# A Longitudinal Analysis of College Students' Riding With Drinking Drivers

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## INTRODUCTION

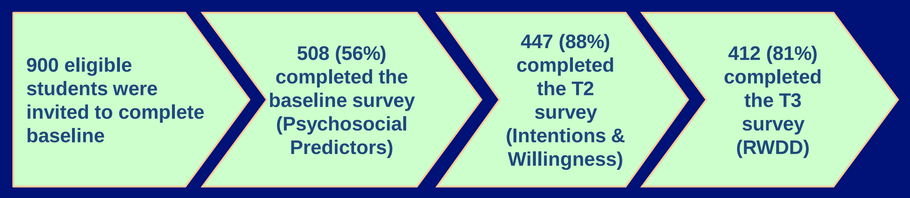
- Research has shown that college students continue to be at increased risk for alcohol-related consequences, including involvement in alcohol-related vehicle crashes (e.g., from driving under the influence and riding with drinking drivers) (Hingson, Zha, and Weitzman, 2009; NHTSA, 2012).
- Although passengers make up 28% of fatalities in alcohol-related vehicle crashes, prevention efforts have mainly focused on examining drinking and driving (Elder et al. 2005). Little is known about factors that influence students' decisions to ride with drinking drivers (RWDD).
- The current study used a prospective longitudinal design to examine theoretically relevant psychosocial predictors of student RWDD behavior.

Study Aims:

1. To examine intentions and willingness as proximal predictors of RWDD
2. To identify distal psychosocial predictors of RWDD that are mediated through intentions or willingness.

## METHODS

- Participants consisted of 508 college students with a mean age of 19.57 (SD= 2.91); 50.1% female, 78.9% Caucasian, 11% Asian, 2.5% Black or African American, 5.6% multiracial or other, and 6.9% Hispanic.
- Data were collected using three web-based surveys over a 6 month period (March 2013- September 2013).




- Students were assessed on parental and peer descriptive and injunctive norms of RWDD, negative attitudes toward RWDD, positive expectancies of RWDD and typical weekly drinking (DDQ) at baseline, intentions and willingness at the second assessment and RWDD at the third assessment.
- RWDD was measured using five questions:
  - "How many times have you been a passenger in a vehicle when the driver had…
  1) 1-2 drinks in 2 hours; 2) 3-4 drinks in 2 hours; 3) 5 or more drinks in 2 hours?;
  - "How many times have you been a passenger in a vehicle when…
  4) you were unsure the number of drinks the driver had;
  5) you thought the driver probably should not have been driving because he/she had been drinking?
- Aim 1 was assessed using step-wise regression
- Aim 2 was assessed using path analysis in Mplus, and bootstrapped confidence intervals were used to determine significance.

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## RESULTS

*Table 1. Step-Wise Regression of Proximal Predictors of RWDD*

| | Proximal Predictors | B (SE) | $R^2$ |
|---|---|---|---|
| Step 1 | Intentions | 0.358 (0.081)*** | 0.058 |
| Step 2 | Intentions | -0.013 (0.151) | |
| | Willingness | 0.437 (0.181)* | 0.084 |

