Reviewer’s report

Title: Steering Teens Safe: A Randomized Trial of a Parent-Based Intervention to Improve Safe Teen Driving

Version: 1 Date: 21 January 2014

Reviewer: Robert D Laird

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Major Compulsory Revisions

The authors propose a logic model through which improvements in parent-child communication impact subsequent driving behavior. I do not think the analyses are well-aligned with the conceptual model.

The conceptual model suggests mediation (i.e., communication is responsible for the impact on driving behavior), yet the analyses do not test mediation. A better test of mediation is to test how much the group difference in driving behavior is reduced after controlling for communication. The problem here is that the results fail to show any impact on communication, so it is not logical that improvements in communication are responsible for improvements in driving behavior.

Instead of testing mediation, the authors’ test a partial moderation effect. Essentially, the authors test whether the apparent effect of the intervention is greater among those whose parents’ communicated best. There are several problems here. First, as noted previously, the results fail to show any impact on communication. Second, the authors fail to acknowledge the variability in communication in the control group. Third, if there is a main effect of communication on driving behavior (which there would appear to be based on the presumed aim to change driving by changing communication), teens in high communication families should be driving more safely than teens in low communication families, regardless of intervention group. Therefore, the authors are stacking the deck when they compare the high communication intervention families with all (both high and low communication) control group families. A better approach would be to test the interaction between intervention group and communication group as a predictor of driving behavior (controlling for the main effects of intervention group and communication group). Doing so would address whether the intervention effect is moderated by communication.

Minor Essential Revisions

Risky driving behavior was not “reduced” (which implies a change over time) although it was lower in the intervention group.

Rather than reporting a range of confidence intervals, it would be more efficient to note the observed effect size.
**Level of interest:** An article of limited interest

**Quality of written English:** Acceptable

**Statistical review:** Yes, and I have assessed the statistics in my report.

**Declaration of competing interests:**
I declare that I have no competing interests.