In-person session 4

September 13, 2021

PMAP 8521: Program evaluation
Andrew Young School of Policy Studies

Plan for today

How to read a regression table

Miscellaneous R things

Logic models

DAGs

How to read a regression table

	Model 1	Model 2	Model 3	Model 4
(Intercept)	362.307	-5780.831***	-5736.897***	-5433.534***
	(283.345)	(305.815)	(307.959)	(286.558)
bill_length_mm	87.415***		6.047	-5.201
	(6.402)		(5.180)	(4.860)
flipper_length_mm		49.686***	48.145***	48.209***
		(1.518)	(2.011)	(1.841)
sexmale				358.631***
				(41.572)
Num.Obs.	342	342	342	333
R2	0.354	0.759	0.760	0.807
R2 Adj.	0.352	0.758	0.759	0.805
AIC	5400.0	5062.9	5063.5	4863.3
BIC	5411.5	5074.4	5078.8	4882.4
Log.Lik.	-2696.987	-2528.427	-2527.741	-2426.664
F	186.443	1070.745	536.626	457.118
+ p < 0.1, * p < 0.05, ** p < 0.01, *** p < 0.001				

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See full documentation and examples for `modelsummary()` here

R stuff

Make nicer tables when knitting with `kable()`

(Or even fancier tables with kableExtra!)

Navigating larger R Markdown files

Figure resizing

It's okay to remove placeholder text!

