Social Influences on Rural Youth Seat Belt Use

Jennifer R. Wenner, B.A., 1 Brandy A. Randall, Ph.D., 1 Sharon Query, Ph.D., 1 & Molly Secor-Turner, Ph.D. 1
Developmental Science Ph.D. Program, 1
Department of Human Development and Family Science
2 NDSU Extension Center for 4-H Youth Development 1 Nursing
North Dakota State University

INTRODUCTION
Motor vehicle crashes are a leading cause of death for school age children in the US (CDC, 2011). Unrestrained children are more often severely injured (e.g. Oberg & OC Scala, 1992). Wearing a seat belt reduces disability and mortality. Rural areas may need additional prevention focus. In 2012, 13% of fatal crashes occurred in rural areas whereas 46% occurred in urban areas. Of those killed in rural crashes, 14% were unrestrained, while 48% of those killed in urban crashes were unrestrained (NHSTA, 2014). Parent rules may increase the likelihood that children will wear a seat belt. Teen passengers of authoritarian and authoritative parents (parenting styles more likely to have rules) were more likely to wear a seat belt (Ginsburg et al., 2005). Precedents who perceive parents to monitor them were significantly less likely to engage in risk behavior (i.e., more likely to wear a seat belt and a helmet; Riesch et al., 2013). Parent behavior that models seat belt use may also increase the likelihood that children will wear a seat belt.

Rural youth are more likely to be restrained if they were riding with a restrained driver (Olen, Cook, Kavanagh, & Olone, 2010). Social modeling theory (Bandura, 1971) suggests that other individuals with social importance to children may also influence their behavior, such as peers or older siblings. Children who ride a bike with other children wearing a helmet were more likely to wear a helmet. The reverse was true if peers were not wearing a helmet (Kembhavi, MacArthur, & Parkin, 2003). Older siblings’ smoking and drinking significantly increase odds of younger siblings engaging in that behavior (Fagan & Najman, 2005).

No previous research has examined the joint contribution of parents, older siblings, and best friends in predicting rural youth seat belt use.

RESEARCH QUESTIONS
• Do parents, older sibling, and best friend seat belt behavior predict rural youth seat belt use?
• Do parent seat belt use rules predict rural youth seat belt use?
• Does older sibling’s or best friend’s seat belt use predict rural youth seat belt use among parents’ use?
• How do the predictors of rural youth seat belt use work in combination?

PARTICIPANTS
The sample included 125 youth (75 female) aged 9 to 15 (M = 11 years) in three rural counties in the upper Great Plains.

PROCEDURE
• Data collection took place in the 2013-14 school year at four schools in rural North Dakota as part of an evaluation of an intervention program, NDSU 4-H Extension administered surveys in classrooms. A pretreatment, and follow up were conducted roughly one month apart.
• The analyses reported here used participant data collected at the pretreatment from the intervention and control group. All variables were self-reported by participants.

MEASURES
Youth seat belt use frequency: 1 item, range 0 (never) to 4 (always)
Perception of mother, father, older sibling, and best friend seat belt use frequency: each was measured by 1 item, range 0 (never) to 5 (Always)

RESULTS (See Tables 2 and 3)
Girls wear seat belts more often than boys.
Children wear their seat belt more frequently if their mother wears hers.
Parents use rules that predict their child’s seat belt use.
Perceiving that their older sibling wears their seat belt is associated with more frequent parent belt use or belt use when parent rules and roles are taken into account.
When mother, older sibling, and best friend seat belt use behavior are included in a model (the significant predictors from model 1 and 2), only older sibling seat belt use in a significant predictor.

