**Perceived Risk of Commuter Air Pollution Exposure**

H. Montgomery, J. King, C. Sloan, J. Johnston, R. Chaney

**Background:**

Particulate matter exposure is harmful to human health because it contributes to cardiovascular and respiratory disease. The purpose of this study was to compare perceived air pollution exposure with measured air pollution exposure for various modes of transportation among commuters in Salt Lake City, Utah. A secondary purpose was to determine perceptions of air pollution contribution via commuting.

**Methods:**

Participants were recruited via verbal interception in downtown Salt Lake City and were asked to complete a 16-question survey about their perception of air pollution exposure during different modes of transportation. The actual exposure levels to air pollutants were simultaneously observed in a separate study.

**Results:**

The demographics of participants (N=433) closely mirrored those of Salt Lake City. Six types of transportation were considered: walking, bicycling, bus, light-rail train, automobile with windows down, and automobile with windows up. Overall, the respondent’s estimates were not consistent with measured pollution levels. For example, participants estimated that walking would result in the lowest air pollution exposure, when the actual measured ranking was second highest; train commuting was perceived to result in the highest levels, but the measured ranking was second lowest. There were important differences in perceived harm and contribution to overall air pollution by gender and other demographics.

**Discussion:**

Individual perceptions of air pollution exposures do not align with actual air pollution exposure measures. This is important for those seeking to promote active commuting and reduce overall ambient air pollution.