R vs. Python

Logic models

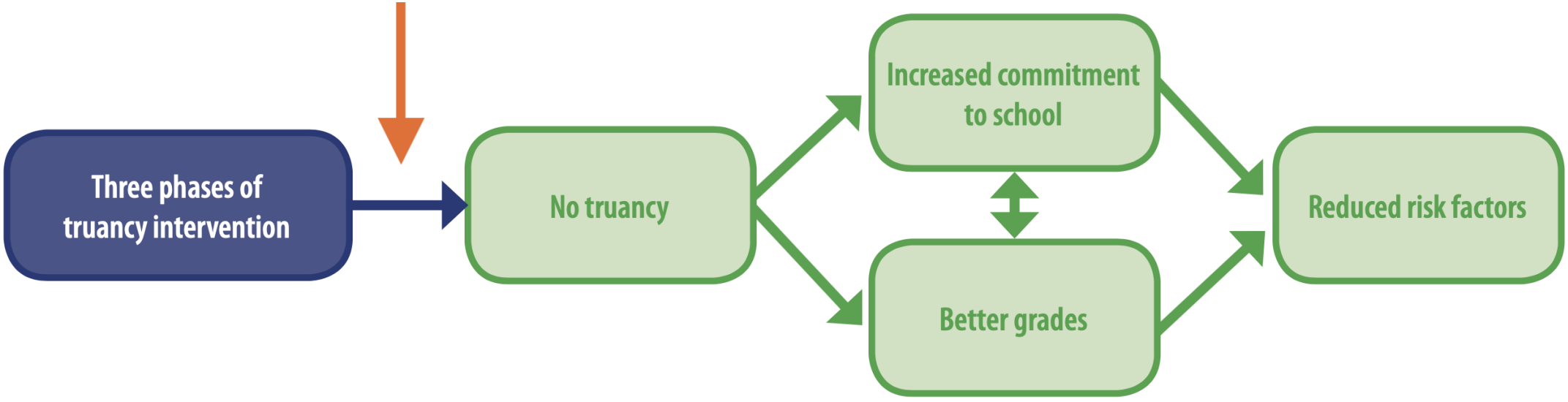
Logic models as managerial tools

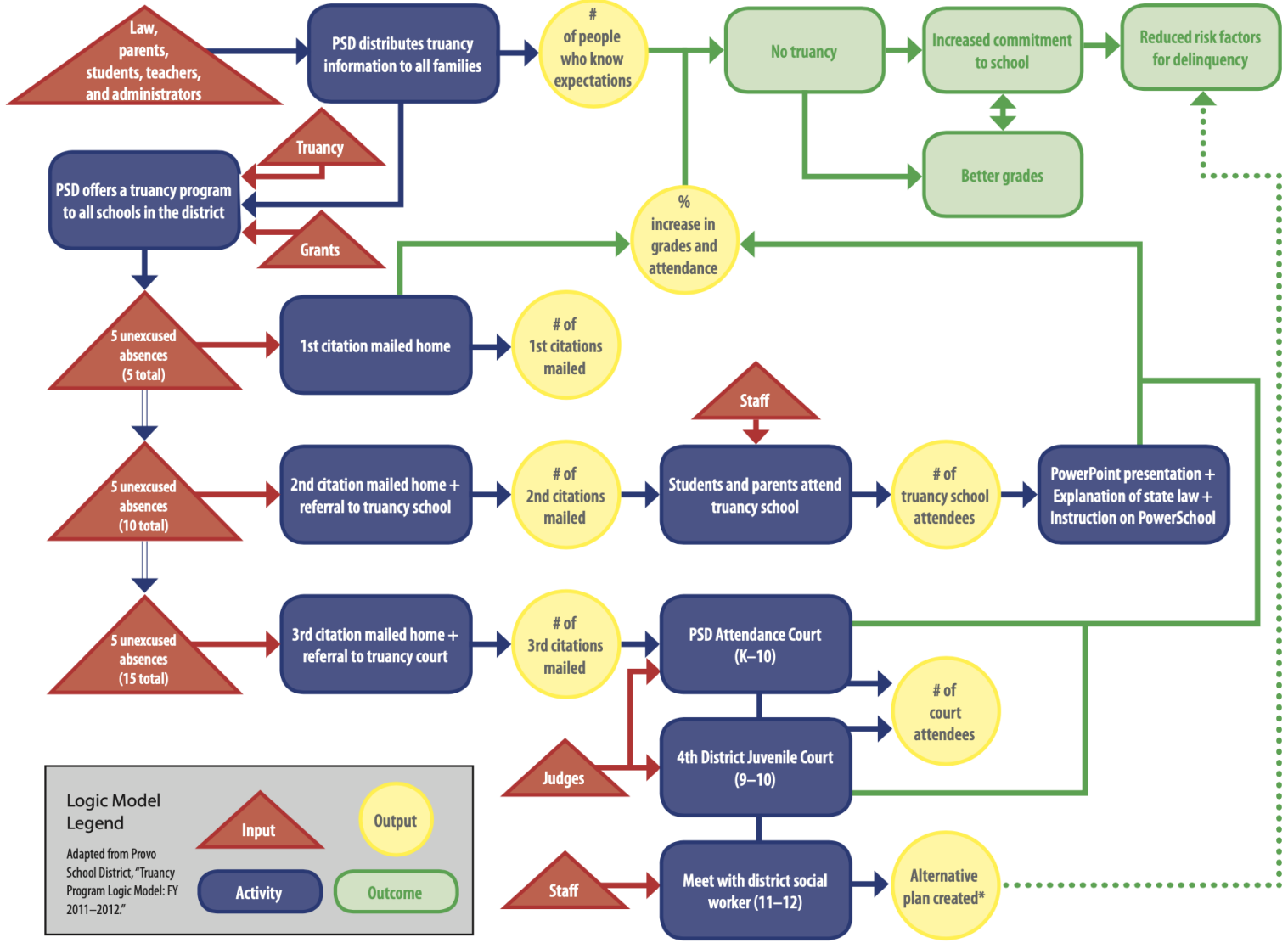
Inputs vs. Activities vs. Outputs vs. Outcomes

Impact theory vs. logic model

Impact theory

Ensure that the theory linking activities to the outcomes is sound!





* Because 11th and 12th graders who receive 3rd citations are generally unable to graduate from high school, district social workers no longer attempt to increase their commitment to school. As such, any outcomes that occur as a result of the alternative plans made for these students (work study programs, career development assistance, etc.) are only tangentially related to the outcomes of the truancy program itself. The system for creating alternative plans is an entirely separate program with its own logic model, goals, and outcomes.

MPA/MPP at GSU

Master of Public Policy

Preparing students for roles as effective citizens and workers in the public sphere.

About | Curriculum | Admissions | MPA vs. MPP | Current Students

The Master of Public Policy (MPP) is an interdisciplinary degree program designed to prepare students for work in the analysis, development, and evaluation of public policies. In all levels of government and on a global scale, public needs and limited resources require public policy choices that are at once economically efficient, socially and technically effective, and politically responsive. Such choices confront policymakers in a broad range of critical issues, including health, education, economic development, public finance, social policy, nonprofit policy, and disaster policy.

