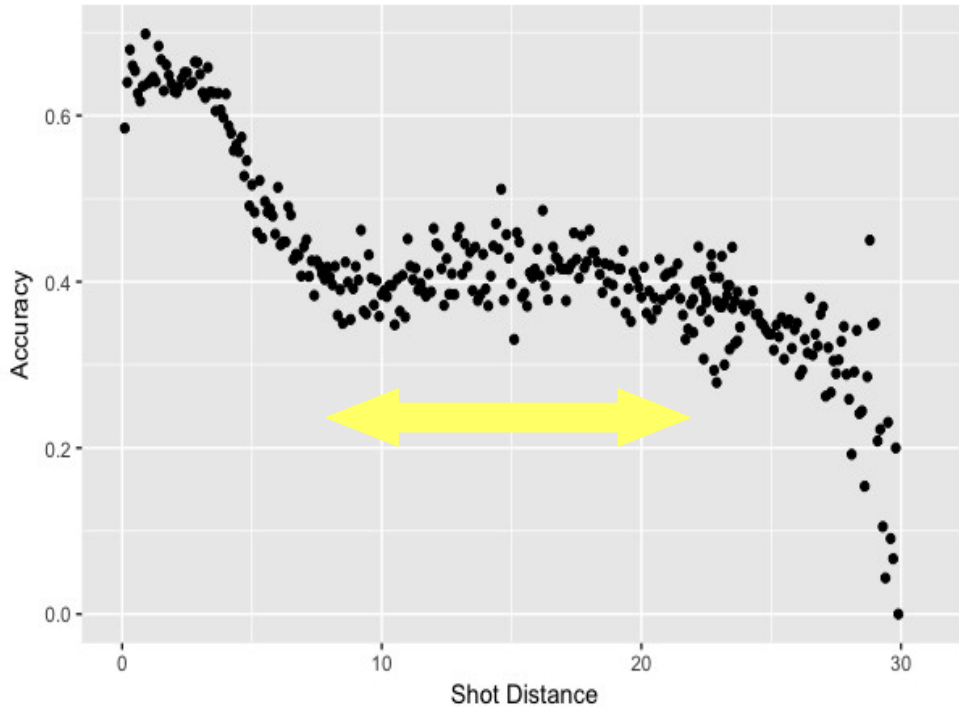
SHOT
CLOCK

Defender Distance vs. Shot Distance

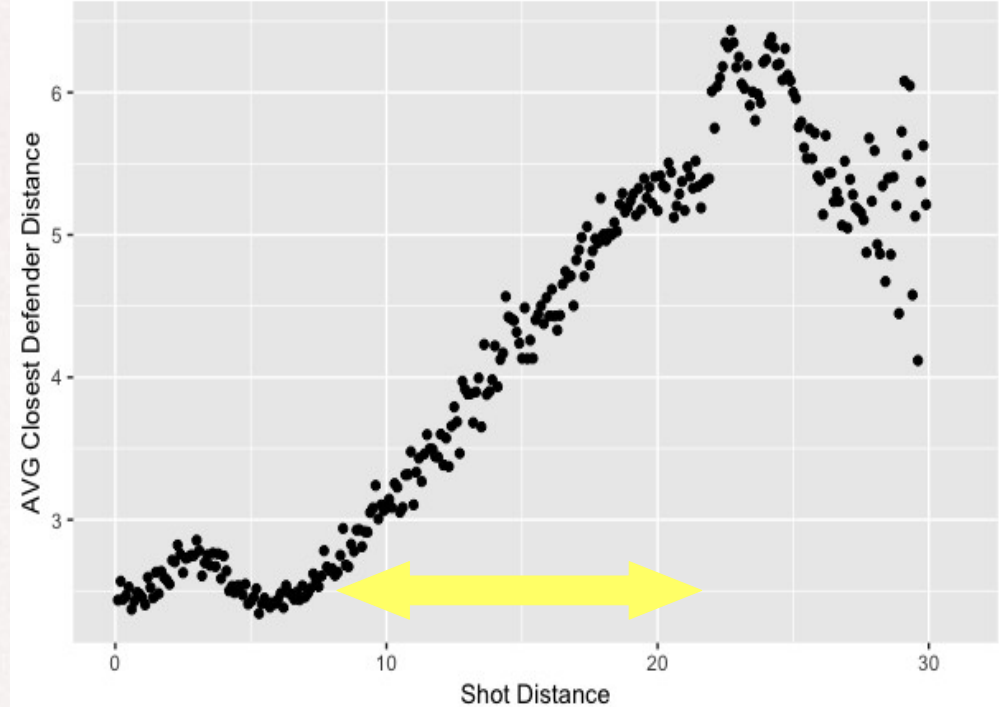


Compare the 2 graphs:

