

## Objective

Evaluate barriers to PA among within the scope of sibling dyads over two time periods (summer and school year).

## Background

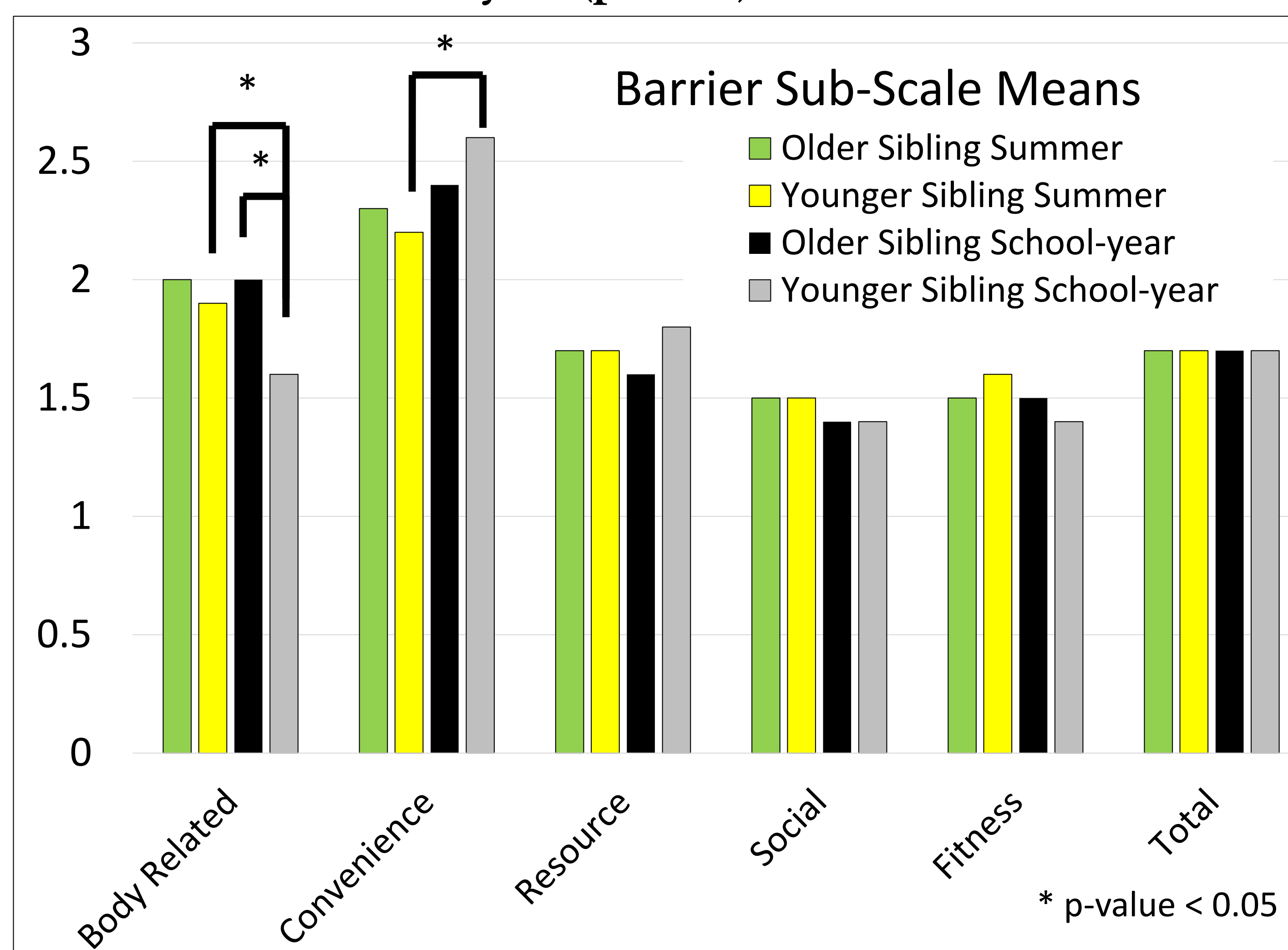
- Personal, social, and environmental factors can be barriers to physical activity (PA) and are negatively correlated with meeting PA recommendations.
- Sibling interactions affect social, cognitive, and psychosocial development.
- Sibling relationship quality is a significant predictor of social, cognitive, and psychosocial aspects.

## Methods

- Mexican-heritage families residing in *colonias* on the Texas-Mexico border
- Sibling dyads (n=87) with mean age 11.2 (51.7% girls) and 8.3 years (49.4% girls)
- 21-question PA barrier survey was administered by *promotora*-researchers during the summer and school-year.
- Frequencies of response for each barrier were calculated for older and younger siblings, and time periods.
- Concordance among sibling PA barriers was assessed using percent agreement and Cohen's kappa statistic ( $\kappa$ ).
- Barriers were grouped into five subscales. Non-parametric signed-rank tests were used to compare mean subscale scores.