Decision-makers often lack the knowledge and skills needed to interpret the full social, political, economic, and technical dimensions of the policy issues they face. In response, state and local governments, businesses, and federal agencies have turned to trained policy analysts for assistance in assessing policy options and in evaluating public programs. The same is true for nonprofit agencies, such as hospitals, schools, emergency preparedness and relief agencies, and regional planning organizations.

Master of Public Administration

A flexible program for working professionals and full-time scholars.

About | Curriculum | Careers | Admissions | MPA vs. MPP

The mission of the Master of Public Administration (MPA) program is to prepare students to become leaders in public service careers as executives, managers, analysts, and policy specialists in government and nonprofit organizations.

Isn't it best to always have an articulated theory?

Should implicit theory and articulated theory be the same thing in most cases?

How much does this evaluation stuff cost?

Can you do scaled-down versions of these evaluations?

What if a program exists already and doesn't have a logic model?

What if a program exists already and doesn't have baseline data (or any data!)?

What about stakeholders, politicians, and other decision makers?

What should you do if you find that your theory of change (or logic model in general) is wrong in the middle of the program? Is it ethical to stop or readjust?

Outcomes and programs

Outcome variable

Thing you're measuring

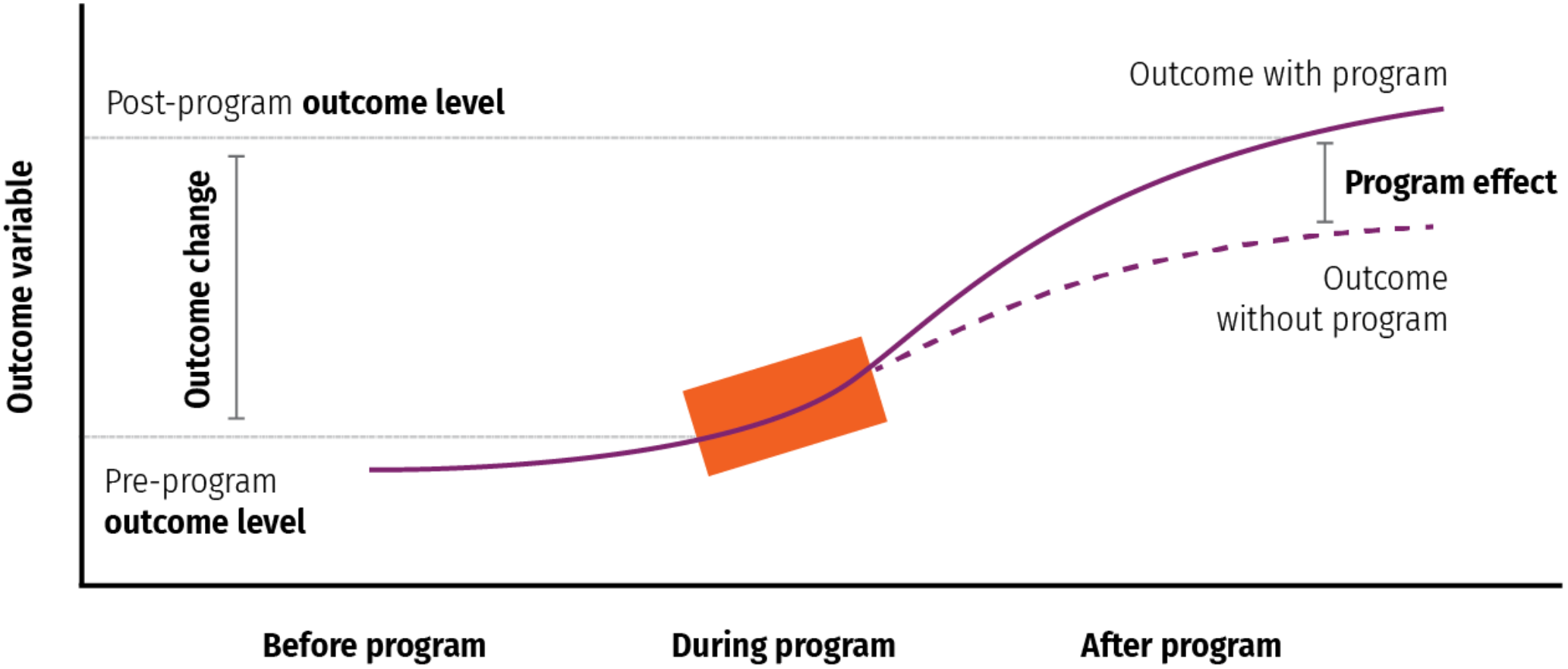
Outcome change

Δ in thing you're measuring over time

Program effect

Δ in thing you're measuring over time *because of* the program

Outcomes and programs



DAGs

You keep saying that causal inference lets you "legally" make causal claims.

