**Table A1. Structure of the survey and summary of questions**

|  |  |
| --- | --- |
| **Sections** | **Questions** |
| ***Demographic background*** | Age? Gender? Educational background? |
| ***Working condition*** | Average work hours per day? Average off-duty days per week? Dissatisfaction with income? (5-point scale: very dissatisfied – very satisfied)Sleep problem? (7-point scale: never– always) |
| ***Aberrant driving behaviors*** ***(7-point scale: never– always)*** | How often do you /cross a junction with the red light signal/drive aggressively /feel fatigue while driving/disregard the speed limit/overtake other cars with improper distance or speed/honk at slow drivers/ fail to use signal lights during a lane change or when turning right or left/ fail to wear a seatbelt/park in forbidden area to pick up passengers/use your mobile phone while driving/ reckless merging or deliberately preventing someone from merging/ drive with one hand? |

Driving aggressively, including sudden acceleration and deceleration, braking and unsafe tailgating

**Table A2. Demographic characteristics and workload conditions of the three groups**

|  |  |  |  |
| --- | --- | --- | --- |
| **Variables** | **Group 1** | **Group 2** | **Group 3** |
| n=642/%) | n=1019/%) | n=730/%) |
| ***Demographic characteristics*** |
| Gender | Male | 583(90.8) | 971(95.3) | 686(94.0) |
| Female | 59(9.2) | 48(4.7) | 44(6.0) |
| Age  | 18~29 | 216(33.6) | 274(26.9) | 164(22.5) |
| 30~39 | 262(40.0) | 416(40.8) | 337(46.2) |
| 40~49 | 125(19.5) | 264(25.9) | 178(24.4) |
| >=50 | 39(6.1) | 65(6.4) | 51(7.0) |
| Education  | Primary school or below | 94(14.6) | 190(18.6) | 122(16.7) |
| Middle school | 177(27.6) | 350(34.3) | 254(34.8) |
| Junior high school | 239(37.2) | 340(33.4) | 253(34.7) |
| College or higher | 132(20.6) | 139(13.6) | 101(13.8) |
| ***Work condition*** |
| Working hours (hours/day)  | 8 or less | 438(68.2) | 407(39.9) | 15(2.1) |
| 9 | 163(25.4) | 281(27.6) | 68(9.3) |
| 10 | 27(4.2) | 238(23.4) | 337(46.2) |
| >10 | 14(2.2) | 93(9.1) | 310(42.4) |
| Off-duty days per week | 0 | 421(65.6) | 660(64.8) | 429(58.8) |
| 1 | 205(31.9) | 313(30.7) | 261(35.8) |
| >1 | 16(2.5) | 46(4.5) | 40(5.5) |
| Dissatisfaction with income  | Very dissatisfied | 12(1.9) | 26(2.6) | 31(4.2) |
| Dissatisfied | 39(6.1) | 79(7.8) | 99(13.6) |
| Neutral | 132(20.6) | 187(18.4) | 92(12.6) |
| Satisfied | 157(24.5) | 213(20.9) | 146(20.0) |
| Very satisfied | 302(46.9) | 514(50.4) | 362(49.6) |
| Sleep problems  | Never | 350(54.5) | 262(25.7) | 179(24.5) |
| Hardly ever | 166(25.9) | 314(30.8) | 140(19.2) |
| Occasionally | 59(9.2) | 187(18.4) | 197(27.0) |
| Quite often | 41(6.4) | 156(15.3) | 168(23.0) |
| Frequently | 22(3.4) | 83(8.1) | 41(5.7) |
| Nearly all the time | 4(0.6) | 17(1.7) | 5(0.7) |
| Always | 0 | 0 | 0 |

