ISSN: 2308-5096(P) ISSN 2311-620X (O)
[International Journal of Ethics in Social Sciences
Vol. 8, No. 1, October 2024]

Examining the Influence of Riding Distraction on Risky Riding Behavior among P-Hailing Riders in Malaysia: The Mediating Role of Moral Disengagement

Muhammad Safizal Abdullah [1], Adi Anuar Azmin [1] , Muhammad Asyraf Mohd Kassim [1]

Abstract

Riding distractions, such as mobile phone use, navigation adjustments, and interactions with delivery apps, pose significant safety risks for p-hailing riders. This study investigates the influence of riding distractions on risky riding behavior and explores the mediating role of moral disengagement among p-hailing riders in Malaysia. Using a cross-sectional survey approach, data were collected from 200 riders through structured questionnaires. The results demonstrate a significant positive relationship between riding distractions and risky riding behavior. Additionally, moral disengagement significantly mediates this relationship, as riders rationalize unsafe behaviors, such as speeding or ignoring traffic signals, through cognitive mechanisms that reduce feelings of guilt. This study fills a gap in the literature by focusing on the underexplored context of p-hailing riders in Malaysia, providing insights into how distractions contribute to risky riding behavior. The findings suggest that delivery platforms and policy-makers should implement comprehensive strategies, such as strict mobile phone usage policies, distraction management training, and awareness campaigns, to mitigate distractions and reduce moral disengagement. By addressing both external job demands and internal cognitive justifications, these interventions can improve road safety and promote safer riding practices among p-hailing riders.

Keywords: Riding Distraction, Risky Riding Behavior, Moral Disengagement, P-Hailing.

[1] Department of Business, Faculty of Business & Communication, Universiti Malaysia Perlis

1. INTRODUCTION

Motorcyclists are disproportionately affected by road traffic accidents (RTAs), which are a major and ongoing public health concern worldwide. More than 60% of road traffic deaths in Malaysia are caused by motorcycle riders (Malaysian Institute of Road Safety Research, 2021). Those who transport goods using apps like GrabFood and Foodpanda, as well as motorcyclists, are especially vulnerable. As they traverse crowded metropolitan settings, these riders frequently have to deal with a variety of distractions that compromise their security. Riding distractions, including the use of mobile phones, adjustments to navigation devices, and interactions with delivery applications, are prevalent among p-hailing riders. Such distractions divert a rider's attention from the primary task of riding, impairing their ability to respond effectively to sudden changes in traffic conditions and increasing the likelihood of engaging in risky behaviors such as speeding, lane weaving, and running red lights (Charlton, Starkey, Perrone, & Isler, 2020; Klauer, Dingus, Neale, Sudweeks, & Ramsey, 2006). The nature of p-hailing work, which requires constant communication with customers and frequent navigation adjustments, makes riders particularly susceptible to these distractions. Consequently, these distractions significantly impair riders' judgment and reaction times, thereby elevating the risk of accidents (Nguyen, Le, & Pham, 2024).

The high-pressure nature of p-hailing work further amplifies the impact of these distractions. Riders are frequently required to manage multiple tasks concurrently, such as checking routes, responding to customer inquiries, and handling deliveries, all while navigating complex traffic environments. This multitasking can lead to cognitive overload, where the rider's mental capacity is stretched beyond its limits, thereby increasing the likelihood of errors and engagement in risky behaviors (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001; Schaufeli & Taris, 2014). The predominance of younger riders in the p-hailing workforce adds another layer of vulnerability, as their reliance on mobile technology tends to exacerbate the risk of accidents (Bakker & Demerouti, 2017).

In light of these substantial challenges and elevated risks, this study seeks to investigate the influence of riding distractions on risky riding behaviors among p-hailing riders in Malaysia, while also examining the mediating role of moral disengagement in this relationship. Specifically, the objectives of this study are to explore the relationship between riding distraction and risky riding behavior, assess the impact of riding distraction on moral disengagement, examine the connection between moral disengagement and risky riding behavior, and evaluate whether moral disengagement mediates the relationship between riding distraction and risky riding behavior. By addressing these objectives, the study aims to

contribute to a deeper understanding of the cognitive and behavioral dynamics that underpin risky riding practices, ultimately informing strategies to enhance rider safety.