*Figure 1. Final Estimated Model*

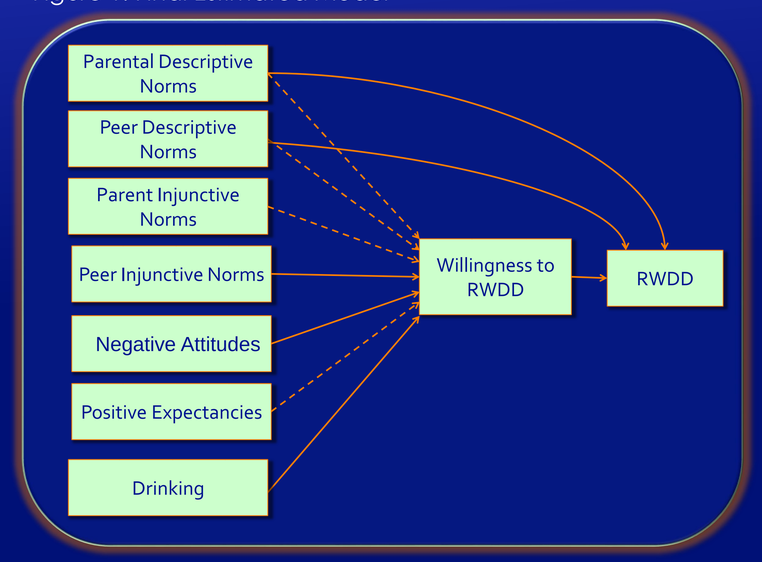


*Table 2. Final Model Path Coefficients and Mediated Effects*

| Distal Predictor | Predictor Effects on Willingness | Effect of Willingness on RWDD | Mediated Effect | 90% CI of Mediated Path | Post Hoc Direct Effects on RWDD |
|---|---|---|---|---|---|
| Parental Descriptive Norms | 0.022 (0.012) | 0.300 (0.085)*** | 0.007 | -0.001; 0.021 | 0.073 (0.032)* |
| Peer Descriptive Norms | 0.002 (0.012) | 0.300 (0.085)*** | 0.001 | -0.010; 0.011 | 0.056 (0.023)* |
| Parental Injunctive Norms | -0.176 (0.270) | 0.300 (0.085)*** | -0.053 | -0.342; 0.182 | |
| Peer Injunctive Norms | 0.523 (0.173)** | 0.300 (0.085)*** | 0.157* | 0.019; 0.392 | |
| Negative Attitudes | -0.066 (0.023)** | 0.300 (0.085)*** | -0.020* | -0.054; -0.003 | |
| Positive Expectancies | 0.226 (0.128) | 0.300 (0.085)*** | 0.068 | -0.021; 0.218 | |
| Typical Weekly Drinking | 0.044 (0.012)*** | 0.300 (0.085)*** | 0.013* | 0.003; 0.032 | |

AIM 1:

- Although intention to RWDD was a significant individual predictor, it was no longer significant when willingness was added to the model.
- Intention to RWDD was removed from subsequent analyses, as it did not account for unique variance in student RWDD controlling for willingness to RWDD.

AIM 2:

- The initial model with all distal predictors (parental and peer norms, negative attitudes, positive expectancies and drinking) mediated by willingness, had relatively poor fit:
  $X^2$ (df = 7) = 44.672, $p < .001$, RMSEA = 0.103, CFI =.668
- Modification indices suggested the inclusion of direct paths on RWDD for both parental and peer descriptive norms.
  - Model fit with these additional direct paths was judged to be acceptable:
  $X^2$ (df = 5) = 22.258, $p < .001$, RMSEA = 0.082, CFI = .897
- Willingness had a significant positive direct effect on RWDD.
- Willingness significantly mediated the effects of peer injunctive norms, negative attitudes, and typical weekly drinking.
- Parental descriptive norms and peer descriptive norms were also found to have direct positive effects on RWDD.
- Parental injunctive norms and positive expectancies were not significantly associated with willingness.

## DISCUSSION

- This study addressed several known gaps in theory and empirically-based research on RWDD by identifying psychosocial variables that longitudinally predict RWDD.
- The results confirmed willingness as a significant proximal predictor of RWDD, which is consistent with adolescent and young adult research suggesting risky behaviors are better predicted by willingness than intentions (ex., Pomery, Gibbons, Reis-Bergan, and Gerrard, 2009)
- The direct paths of parental and peer descriptive norms to RWDD may indicate the importance of norms on engaging in RWDD. Additionally, this finding may suggest that there are additional mediators, such as context, influencing the relationship between norms and RWDD. Additional research is needed to identify other potential mediators.
- Future studies should examine the identity of the driver (i.e., mother, close friend) and determine if these associations between psychosocial predictors and RWDD differ based on the relationship with the driver.
- Findings from the current study can inform future prevention programs by suggesting a focus on decreasing willingness to RWDD, as well as parental and peer descriptive norms and peer injunctive norms associated with RWDD. It might also be beneficial to target increasing negative attitudes toward RWDD.
- This study is not without limitations. The sample came from one predominately Caucasian university that has a large number of students living on campus. Additional studies should look at campuses with greater diversity, a larger number of commuting students, and in differing geographical settings (i.e., rural vs. urban).