Accuracy vs. Shot Distance



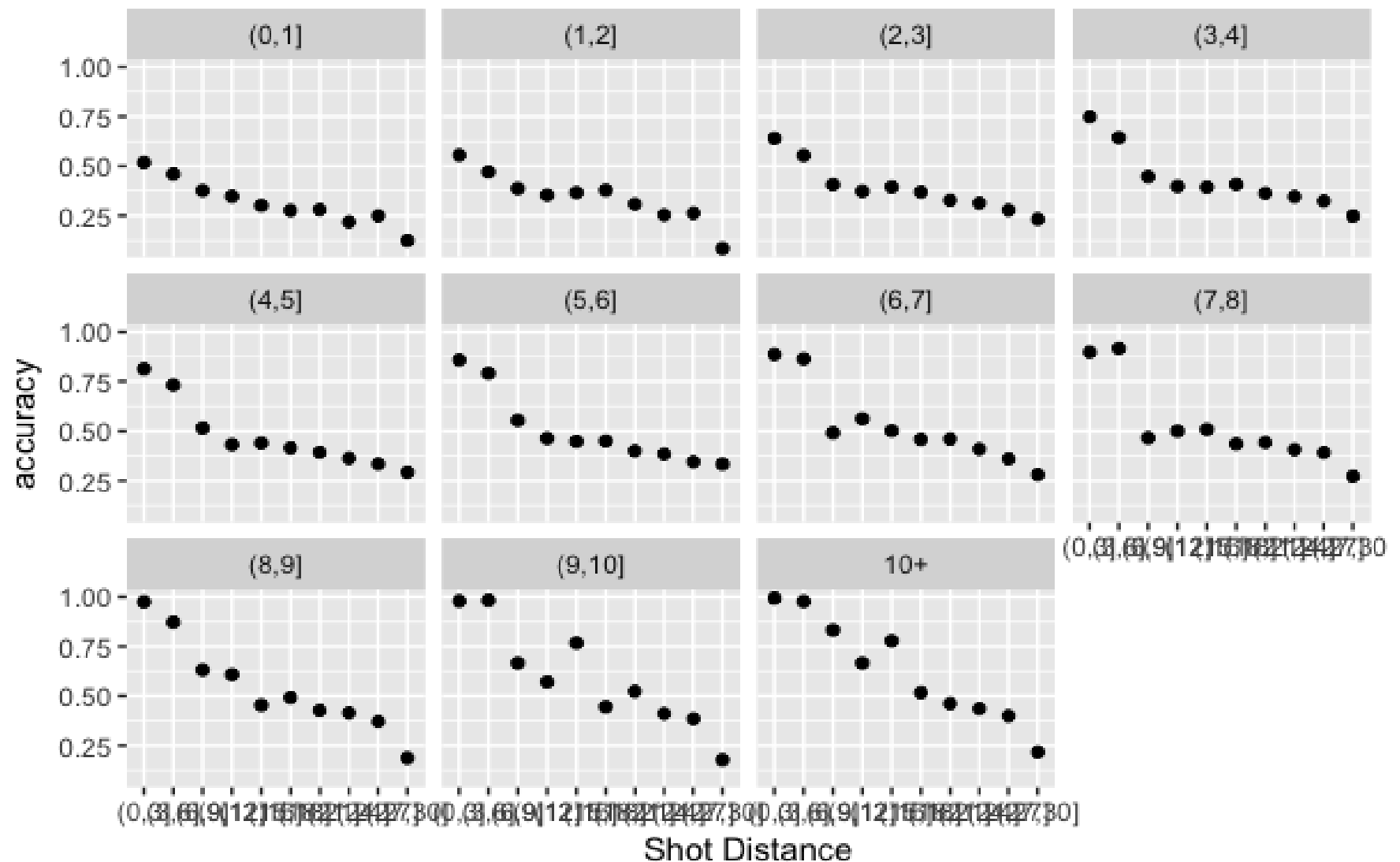
Average Closest Defender Distance vs. Shot Distance



