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PRELIMINARY RESULTS ON CRASHES IN A VALIDATION STUDY FOR A NEW SIMULATED ASSESSMENT OF DRIVING PERFORMANCE FOR NOVICE TEEN DRIVERS

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Background Driving simulators offer a safer alternative to on-road driving for driving performance evaluation. However, few protocols for novice teen drivers have been validated for ability to differentiate safe from unsafe driving performance.

Aims To test the construct validity of a new simulated driving assessment by comparing count of crashes among novice teen and experienced adult drivers.

Methods We recruited and enrolled novice teen (age 16–17, ≤90 days licensure) and experienced adult (age 25–50, ≥5 years licensure) drivers to complete 3 experimental drives which were designed to reflect the situations that led to the most prevalent types of teen crashes (left-turn, rear-end, and run-off-road events) identified in the National Motor Vehicle Crash Causation Survey. Using a fixed-base high fidelity driving simulator (160° field of view) we collected simulator data and derived variables for crashes (collisions with vehicles and run-off-road events). We describe results from initial participants with evaluable data (n=9 novice teen and n=7 adult experienced drivers).

Results Preliminary results indicate the 9 novice teens had a total of 10 crashes (range per teen=0–3) and the 7 adult experienced drivers had a total of 4 crashes (range per adult=0–3). In the sample, 56% of the novice teen and 29% of the experienced adults drivers were involved in one or more crashes.

Significance The results from our initial participants indicate support for the construct validity of our simulated driving assessment. With further validation, it has potential to facilitate cross-cultural comparisons of standardised evaluation of driver trainee strategies.