

## 505-S

**CHILDREN'S AGRICULTURAL INJURY: ASSOCIATIONS BETWEEN BEHAVIORAL TRAITS AND HIGH-RISK WORK EXPOSURES.** \*K F Carlson, S G Gerberich, B H Alexander, A S Masten, T R Church, J M Shutske, A D Ryan, C M Renier (University of Minnesota, Minneapolis, MN 55455)

**Objective:** This study examined associations between children's behaviors and their exposures to high-risk agricultural work environments. **Methods:** The Regional Rural Injury Study-II included a population-based nested case-control study involving 7,420 agricultural households. Computer-assisted telephone interviews were used to collect data for six-month recall periods. A total of 1,941 children at-risk for agricultural injury were identified for analysis. Odds of high-risk work exposures were estimated in reference to behavioral items and scores for five scales, based on a priori constructs and exploratory factor analysis. Odds ratios (OR) and 95% confidence intervals (CI) were calculated through logistic regression, controlling for potential confounders by means of directed acyclic graphs. **Results:** Children with high scores for depressive symptoms were more likely to work with dairy cattle (OR = 2.5, CI = 1.3–4.7), while those with high aggression were more likely to ride on tractors (OR = 1.8, CI = 1.1–2.9) and operate large equipment (OR = 1.7, CI = 0.9–3.2). Children with low self-regulation (OR = 0.6, CI = 0.4–1.0) or responsible conduct (OR = 0.7, CI = 0.4–1.1) were less likely to operate tractors, and those with low responsible conduct were less likely to work with beef cattle (OR = 0.7, CI = 0.4–1.0) or horses (OR = 0.5, CI = 0.3–0.8). **Conclusions:** Results indicate that children's high-risk work exposures are driven, at least in part, by their behavioral traits. Understanding these relationships will better inform efforts to prevent children's agricultural injury.

## 506-S

**INTRA-FAMILIAL RISK OF AGRICULTURAL INJURY IN THE REGIONAL RURAL INJURY STUDY-II: BEYOND BEHAVIORAL AND ENVIRONMENTAL RISK FACTORS.** \*K F Carlson, S G Gerberich, B H Alexander, A S Masten, T R Church, J M Shutske, A D Ryan, C M Renier (University of Minnesota, Minneapolis, MN 55455)

**Objective:** This study examined potential causal explanations for observed associations between parents' and children's agricultural injuries. **Methods:** The Regional Rural Injury Study-II included a population-based, nested case-control study involving 7,420 agricultural households. Comprehensive demographic, exposure, and injury data were collected for household members for one year. A total of 379 injured children (cases) and 1,562 randomly-selected controls were identified for analyses. Children's risk of injury was estimated in reference to parental injury experiences. Odds ratios (OR) and 95% confidence intervals (CI) were calculated using logistic regression, controlling for high-risk behaviors and agricultural work exposures. Directed acyclic graphs guided selection of additional covariates. **Results:** While accounting for behaviors and work exposures, children whose fathers were injured prior to the study period, compared with those whose fathers were not injured, had nearly twice the risk of injury (OR = 1.9, CI = 1.4–2.5). Children also had increased risks if mothers were injured before the study (OR = 2.1, CI = 1.6–2.9) or during the study (OR = 2.1, CI = 1.2–3.6). Those whose mothers were injured during both time periods had a five-fold increased risk (OR = 5.3, CI = 2.4–11.9). **Conclusions:** These results indicate that factors beyond the identified behavior and exposure variables drive observed parent-child injury associations. There is a need for family-focused interventions, and for further research into shared social, physical, and behavioral environments on family farms and ranches.

## 507-S

**PRESCRIPTION SLEEP AIDS AND RISK OF FALL INJURY.** \*R Griffin M P H, G McGwin Jr, P MacLennan, L W Rue III, (University of Alabama at Birmingham, Birmingham, AL 35294)

The 1996–2003 Medical Expenditure Panel Survey, a nationally representative probability sample of United States population, was used to evaluate the association between prescription sleep aids and fall injuries among adults aged 40 and older using a matched case-control study. To our knowledge, this is the largest study to examine non-benzodiazepine sleep aids and risk of fall injury using a nationally representative sample. Sleeping aids exposure was defined as a self-reported prescription for the non-benzodiazepines zolpidem and zopiclone and the benzodiazepine temazepam. Cases were subjects who self-reported an occurrence of a fall requiring medical treatment; controls were matched on age, race, sex, year of survey, and number of survey rounds completed. A total of 5,481 cases and 27,108 matched controls were selected. Conditional logistic regression adjusting for fall history was used to estimate odds ratios (ORs) and 95% confidence intervals (CIs). There was no association between fall injuries and sleep aids overall for males (OR 1.40, CI 0.74–2.65) and females (OR 0.69, CI 0.45–1.05) and for temazepam for both males (OR 1.84, CI 0.22–15.29) and females (OR 1.21, CI 0.40–3.66). Among males, however, those who reported falls were significantly more likely to report non-benzodiazepine use (OR 2.27, CI 1.29–3.99); this was not the case among females (OR 1.16, CI 0.79–1.68). While previous work has been clinical in design, this study examines risk of fall injuries in the general population, thus allowing the results from the current study to be more generalizable and perhaps provide a more informative assessment of the association between sleep aids and risk of fall injury.

## 508-S

**PREVALENCE AND RISK FACTORS OF GENDER-BASED VIOLENCE COMMITTED BY MALE COLLEGE STUDENTS IN AWASSA, ETHIOPIA.** \*M Philpart, M Goshu, B Gelaye, M A Williams, and Y Berhane (MIRT Program, University of Washington, Seattle, WA, USA and Department of Community Health, Addis Ababa University, Addis Ababa, Ethiopia)

**Objective:** To determine the prevalence and risk factors for the perpetration of gender-based violence. **Methods:** Male undergraduate students (N = 1,378) from colleges in Awassa, Ethiopia participated in the study. Data concerning socio-demographic, lifestyle habits and perpetration of gender-based violence during the current academic year was collected. Logistic regression procedures were used to estimate odds ratios (OR) and 95% confidence intervals (95% CI). **Results:** Nearly a quarter (24.4%; 95% CI 22.1–26.7%) of students admitted perpetrating acts of gender-based violence. Approximately 15.8% (95% CI 13.7–17.9%) reported physically abusing; and 16.9% (95% CI 14.8–19.0%) reported committing acts of sexual violence against an intimate partner or non-partner. Rape was reported by 3.2% (95% CI 2.2–4.2%) of students. Unmarried students with female intimate partners were more likely than those without partners to be physically or sexually abusive (OR = 1.50–1.70). Alcohol consumption (OR = 2.05; 95% CI 1.36–3.09), khat use [a natural stimulant with amphetamine-like effects] (OR = 1.99; 95% CI 1.04–3.80), combined use of alcohol and khat (OR = 2.79; 95% CI 1.76–4.44), and witnessing violence as a child (OR = 1.93; 95% CI 1.38–2.70) were risk factors for committing gender-based violent acts. **Conclusions:** The risk of being physically or sexually violent was associated with marital status, witnessing parental violence as a child, alcohol and khat consumption. Greater understanding of male factors associated with physical and sexual violent behaviors are needed to develop effective prevention programs.