EXPLORATORY ANALYSIS OF MESA COUNTY PUBLIC HEALTH

By Kurtis Bulock

OBSERVATIONS

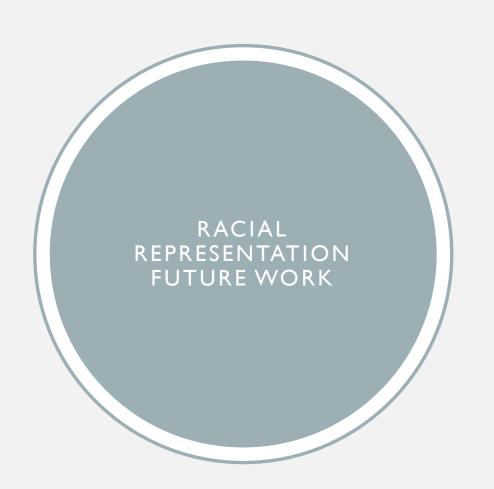
- Representation of Race Survey vs. County
- Loneliness vs. Social Conflict
 - All ages
 - Children
- Household Income vs. Household Danger
- Household Income vs. Social Conflict

- Future Work
 - Possible continued observations
 - How this information can be used for action

RACIAL REPRESENTATION (SINGLE RACE)

- Native American/Alaska
 Natives overrepresented
- Other races are nearly accurately represented

Race	Survey Representation	County Representation
Asian	0.742%	1.036%
Black/African American	1.372%	0.948%
Native American/Alaska Native	5.193%	1.534%
Native Hawaiian/Other Pacific Islander	0.297%	0.137%
White	92.40%	93.94%



- Minorities in the community.
- Compare diversity in Mesa County to other Colorado counties.
- How does the diversity of CMU compare to the rest of the County?

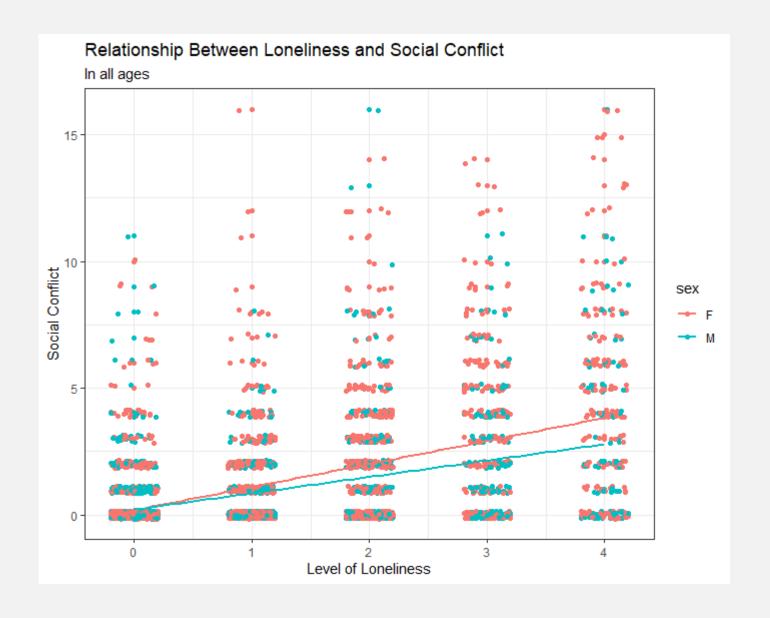
LONELINESS AND SOCIAL CONFLICT

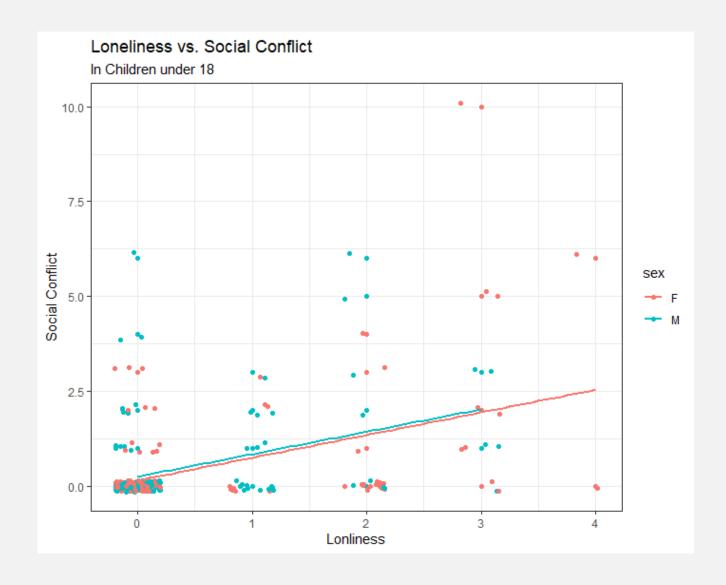
- Loneliness is reported by Supplemental Need Family & Community Support Answer
- Loneliness is measured on a scale of 0-4
 - [0] NEVER
 - [1] RARELY
 - [2] SOMETIMES
 - [3] FAIRLY OFTEN
 - [4] ALWAYS

- Social Discourse is measured out of a total of 16 by adding all of the Core Need Safety answers 1-4
- CN_SF_I-4 are measured by the following
 - [0] NEVER
 - [I] RARELY
 - [2] SOMETIMES
 - [3] FAIRLY OFTEN
 - [4] FREQUENTLY

LONELINESS AND SOCIAL CONFLICT

- Higher social conflict correlates with a higher feeling of loneliness
- Reporting higher loneliness in women





SOCIAL CONFLICT IN CHILDREN

- Similar trend in children
- Data pool much smaller



- Loneliness impact on mental health.
- Better recognize social conflict's affect on mental health.
- Can Machine learning be applied to accurately predict loneliness in individuals?