## Results

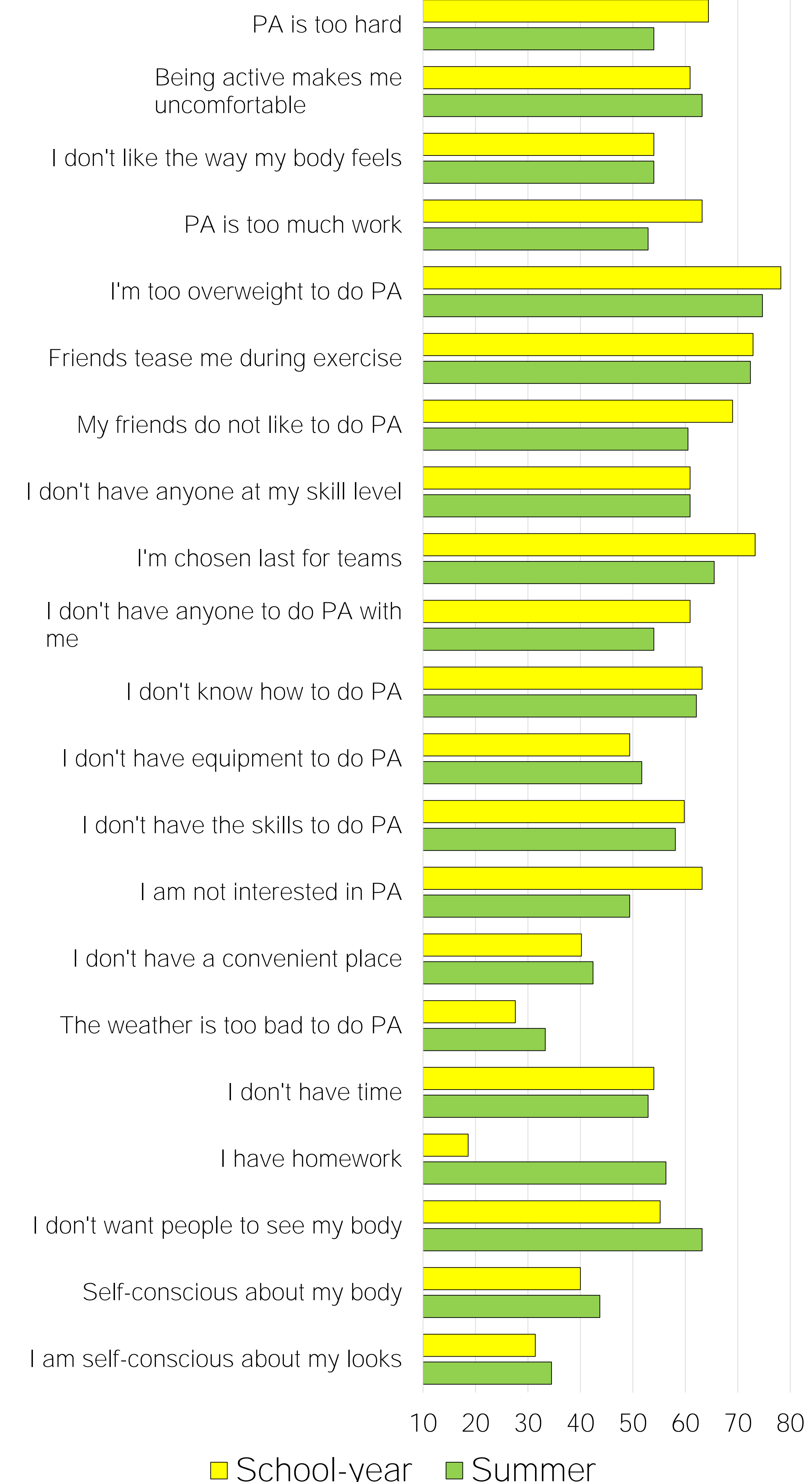
- Weather, homework, and being self-conscious were reported most frequently.
- Siblings had the highest percent agreement in summer (74.7%) and school year (78.2%) when asked if being too overweight kept them from being active.
- Siblings had the lowest percent agreement in the school-year (18.6%) when asked whether having homework kept them from being active.
- Barriers with lowest percent agreement between siblings tended to be reported more frequently.
- Convenience sub-scale scores were highest for both older and younger siblings during both time periods, indicating homework, time, and weather barriers were reported more frequently.
- Younger siblings had significantly higher convenience barrier sub-scale scores in school-year than in summer ( $p < 0.01$ ).
- Body-related barriers to PA (e.g., self-consciousness) were higher for older siblings than for younger siblings during the school-year ( $p < 0.01$ ).
- Younger siblings reported higher body-related barriers in summer than school-year ( $p = 0.02$ ).



## Conclusions

Siblings may play an important role in understanding perceived PA barriers. This study helps understand the influence of siblings that might be seen between siblings and time points within Mexican-heritage children.

## Sibling Percent Agreement by Barrier



## Acknowledgement

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Tyler Prochnow

Baylor University

262-945-0275

Tyler\_prochnow1@baylor.edu