

A Survey on Road Crashes of Instant Delivery Riders

Dear riders,

Hello! We are the Intelligent Logistics Research Group at Tongji University. We invite you to participate in our study, which aims to investigate the road crashes of instant delivery riders. Your insights are crucial for understanding riding safety behaviors and evaluating current riding policies.

This questionnaire is divided into three parts:

1. Personal information
2. Driving behavior
3. Crash information

Please take 10-15 minutes to answer based on your actual situation. All your responses will be kept strictly confidential. The results will only be presented as aggregated statistics. We appreciate your support and feedback!

If you have any questions, please contact: zhicheng.jin@connect.polyu.hk

Part 1: Personal information

1. What is your gender? [Single Choice]

- ☐ Male
- ☐ Female

2. What is your age? [Single Choice]

- ☐ Under 18
- ☐ 18-24
- ☐ 25-34
- ☐ 35-44
- ☐ 45 or older

3. What is your highest level of education? [Single Choice]

- ☐ Primary School
- ☐ Junior High School
- ☐ High School
- ☐ Bachelor's Degree
- ☐ Master's Degree or PhD

4. What is your marital status? [Single Choice]

- ☐ Single
- ☐ Married, no children
- ☐ Married, one child
- ☐ Married, two or more children

- Divorced, no children
- Divorced, with children

5. How many people are in your household (including yourself)? [Single Choice]

- 1
- 2
- 3
- 4
- 5
- 6
- 7 or more

6. How many days do you usually work per week? [Single Choice]

- 2 days or fewer
- 3 days
- 4 days
- 5 days
- 6 days
- 7 days

7. What is your average daily working time on weekdays? [Single Choice]

- 6 hours or less
- 6-8 hours
- 8-10 hours
- 10-12 hours
- 12 hours or more

8. What is your monthly income? (Unit: RMB) [Single Choice]

- 2000 or less
- 2000-4000
- 4000-6000
- 6000-8000
- 8000-10,000
- 10,000 or more

9. What is your average number of daily deliveries? [Single Choice]

- Under 20
- 20-30
- 30-40
- 40-50
- 50-60
- Above 60

10. What is your average daily riding distance? [Single Choice]

- Under 20 km
- 20–40 km
- 40–60 km
- 60–80 km
- 80–100 km
- Above 100 km

11. What is your average riding speed?

[Single Choice]

- 10–20 km/h
- 21–30 km/h
- 31–40 km/h
- 41–50 km/h
- Above 50 km/h
- Unsure

Part 2: Driving behavior

12. Please evaluate the following statements about your riding safety.

[Matrix Scale]

Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I would engage in rule-breaking behavior if the safety could be guaranteed.					
To earn higher rewards, I am willing to engage in rule-breaking behavior.					
I often get distracted by using my phone while riding.					
I often don't wear a helmet when delivering.					

13. Please evaluate the following statements about delivery efficiency.

[Matrix Scale]

Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I believe breaking traffic rules can help me complete deliveries faster.					
To complete more delivery orders, I am willing to					

engage in rule-breaking behavior.					
I would engage in rule-breaking behavior to ensure delivery on time.					

14. Please evaluate the following statements about your work pressure.

[Matrix Scale]

Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I feel anxious when I have to deliver too many orders.					
I feel anxious when I don't meet a certain number of deliveries in a day.					
I think the delivery time required by the platform is very tight.					

15. Please evaluate the following statements about your health status.

[Matrix Scale]

Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I often feel unwell (e.g. back pain, whiplash, stomach problems, etc.).					
I am used to smoking.					
I am used to drinking alcohol.					
I am used to staying up late.					
I have irregular eating habits.					

Part 3: Road crashes

16. Have you experienced any crashes during deliveries in the past year (e.g. collisions, scrapes, overturns, falls, and fires)?" [Single Choice] (This is a key question. Please answer carefully to ensure your survey is valid. Thank you! Your responses will be kept strictly confidential!)

- ☐ Yes
- ☐ No, I have never had a riding accident. (Please skip to the end of the survey and submit.)

(Please answer the following questions about your most recent delivery accident if answer yes)

26. How many orders were you assigned at the time of the accident? [Single Choice]

- ☐ 3 or fewer orders
- ☐ 4-6 orders
- ☐ 7 or more orders

27. What time did the accident occur? [Single Choice]

- ☐ Lunch Rush (10:30 AM - 1:30 PM)
- ☐ Dinner Rush (5:00 PM - 7:30 PM)
- ☐ Morning (7:00 AM - 10:30 AM)
- ☐ Afternoon (1:30 PM - 5:00 PM)
- ☐ Evening (7:30 PM - 12:00 AM)
- ☐ Late-Night (12:00 AM - 7:00 AM)

28. What were the weather conditions at the time? [Single Choice]

- ☐ Yes, severe weather (e.g., heavy fog, snow, ice, strong winds, extreme heat, heavy rain).
- ☐ No, good weather (e.g., sunny, overcast, partly cloudy).
- ☐ No, fair weather (e.g., light rain).

29. Where did the accident happen? [Single Choice]

- ☐ Intersection
- ☐ Straight road section
- ☐ Curved road section
- ☐ Bike lane
- ☐ Sidewalk or crosswalk

30. Were you delivering an order that was about to be late (less than 5 minutes remaining)? [Single Choice]

- ☐ Yes
- ☐ No

31. How would you classify the severity of the accident? [Single Choice]

- ☐ Fatal: Resulting in death.
- ☐ Serious: Resulting in serious or minor injury.
- ☐ Minor: Property damage only (no personal injury, only vehicle or other property damaged).

32. Was the accident caused by your unsafe riding behavior? [Single Choice]

- ☐ Yes, Speeding (driving over the speed limit).
- ☐ Yes, Traffic Violation (e.g., running a red light, riding against traffic, illegal parking).
- ☐ Yes, Fatigued Riding (feeling tired).
- ☐ Yes, Reckless Riding (sudden braking, acceleration, or turns due to haste).
- ☐ Yes, Distracted Riding (using a phone for calls, texts, or navigation).
- ☐ No, it was not related to my unsafe riding behavior.