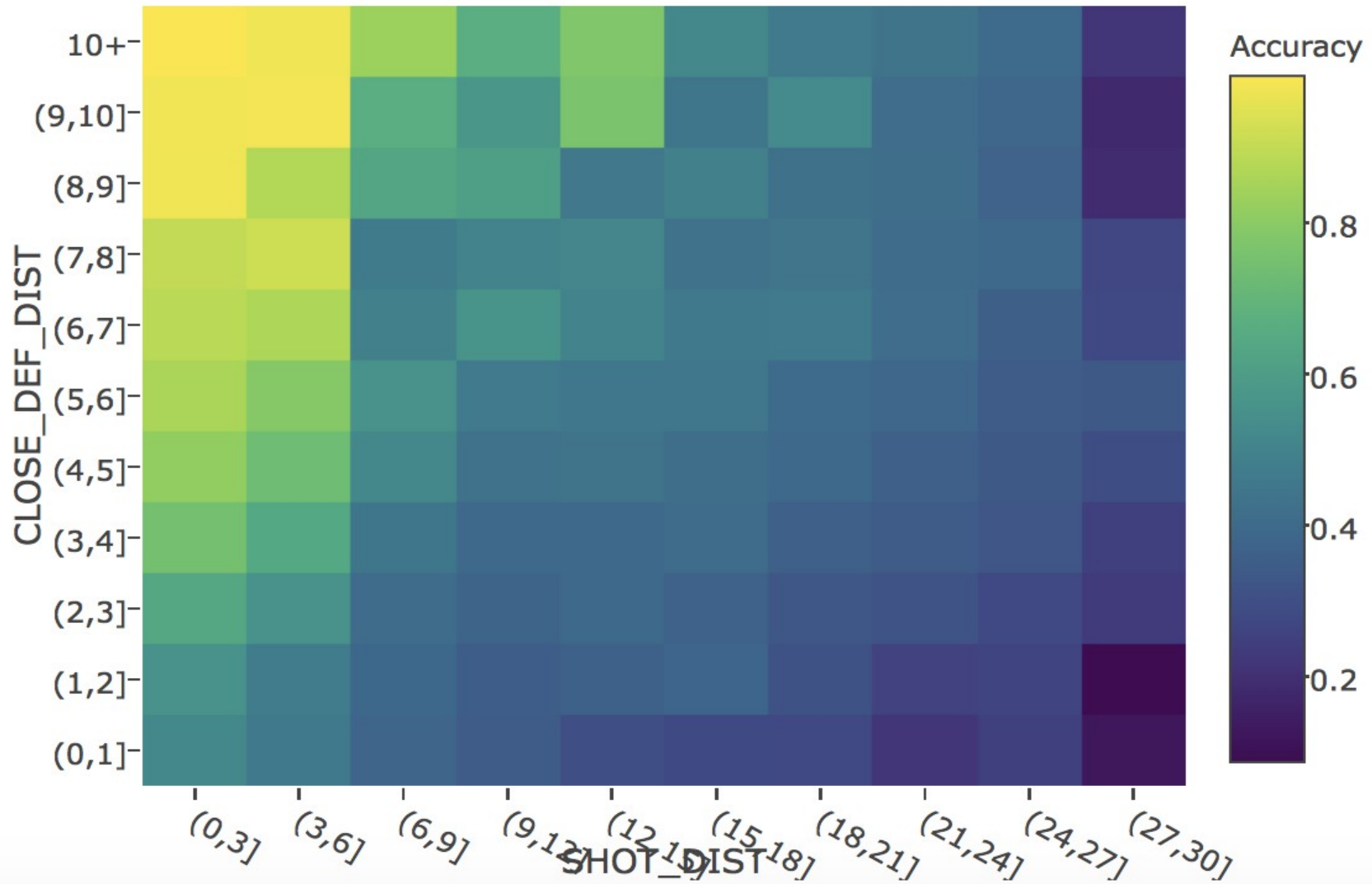
Defensive playing style affecting shot accuracy between 10-20 feet?

Control CDD:

