Teenage Driving

Teenage drivers are known to be more likely than adults to be involved in fatal car crashes. Researchers were interested in whether the presence of peers influences driving behaviors.

The researchers recruited 306 participants. Participants were divided into three age groups: adolescents (13-16 years), youth (18-22 years), and adults (24 years and up). Participants played a simulated driving game called 'Chicken.' In this game, participants controlled a car on a video screen. The car moved at a constant pace, but participants could push a button to stop the car. Participants needed to decide when to stop the car when they saw a traffic light turn from green to yellow. When the yellow light appeared, after a variable period of time, the light turned red and a brick wall appeared in front of the car. Because the interval was variable, participants could not predict when the brick would appear.

Participants' goal was to drive as far as possible, and they accumulated points the further they travelled. However, if they were moving when the light turned red, they would crash into the wall and receive no points. If participants stopped the car, they could restart it as well by pushing a button.

Participants were randomly assigned to play the game in one of two conditions. Participants in one group played the game alone. Participants in the second group played the game with two peers present and watching. For all participants, a measure of 'risky driving' was taken by combining the amount of time participants had the car in motion and the number of car restarts. The data are shown below (higher values indicate more risky driving).

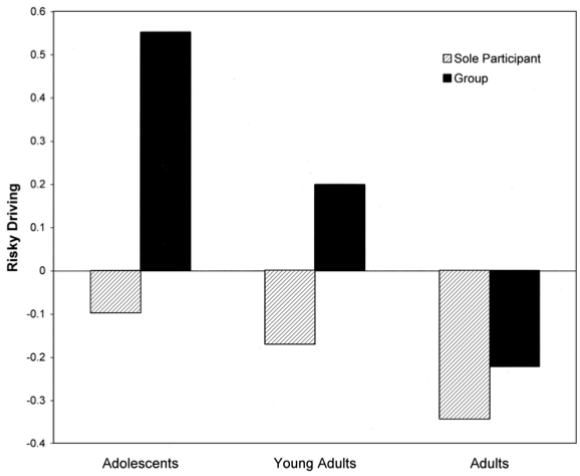

Figure 2. Age × Condition interaction on Chicken game, where higher scores indicate more risk taking.

Questions:

1. What is the dependent (or criterion) variable(s) in this study? What is the independent (or predictor) variable(s)?
2. Which variables were experimentally manipulated?
3. Looking at the data above, how would you describe the main pattern of results? Assume any difference larger than 0.2 units is statistically significant.
4. Does this study explain why teens have more accidents than adults? Why or why not?
5. What are some limitations of this study?
6. What conclusions might you draw from this study?

Source: Adapted from Gardner, M., & Steinberg, L. (2005). Peer influence on risk taking, risk preference, and risky decision making in adolescence and adulthood: An experimental study. *Developmental Psychology, 41,* 625-635.