How Ambient Air Pollution Exposure Relates to Sociodemographic Variables in Pregnant Coloradan Women
Alyssa Jeng, University of Denver Department of Psychology

Background
- Exposure to environmental pollutants has been linked to negative health outcomes
- Underprivileged populations tend to experience higher rates of air pollution, particularly in North America
- The fetal programming hypothesis proposes that maternal experiences during pregnancy, including air pollution exposure, could impact her offspring later in life
- Hypothesized that women of lower socioeconomic status will experience higher rates of air pollution

Objective
- Analyze how exposure to air pollutants relates to the sociodemographic variables of pregnant Coloradan women

Methods
- Data regarding maternal age, income, income-to-need ratio, race, ethnicity, and education level were collected through the CARE project (n = 135).

Results
- No significant correlations or trends were found between average pollutant exposure and income, INR, and maternal age.
- No significant differences were found in average pollutant exposure between those of different education levels

<table>
<thead>
<tr>
<th>Factor</th>
<th>Dependent Variable</th>
<th>One-way ANOVA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education Level</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Education Level</td>
<td></td>
<td></td>
</tr>
<tr>
<td>O3</td>
<td>F(4,130) = 1.774, p = 0.138</td>
<td></td>
</tr>
<tr>
<td>PM2.5</td>
<td>F(4,130) = 0.916, p = 0.457</td>
<td></td>
</tr>
<tr>
<td>PM10</td>
<td>F(4,130) = 0.748, p = 0.561</td>
<td></td>
</tr>
</tbody>
</table>

Discussion
- Many possible explanations for why there were no significant relationships
  - Colorado's unique topography could account for why the usual trends in pollution exposure are not seen in this sample
  - Much of the sample lived in the same area and thus, would experience similar levels of exposure.
- Future research should incorporate participants from across Colorado and investigate how air pollution exposure could lead to intergenerational health consequences (e.g., birth outcomes)
- Identifying any discrepancies in air pollution exposure and how those could impact intergenerational health will further support the push for improved environmental regulations