Are there actual legal consequences if you make a causal claim without specific language?

Causal thinking is necessary—even for descriptive work!

"Every time I get a haircut, I become more mature!"

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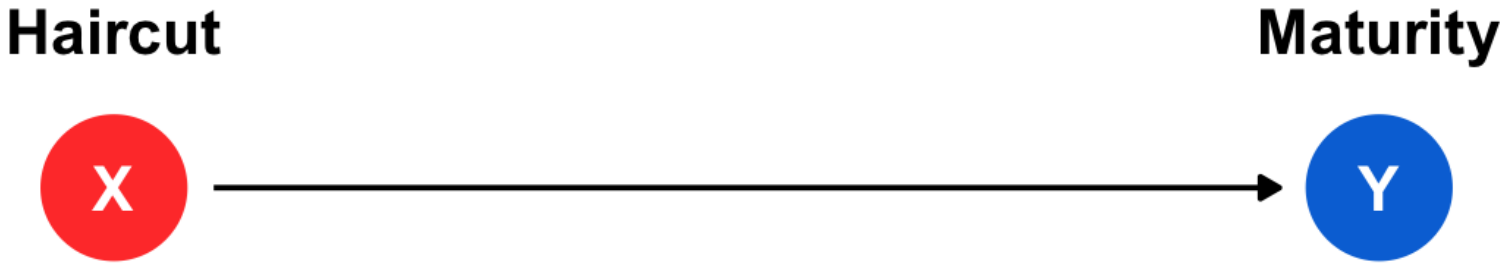
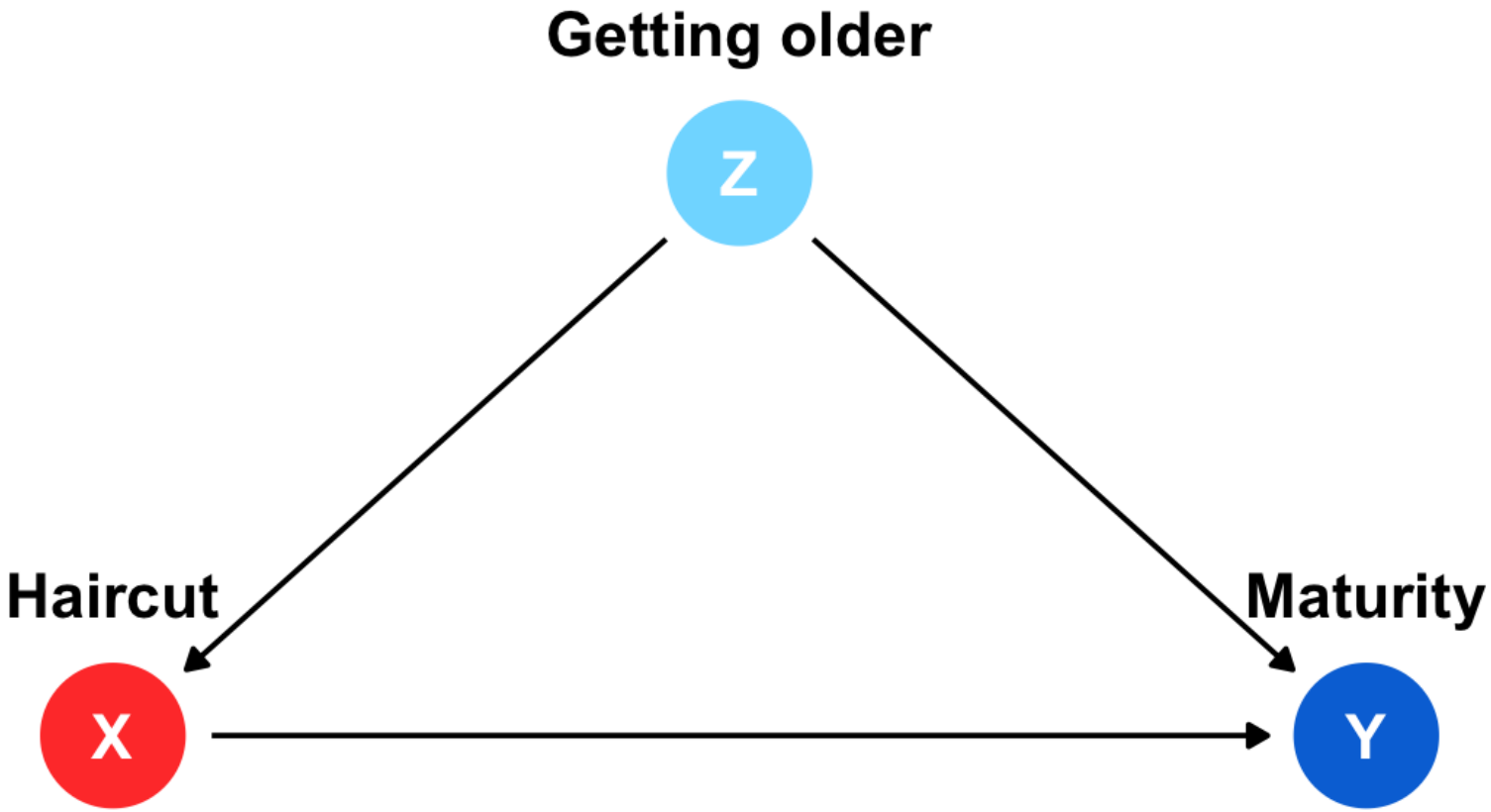