Accuracy vs. Shot Distance for ~constant Closest Defender Distance



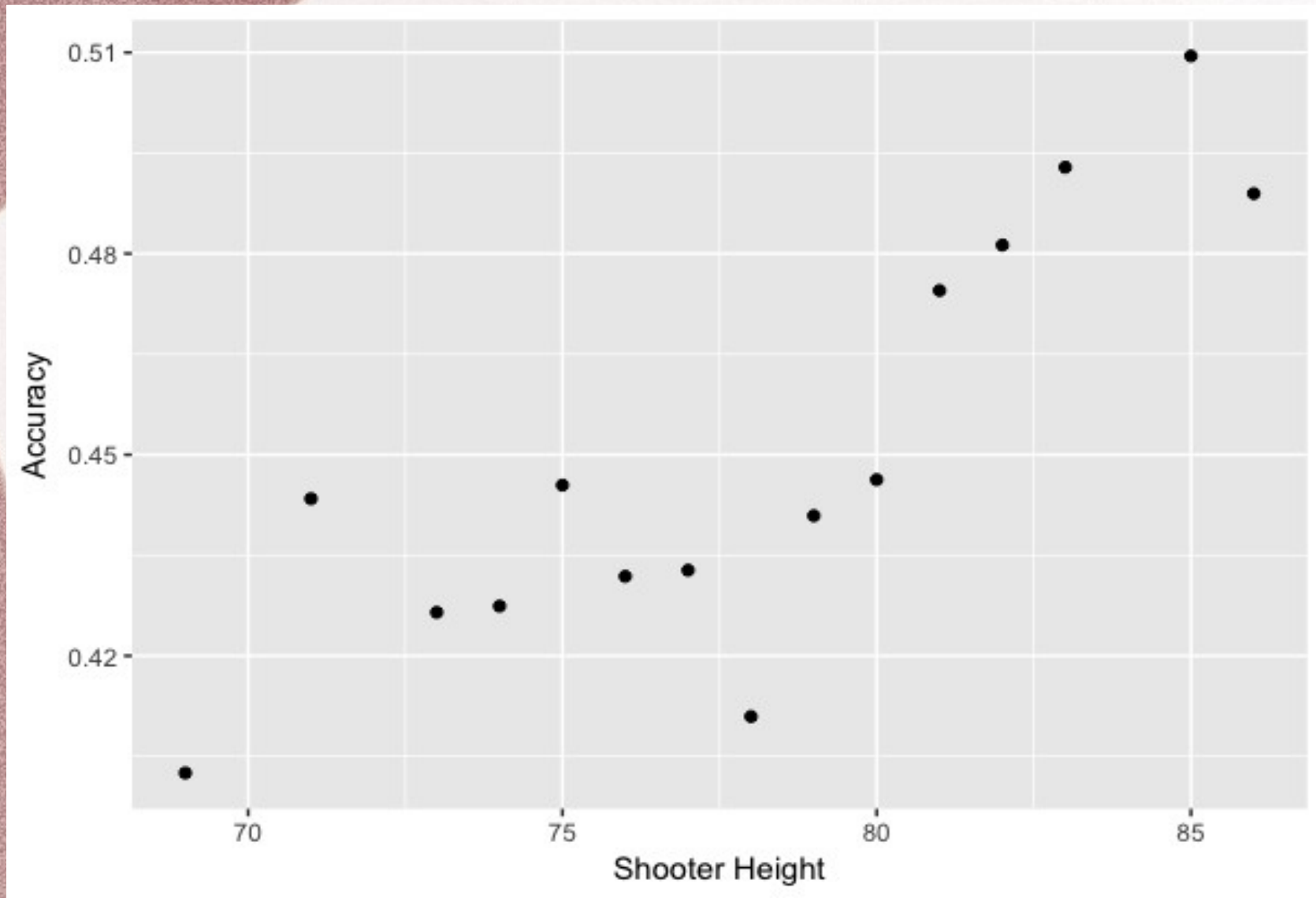
Control CDD, Heat Map



Now let's investigate shooter height

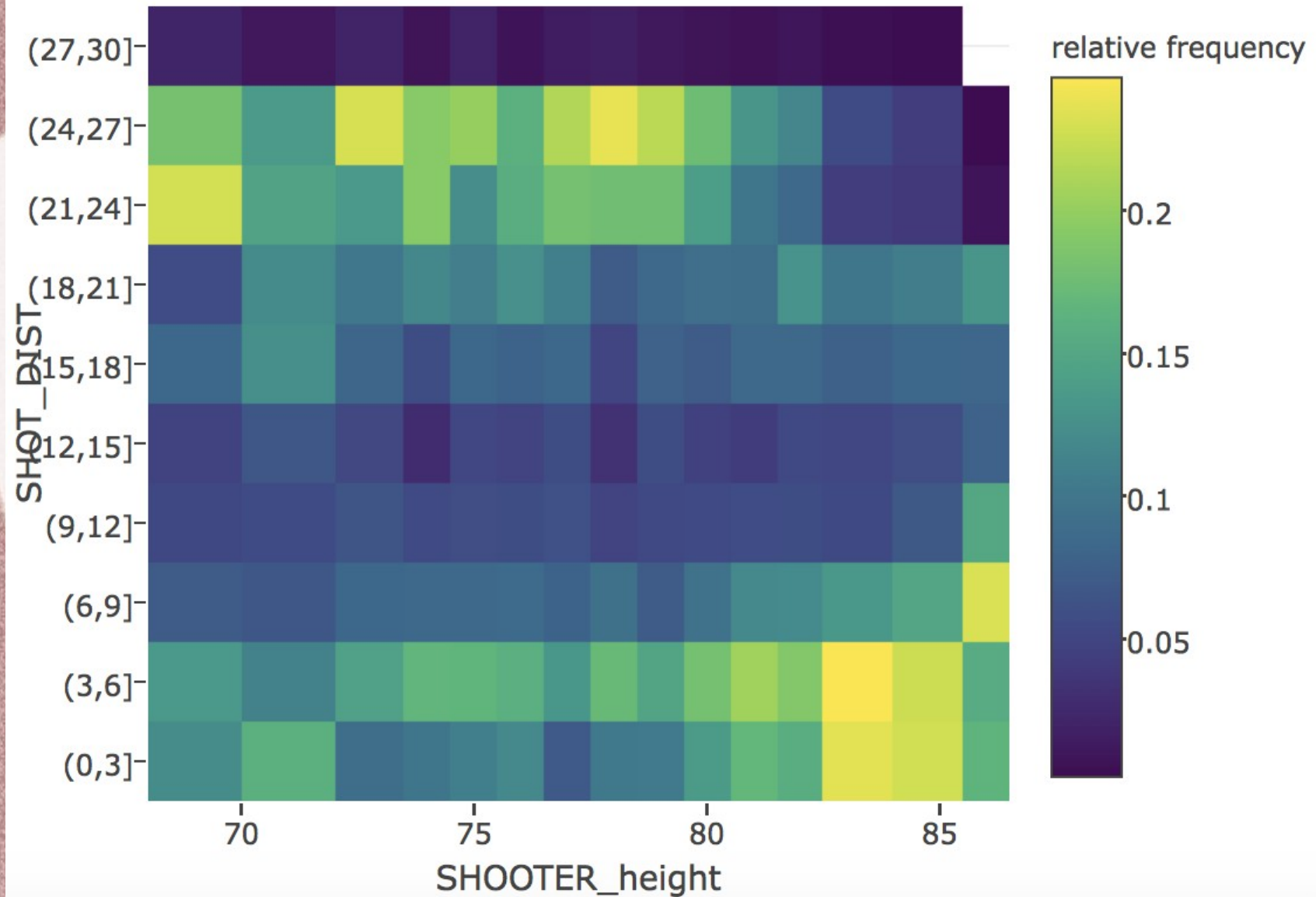
- Shot accuracy?
- Shot selection?
- Defender distance?

