Causal Inference in R: Introduction

```
> who_are_we(c("lucy", "malcolm",
"travis"))
```

https://www.malco.io/

https://www.lucymcgowan.com/

https://travisgerke.com/

The three practices of analysis

1. Describe
2. Predict
3. Explain

Normal regression estimates associations. But we want *counterfactual, causal* estimates:

What would happen if *everyone* in the study were exposed to x vs if *no one* was exposed.

For causal inference, we need to make sometimes unverifiable assumptions.

Today, we'll focus on the assumption of *no confounding*.

Tools for causal inference

- Causal diagrams
- Propensity score weighting
- Propensity score matching
- G-methods & friends

Other tools for causal inference

- Randomized trials
- Instrumental variables & friends
- TMLE and other ML for causal inference

Resources

Causal Inference in R: **Our book! Free online.**

Causal Inference: **Comprehensive text on causal inference. Free online.**

The Book of Why: **Detailed, friendly intro to DAGs and causal inference.**

Mastering 'Metrics: **Friendly introduction to IV-based methods**