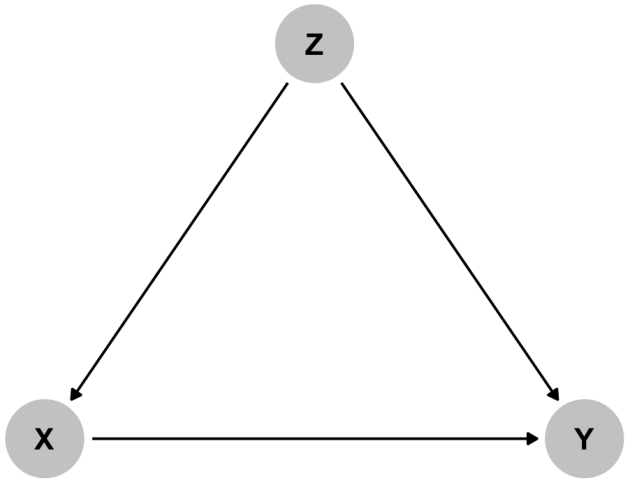
$$E[\text{Maturity} \mid \text{do}(\text{Get haircut})]$$

Getting older opens a backdoor path



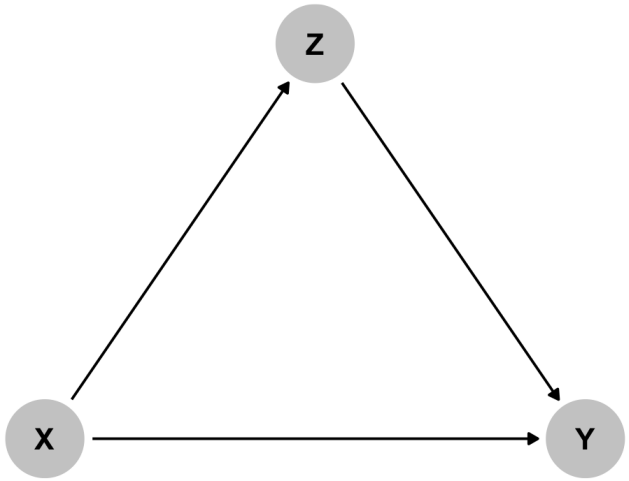
How do I know which of these is which?