Shooter Height mean accuracy



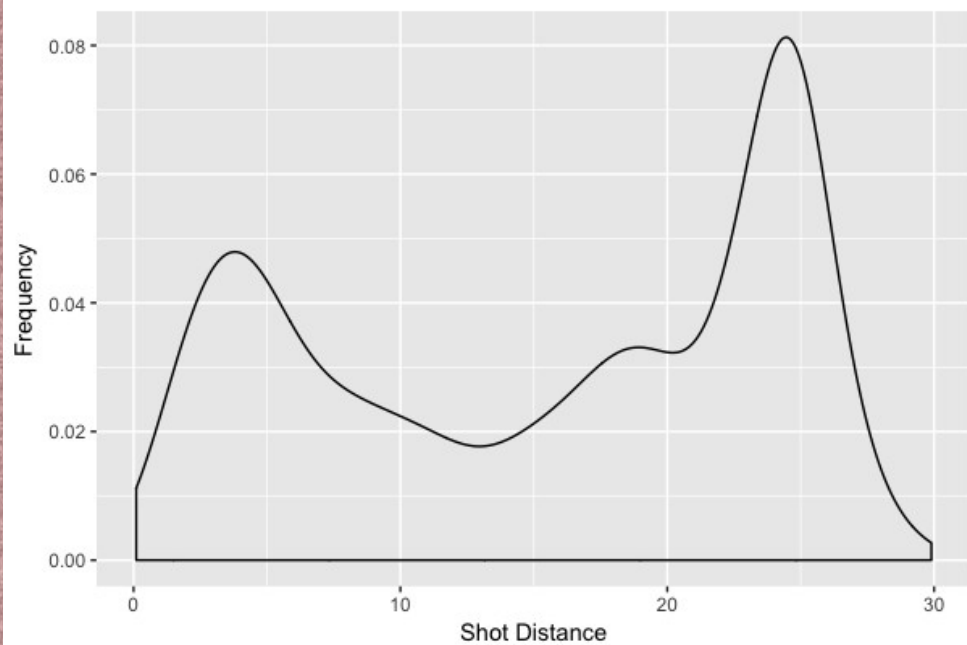
Bigger players better shooters...?

Shot Distribution:

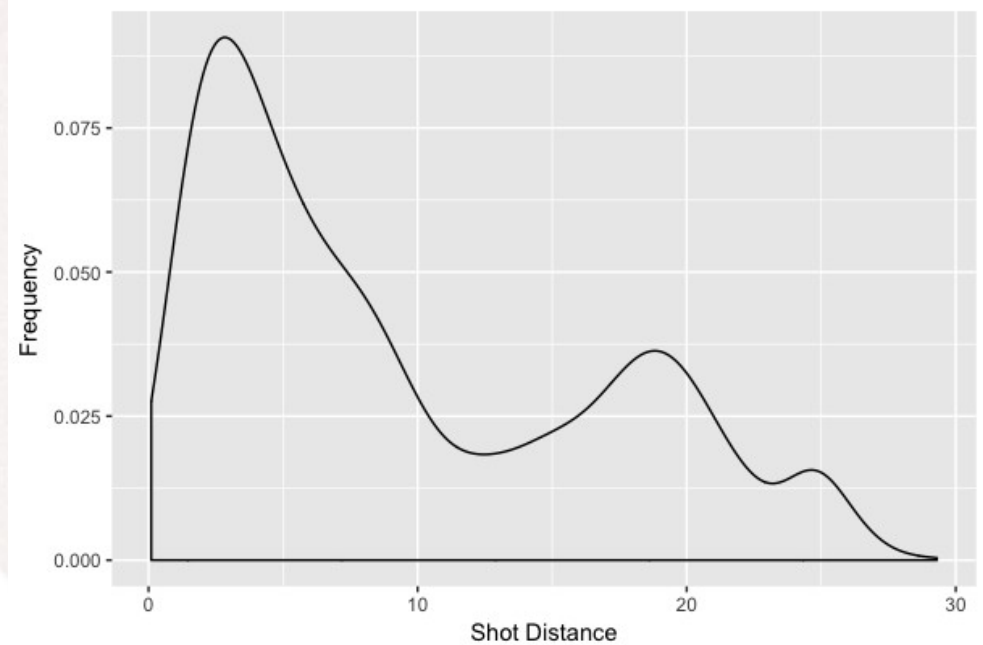


Shot distribution continued:

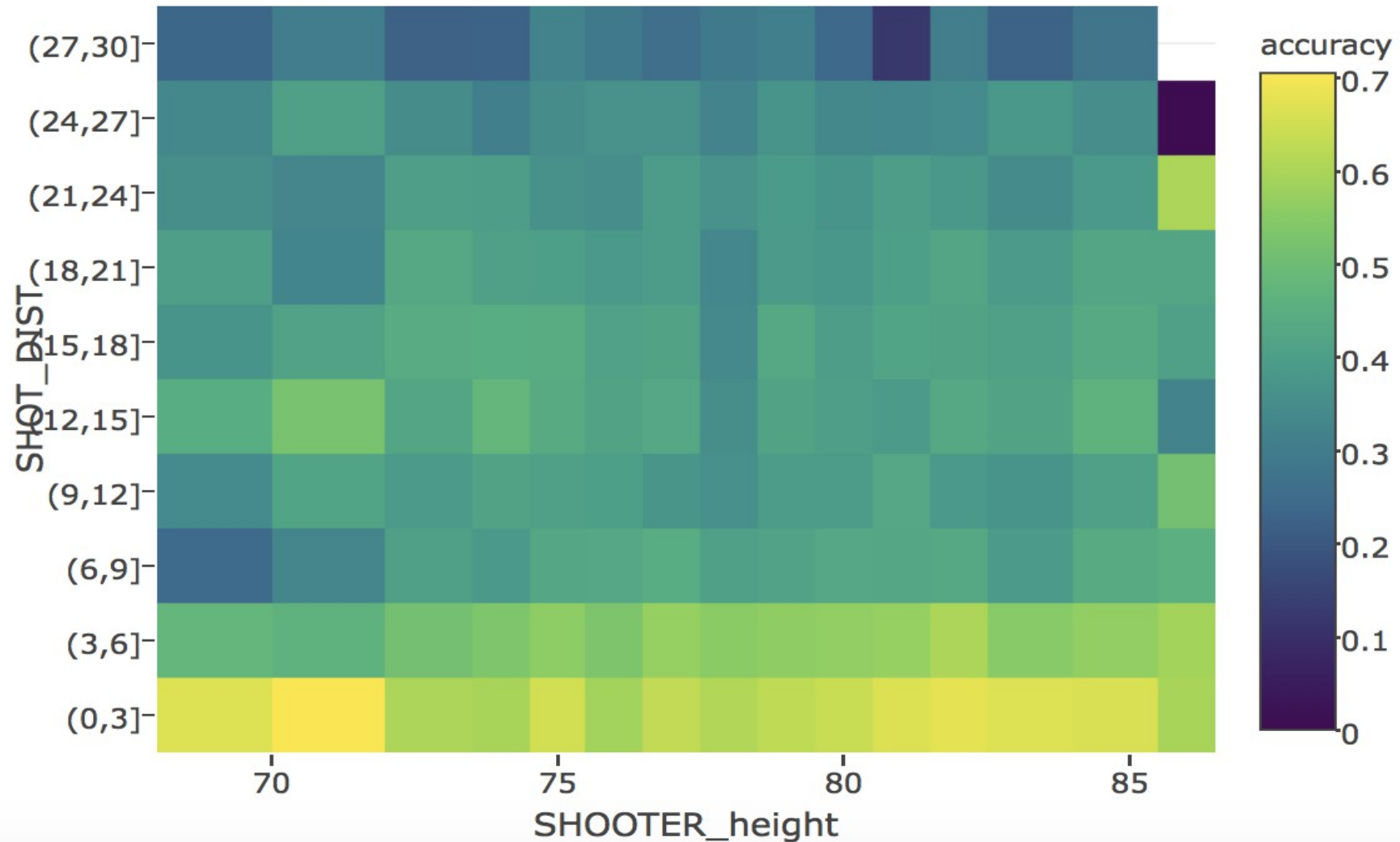
Shot distribution of 73 inch players



Shot distribution of 85 inch players

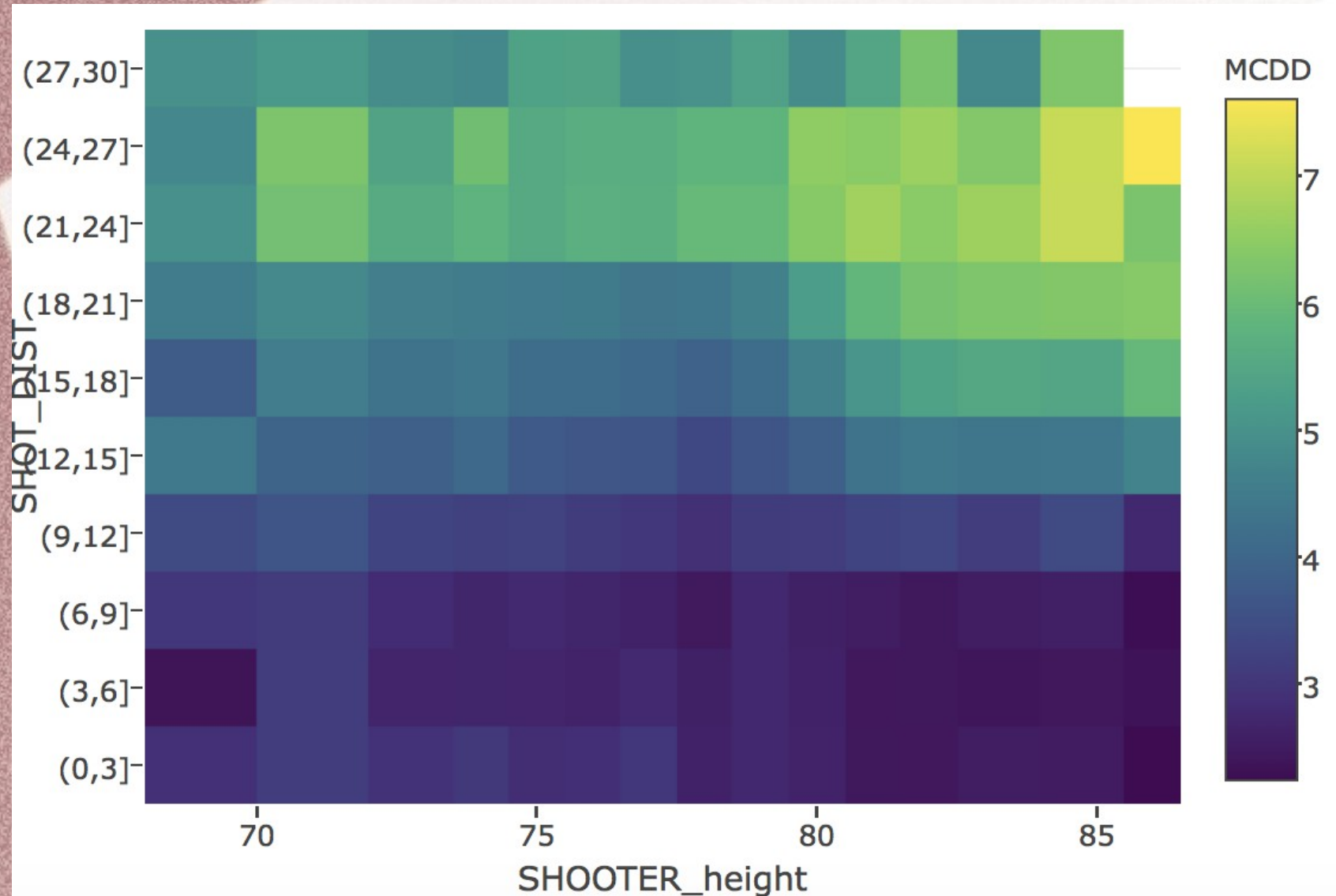