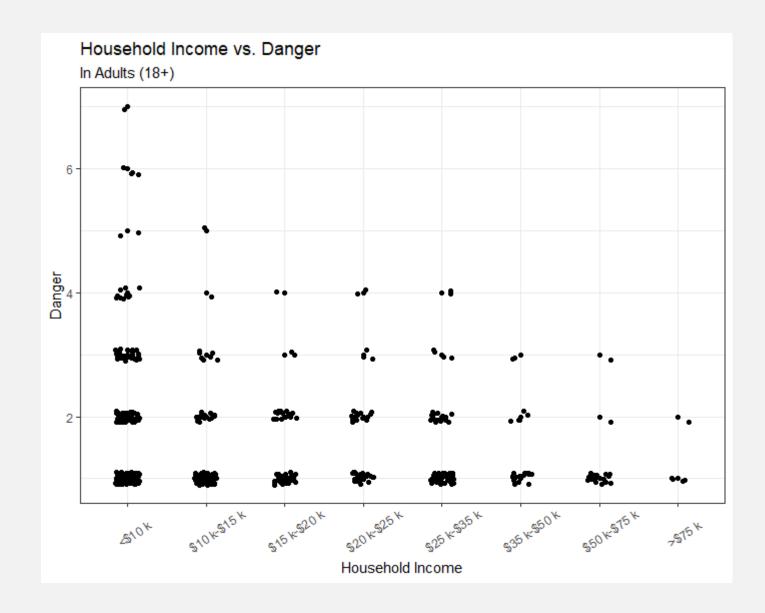
HOUSEHOLD INCOME AND HOUSEHOLD DANGERS

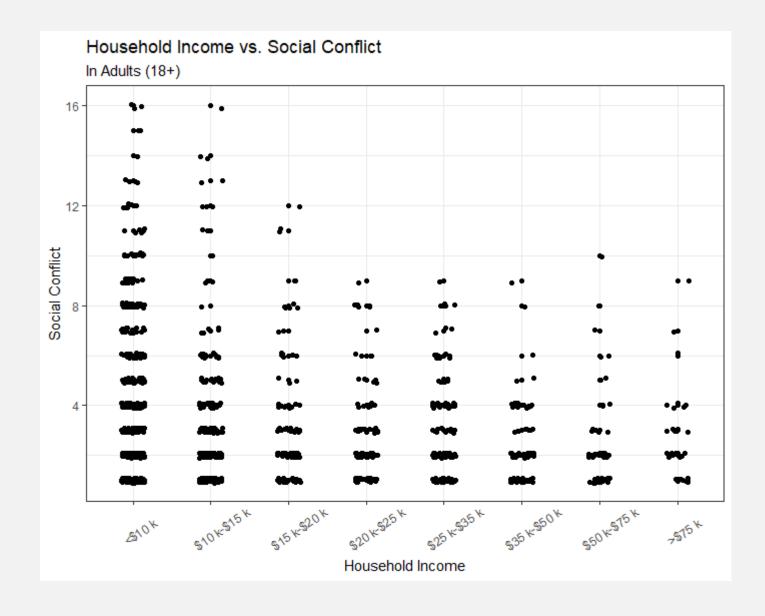
- Income reported by "Tell me about yourself Answer 6" TM_6
 - LESS_THN_IOK;
 - MORE_THN_IO_LESS_THEN_I5K
 - MORE_THN_I5_LESS_THEN_20K
 - MORE_THN_20_LESS_THEN_25K
 - MORE_THN_25_LESS_THEN_35K
 - MORE_THN_35_LESS_THEN_50K
 - MORE_THN_50_LESS_THEN_75K
 - MORE_THN_75K

- Household Danger measured by Core Need Living Situation answer 2
- Do you have problems with…? [1] Yes, [2] No, [7] Total
 - Bug Infestation
 - Mold
 - Lead Paint
 - Inadequate Heat
 - Oven not Working
 - Smoke Detector not Working
 - Water Leaks

HOUSEHOLD INCOME AND HOUSEHOLD DANGERS

- Less Income = More Danger
- Only Maximum danger came from Lowest Income





HOUSEHOLD INCOME AND SOCIAL CONFLICT

- Not as strong of a correlation
- Plateaus after \$20k



- Income can be a large factor in overall individual health. (Food/Transportation/Housing)
- Income relative to County Blocks
- Identify low income populations to better target social services

TOOLS / RESOURCES

- Tools
 - R/Rstudio
 - Ggplot2
 - Dplyr
 - Knitr
 - Excel

- Resources
 - Instructions.docx
 - Interview_data.csv
 - Interview_data_dict.csv
 - Accountable Health Communities Model Screening Tool.docx
 - www.Census.gov (Mesa County Population estimates)

RMARKDOWN / GITHUB

- Similar presentation written Rmarkdown for reproducibility
 - Rmarkdown link
- Download or view all code at [github link]

THANK YOU

• QUESTIONS?