Confounding



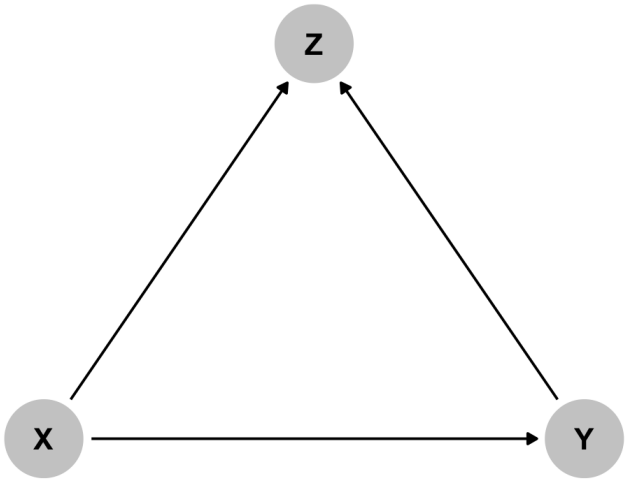
Common cause

Causation



Mediation

Collision

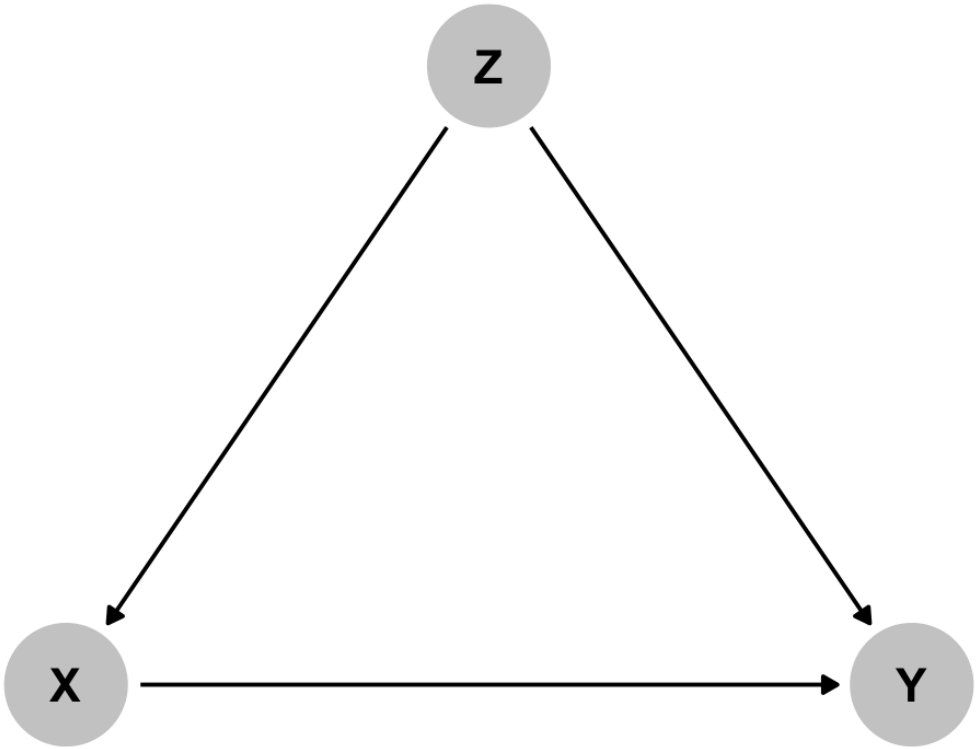


Selection / endogeneity

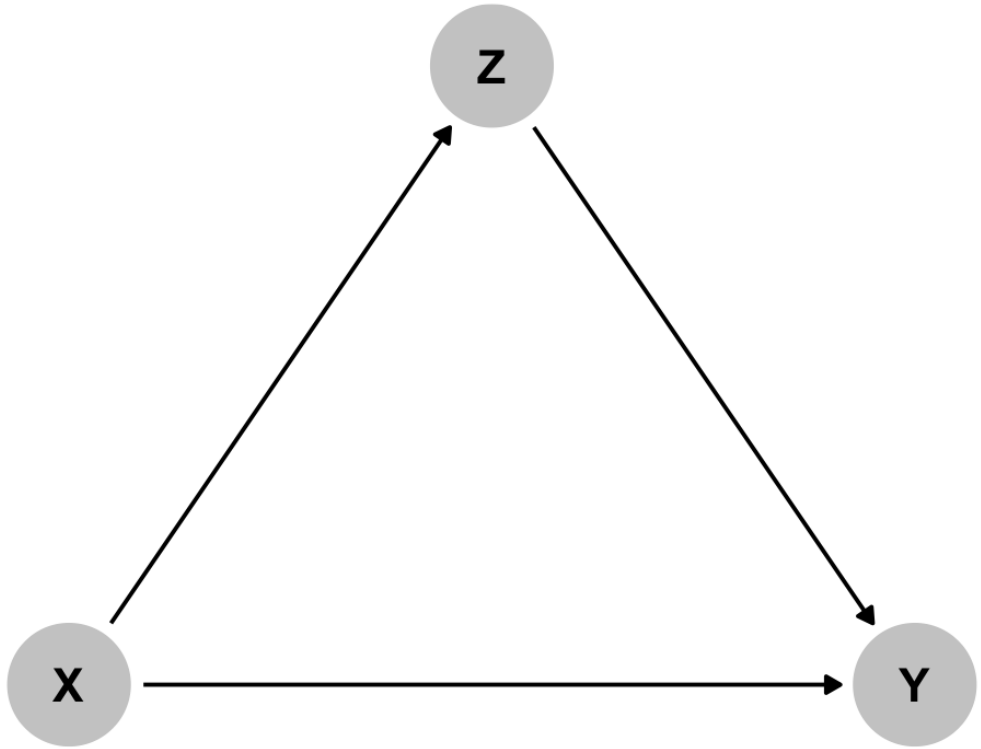
But what does that mean, "opening a backdoor path"?

