Andy's Modeling Updates

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- Discuss R Project workflow and data pre-processing script
- Andy's updates on modeling
- "Evaluating situational decomposition" qualms
- Discuss structure of report

R Projects

- "Sandbox" workspace for a specific project
- Main advantage is there is no need to change working directories or paths
- There is only 1 R project: `code`
- To open the project, double click `code.Rproj` (should open a new RStudio window)
- You must have open the `.Rproj` file before opening and running any `.R` or `.Rmd` file

Data pre-processing

- There is an R script in the `code/` directory

Section 1

Replicating Felson Study 1: Effect of intoxication on sexual intercourse

Judgment calls

Note: all of the code can be found in the accompanying `.Rmd` file for these slides

- Removing NAs in outcome (intercourse)
- People who refused to respond were categorized in the reference category (no for sex, never for alcohol)

Total Association with logistic regression

Table 1: Total association logistic regression odds ratios (Andy).

Gender	Occasionally	Frequently	OR_diff
all_gender	1.5	2.2	0.7
male	1.4	2.1	0.7
female	1.6	2.2	0.6

Table 2: Total association logistic regression odds ratios (Felson et al.).

Gender	Occasionally	Frequently	OR_diff
all_gender	4.0	8.5	4.5
male	3.6	8.7	5.1
female	4.4	7.7	3.3

Takeaways

- Let's assume this subsample is representative of the larger sample used in the paper
- In this case, our analysis has "closed the gap" in terms of odds ratios
- Perhaps the tendency to have sex isn't *that* drastic for occasional vs frequent drinkers?
- How does this relate to spuriousness?

Spurious effect using multinomial logistic regression

```
## # weights:  12 (6 variable)
## initial  value 7145.374325
## iter  10 value 3754.230132
## final  value 3744.943678
## converged

## Call:
## nnet::multinom(formula = intox_most_recent_sex ~ intoxic
##     data = df_1st_logistic)
##
## Coefficients:
##             (Intercept) intoxicationfrequently intoxicat
## intoxicated   -5.042017                5.069278
## sober         -1.748406                2.697586
##
## Std. Errors:
##             (Intercept) intoxicationfrequently intoxicat
```

Issues with situational decomposition

- What happens when there is above 100% spuriousness?