**Table A3. Frequency distribution of aberrant driving behavior by daily management fee (CNY)**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Group 1 (%)** | **Group 2 (%)** | **Group 3 (%)** |
| **Variables** | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Crossing red light  | 67.0 | 17.3 | 7.5 | 3.9 | 2.8 | 1.6 | 0 | 26.3 | 25.7 | 22.0 | 14.3 | 7.7 | 4.0 | 0 | 15.2 | 40.7 | 19.2 | 12.3 | 11.1 | 1.5 | 0 |
| Aggressive driving  | 59.5 | 18.7 | 9.5 | 9.2 | 2.5 | 0.6 | 0 | 14.3 | 26.8 | 23.6 | 23.6 | 10.1 | 1.7 | 0 | 9.7 | 27.7 | 36.7 | 17.9 | 7.5 | 0.4 | 0 |
| Driving while fatigued | 37.1 | 29.4 | 14.8 | 7.9 | 5.6 | 5.1 | 0 | 10.3 | 14.2 | 21.6 | 25.0 | 16.4 | 12.2 | 0.3 | 6.2 | 13.0 | 29.0 | 33.8 | 11.9 | 6.0 | 0 |
| Speeding  | 69.6 | 11.4 | 7.0 | 7.0 | 3.0 | 1.7 | 0 | 22.8 | 22.5 | 21.7 | 18.1 | 11.9 | 3.1 | 0 | 8.9 | 26.8 | 33.4 | 22.6 | 5.5 | 2.7 | 0 |
| Dangerous overtaking | 64.5 | 16.7 | 9.2 | 6.5 | 2.6 | 0.5 | 0 | 28.9 | 20.7 | 23.5 | 18.7 | 7.4 | 0.8 | 0 | 18.5 | 34.0 | 29.7 | 12.7 | 4.8 | 0.3 | 0 |
| Honking at a slow driver  | 81.3 | 9.0 | 5.1 | 3.9 | 0.6 | 0 | 0 | 46.1 | 27.5 | 15.3 | 7.8 | 3.3 | 0 | 0 | 24.9 | 40.7 | 25.9 | 6.3 | 2.2 | 0 | 0 |
| Failure to use indicator lamp  | 73.8 | 12.1 | 7.8 | 3.6 | 2.6 | 0 | 0 | 34.6 | 27.7 | 20.6 | 13.6 | 3.4 | 0 | 0 | 28.8 | 40.5 | 23.3 | 5.8 | 1.6 | 0 | 0 |
| Failure to wear a seatbelt  | 82.6 | 12.1 | 4.4 | 0.9 | 0 | 0 | 0 | 63.2 | 22.2 | 12.0 | 2.1 | 0.6 | 0 | 0 | 72.2 | 21.5 | 5.3 | 0.7 | 0.3 | 0 | 0 |
| Parking in forbidden areas | 58.6 | 19.2 | 13.4 | 5.0 | 3.3 | 0.6 | 0 | 23.4 | 22.3 | 25.9 | 17.4 | 9.0 | 2.1 | 0 | 20.3 | 31.2 | 31.2 | 11.5 | 4.7 | 1.1 | 0 |
| Cell phone use in driving | 83.6 | 8.9 | 5.6 | 1.1 | 0.8 | 0 | 0 | 56.9 | 23.2 | 13.8 | 4.8 | 1.3 | 0 | 0 | 57.0 | 28.4 | 13.0 | 1.2 | 0.4 | 0 | 0 |
| Reckless merging | 74.3 | 12.0 | 6.1 | 4.8 | 1.9 | 0.9 | 0 | 38.5 | 22.8 | 19.7 | 12.4 | 5.1 | 1.6 | 0 | 27.5 | 35.5 | 22.7 | 11.0 | 3.3 | 0 | 0 |
| Driving with one hand | 68.4 | 13.6 | 7.2 | 7.3 | 2.6 | 0.9 | 0 | 24.3 | 23.1 | 22.9 | 16.4 | 10.7 | 2.6 | 0 | 11.4 | 32.2 | 32.6 | 16.3 | 6.4 | 1.1 | 0 |

0 = Never, 1 = Hardly ever, 2 = Occasionally, 3 = Quite often, 4 = Frequently, 5 = Nearly all the time, 6 = Always

***The comparasion between standard count models, zero-inflated Poisson (ZIP) model and the zero-inflated Negative binomial (ZINB) model***

A standard count model treats zero observations as a homogeneous group, which typically leads to biased statistical results. Zero-inflated count models accommodate this complication by providing a practical way to explicitly model the existence of the two states—that is, the zero state and the non-zero state—and the Vuong test could be used to estimate the priority between the inflated count model and standard count model.

There are two different types of model: the zero-inflated Poisson (ZIP) model and the zero-inflated Negative binomial (ZINB) model. The criteria for selecting the ZIP or ZINB model depends on whether the data is overdispersed. The significant result of the likelihood-ratio test of alpha (-test) indicates the existence of overdispersion, which means the ZINB model is better.

The measure of Alpha was 14.22, 0.001, 0.38 for each group, respectively, with a P value of less than 0.05 in Group 1, indicated that the ZINB model was better than the ZIP model only for that sample. However, in exploring differences between the ZINB model and the ZIP model for Group 1, it was evident that most significant parameters were quite similar between the two. The primary benefit of the ZIP model in this setting is the greater interpretive power that this model provides to the researcher through comparing the three samples under unbiased conditions. Therefore, we conclude the superiority of the ZIP model over the ZINB model for this study.

The results of the Vuong test (z=10.59, p>z=0.00; z=16.22, p>z=0.00; z=8.50, p>z=0.00) were significant, demonstrating that the ZIP model was more suitable for these samples than the standard count model.