How does statistical association get passed through paths?

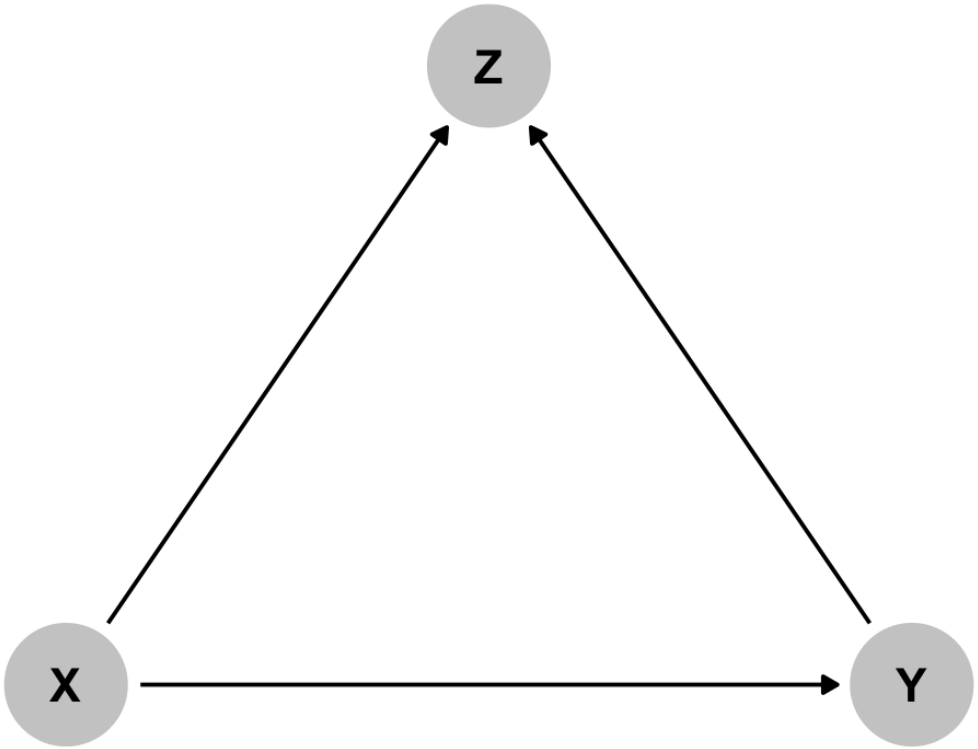

LUTRON


Z
X
Y


LUTRON


Z
X
Y


LUTRON


Z
X
Y

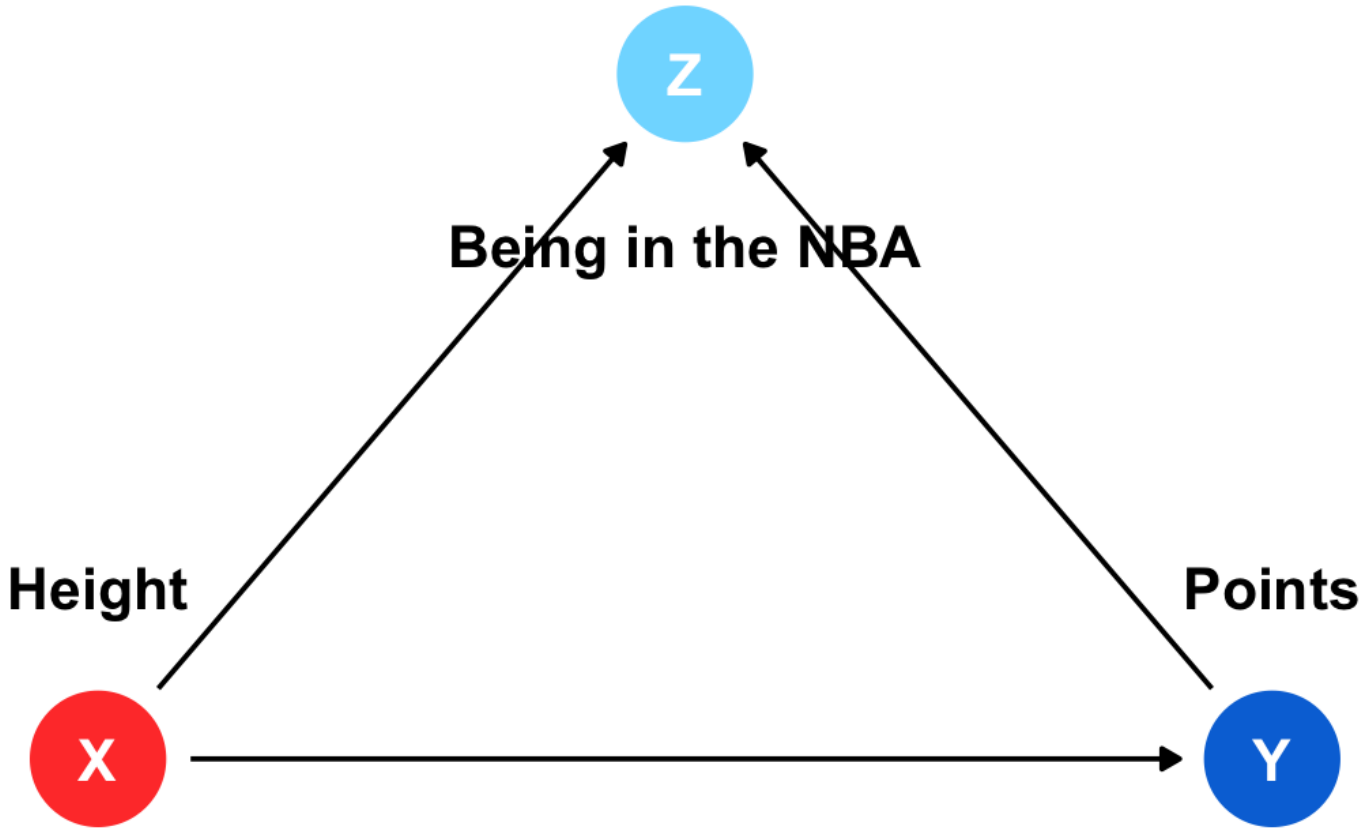
How do we actually adjust for these things?

How can you be sure you include everything in a DAG?

Is there a rule of thumb for the number of nodes?

How exactly do colliders mess up your results?

It looks like you can still get the effect of X on Y


Z
Being in the NBA
Height
Points
X
Y

Sept. 10, 2021, 3:58 p.m. ET
By Davey Alba

Facebook sent flawed data to misinformation researchers.

Mark Zuckerberg, chief executive of Facebook, testifying in Washington in 2018. Tom Brenner/The New York Times

Why do DAGs have to be acyclic?

What if there really is reverse causation?

What's the difference between logic models and DAGs?

Can't I just remake my logic model in Dagitty and be done?

DAGs vs. Logic models

DAGs are a *statistical* tool

Describe a data-generating process and isolate/identify relationships

Logic models are a *managerial* tool

Oversee the inner workings of a program and its theory

Berkeley Will Fully Close Its Streets to Create Giant Outdoor Dining Rooms

3

Berkeley is moving fast to expand outdoor dining

by Eve Batey | May 14, 2020, 1:02pm PDT

SHARE

How cities can add accessible green space in a post-coronavirus world

June 11, 2020 3.40pm EDT

Cities can prepare for climate change emergencies by adding green spaces to help manage stormwater, heat stress and air quality. (Shutterstock)

The COVID-19 pandemic has forced governments to weigh the benefits of keeping green spaces open against the public health concerns that come from their use. During the pandemic, playgrounds have been taped off, parks locked and access to outdoor spaces for recreation cut off.

Green spaces have positive effects on mental health, physical fitness, social cohesion and spiritual wellness. Although researchers say the coronavirus spreads more easily indoors than outdoors, they also believe the concentrated use of green spaces will increase the transmission of COVID-19.

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