Accuracy vs. Shooter Height/Shot Distance



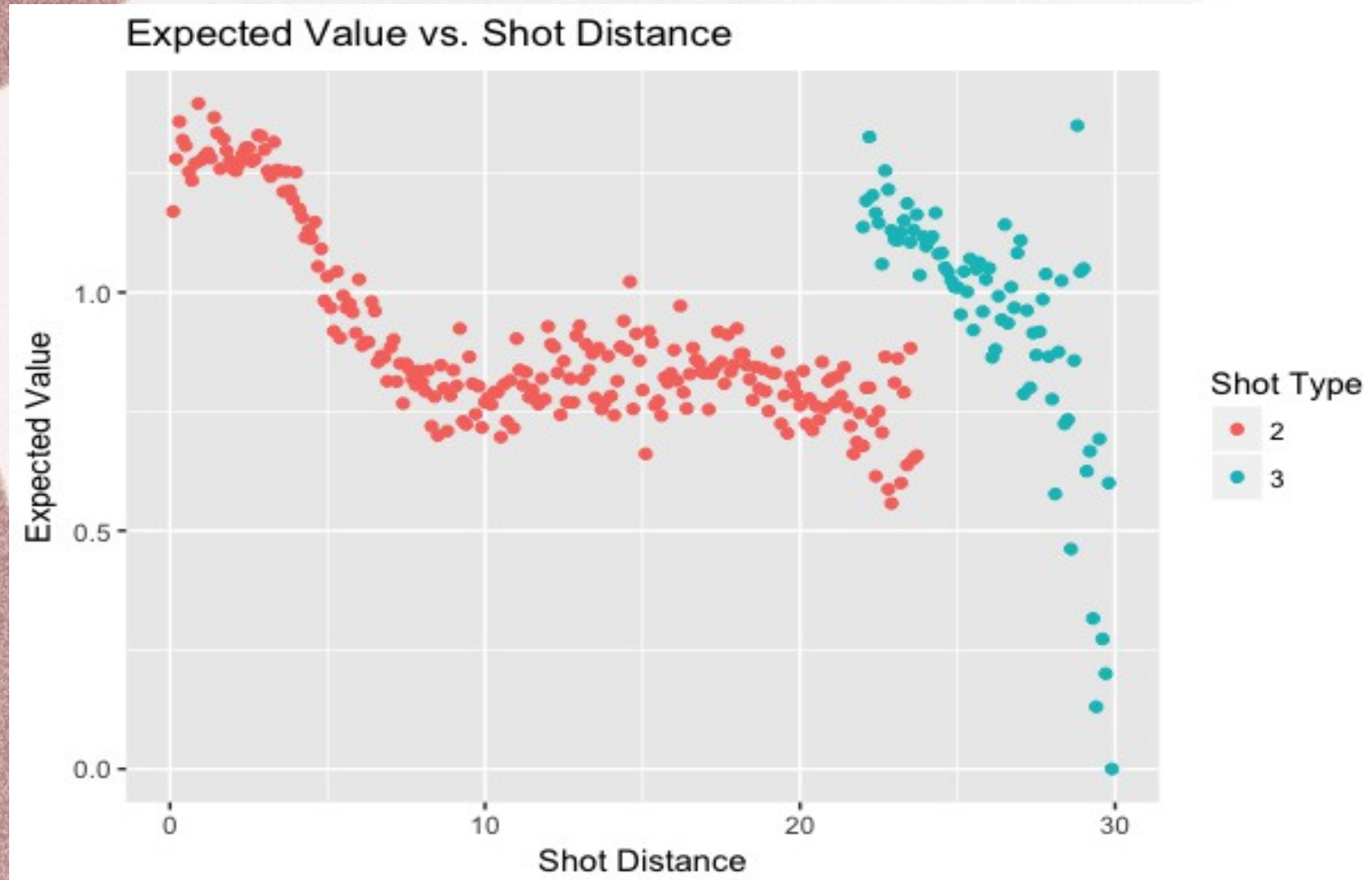
Everyone equally accurate (regardless of size)?