Table 1. Descriptors for Major Study Variables as Reported by Participants

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>SD</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participant Seat Belt Use</td>
<td>3.05</td>
<td>0.88</td>
<td>‘yes’</td>
</tr>
<tr>
<td>Father Seat Belt Use</td>
<td>1.84</td>
<td>0.87</td>
<td>‘no’</td>
</tr>
<tr>
<td>Mother Seat Belt Use</td>
<td>2.28</td>
<td>0.74</td>
<td>‘no’</td>
</tr>
<tr>
<td>Older Sibling Seat Belt Use</td>
<td>2.06</td>
<td>0.97</td>
<td>‘no’</td>
</tr>
<tr>
<td>Best Friend Seat Belt Use</td>
<td>1.87</td>
<td>0.98</td>
<td>‘no’</td>
</tr>
<tr>
<td>Mothers with Rules</td>
<td>97</td>
<td>77.6%</td>
<td>‘yes’</td>
</tr>
<tr>
<td>Fathers with Rules</td>
<td>75</td>
<td>60%</td>
<td>‘yes’</td>
</tr>
</tbody>
</table>

Table 2. Hierarchical Regressions Predicting Frequency of Student Seat Belt Use from Parent Rules and Behavior, Older Sibling Behavior, and Best Friend Behavior.

<table>
<thead>
<tr>
<th>Age</th>
<th>Gender</th>
<th>Mothers with Rules</th>
<th>Fathers with Rules</th>
<th>Mother Seat Belt Use</th>
<th>Older Sibling Seat Belt Use</th>
<th>Best Friend Seat Belt Use</th>
<th>F change</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.15</td>
<td>-0.06</td>
<td>0.05</td>
<td>-0.11</td>
<td>0.05</td>
<td>0.02</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-0.19</td>
<td>-0.23*</td>
<td>-0.25**</td>
<td>-0.34***</td>
<td>-0.18***</td>
<td>-0.27**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-0.12</td>
<td>-0.06</td>
<td>0.09</td>
<td>-0.12</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.14</td>
<td>0.10</td>
<td>0.21</td>
<td>0.21</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.42***</td>
<td>0.31**</td>
<td>0.32</td>
<td>0.24**</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.10</td>
<td>0.08</td>
<td>-0.02</td>
<td>-0.13</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.65***</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

F change $R^2$ at each step $p < .05,* p < .01,** p < .001

Notes: Standardized regression weights. Gender coded as Girls = 0 and Boys = 1.

DISCUSSION
Mother seat belt behavior appears to predict rural youth seat belt use, while father’s behavior and parents having rules was not predictive. Perhaps this is because rural youth ride more frequently with their mothers in the car, making mothers the most prominent parental model rural children are exposed to.

• Older sibling and best friend seat belt behaviors are also predictive of rural youth seat belt use. When examined in separate models with parent variables, both older sibling and best friend seat belt behaviors were predictive. In fact, the behavior of these key people appears to have a substantial impact on youth seat belt use, as the models predicted 47% and 62% of the variance, respectively.

• Intervention efforts focused on the multiple contexts in which youth reside may be a powerful way to affect seat belt use. As this study shows, both the family and the peer group play a role in youth seat belt decisions.

• Intervention efforts should emphasize social responsibility for modeling safe behaviors.

• When mother, older sibling, and best friend seat belt use behavior are all included in the model, only older sibling seat belt use behavior was a significant predictor. It is important to note that this only included the subset of children who had all three role models. Siblings are clearly an important influence on rural youth seat belt behavior. However, it is important to remember that children have different combinations of parents, siblings, and best friends in their lives. Therefore, it is important that multiple potential role models be included in intervention efforts in order to have the greatest impact.

• Not every seat belt user is an important role model for youth. If the role models we identify through this study reflect the general population of parents or peers, some children may still believe they can engage in risk behaviors without fear of negative social consequences. This finding highlights the importance of expanding the scope of identification of role models beyond the family and peer group.

• The results of this study suggest that interventions focused on promoting parental and peer modeling can be effective in increasing rural youth seat belt use, with the most important role model being the mother. However, interventions need to include role models from other important social contexts in order to have the greatest impact.

Selected References

ACKNOWLEDGEMENTS
The project was funded in part by the North Dakota Department of Transportation (Project # FAIR00204S). A special thanks to Minnesota Snedgrove and NDSU Extension.