Average CDD(Shooter height, Shot Distance)

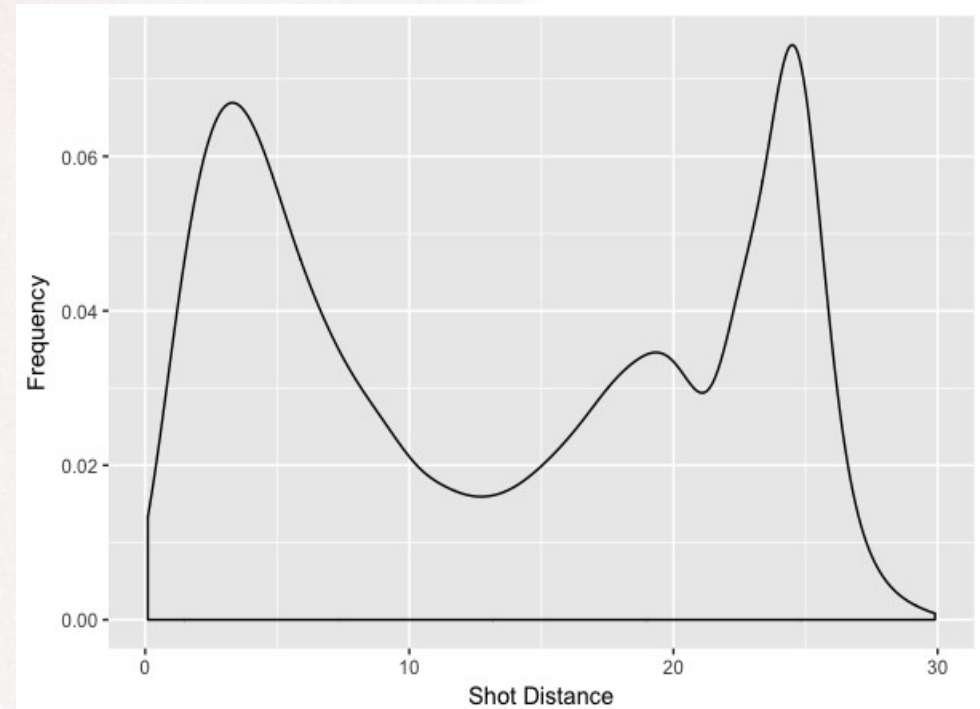
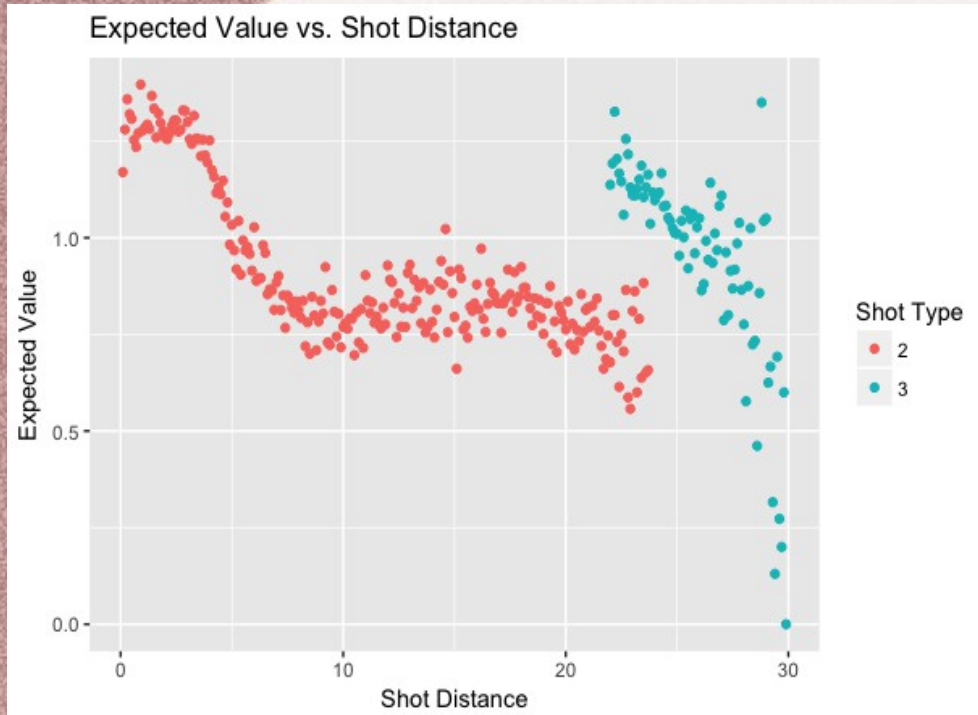


Where's the best spot (distance in our case) to shoot from?

Where's the best spot (distance in our case) to shoot from?



Where's the best spot (distance in our case) to shoot from?



-Highest EV shots are ~ the most often shots taken

THE END