2. LITERATURE REVIEW

2.1 Risky Riding Behavior

Risky riding behavior encompasses a range of unsafe practices that increase the likelihood of traffic accidents and injuries. These behaviors include speeding, tailgating, running red lights, and weaving through traffic (Rowe et al., 2019). For motorcyclists, engaging in risky behaviors is particularly hazardous due to their vulnerability on the road, where the absence of protective barriers exposes them to greater risks in the event of a collision (World Health Organization, 2023). The literature on risky riding behavior has identified several contributing factors, including individual traits, situational influences, and external pressures, such as distractions and the demands of the job (Ulleberg & Rundmo, 2003). In the p-hailing industry, risky riding behavior is often driven by the need to meet strict delivery deadlines, leading riders to prioritize speed and efficiency over safety (Ali, Wong, & Zulkifly, 2022). The competitive nature of the gig economy, where faster deliveries can result in higher earnings and better customer ratings, further incentivizes riders to take risks. Additionally, the repetitive nature of delivery work can lead to a false sense of familiarity with routes, causing riders to underestimate potential dangers and engage in unsafe practices (Ulleberg & Rundmo, 2003). However, the specific role of riding distractions in exacerbating these behaviors has not been fully explored, particularly in the context of p-hailing riders in Malaysia. This study seeks to provide new insights into how distractions influence risky riding behavior among these riders.

2.2 Riding Distraction

Riding distraction is a critical factor that compromises the safety of motorcyclists, particularly those engaged in delivery services, such as p-hailing riders. Distractions while riding can come from various sources, including mobile phones, navigation systems, and interactions with delivery apps (Klauer, Dingus, Neale, Sudweeks, & Ramsey, 2006). These distractions divert the rider's attention from the primary task of navigating traffic, leading to delayed reactions, impaired decision-making, and ultimately an increased likelihood of accidents (Charlton, Starkey, Perrone, & Isler, 2020). The nature of p-hailing work, which often requires riders to juggle multiple tasks simultaneously such as communicating with customers, checking routes, and managing deliveries, further exacerbates the risk posed by distractions. Research has consistently shown that distracted riding is a significant contributor to traffic accidents. A study by McEvoy et al. (McEvoy, Stevenson, & Woodward, 2006) found that motorcyclists using mobile phones while riding are up to four times more likely to be involved in a crash compared to those who are not distracted. Similarly, a study by Charlton, Starkey, Perrone, and Isler (2020) indicated that distractions from mobile devices and in-

vehicle technologies are among the leading causes of near-misses and crashes among motorcyclists. In the context of p-hailing, the need for constant connectivity to manage deliveries adds another layer of complexity, making it more challenging for riders to maintain focus on the road. Despite the known risks associated with distracted riding, there is limited research specifically examining how these distractions impact p-hailing riders in Malaysia. This study aims to fill this gap by exploring the direct effects of riding distractions on risky riding behavior among p-hailing riders.

2.3 Moral Disengagement

Moral disengagement is a psychological mechanism that allows individuals to justify unethical or unsafe behavior, enabling them to act in ways that conflict with their moral standards without experiencing guilt (Bandura, 1991). This concept has been widely studied in various contexts, including corporate misconduct, military behavior, and sports, but is increasingly recognized as relevant in road safety research (Moore, 2015; Detert, Treviño, & Sweitzer, 2008). Moral disengagement involves cognitive processes such as minimizing the consequences of one's actions, displacing responsibility, and dehumanizing others, which allow individuals to rationalize behaviors that would typically be considered unacceptable (Bandura, 2002). For p-hailing riders, moral disengagement may manifest as justifications for behaviors that compromise safety, such as using mobile phones while riding or ignoring traffic rules, under the belief that these actions are necessary to meet job demands (Shu, Gino, & Bazerman, 2011). When faced with the pressures of time-sensitive deliveries, riders might convince themselves that speeding or disregarding traffic signals is acceptable if it helps them achieve their objectives. Research has shown that individuals under stress or facing significant job demands are more likely to engage in moral disengagement as a coping mechanism (Detert, Treviño, & Sweitzer, 2008). However, while moral disengagement has been extensively studied in other contexts, its role as a mediator between riding distractions and risky riding behavior in the context of p-hailing remains underexplored. This study aims to address this gap by examining how moral disengagement influences the relationship between distractions and risky riding behavior.

2.4 Theoretical Underpinnings

This study endeavors to provide a comprehensive understanding of the factors contributing to risky riding behaviors among p-hailing riders by employing Moral Disengagement Theory (Bandura, 1991) as the foundational framework, supplemented by the Job Demand-Resources (JD-R) Model (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001) as a supporting perspective. Bandura's Moral Disengagement Theory elucidates how individuals rationalize unethical behaviors to diminish feelings of guilt or responsibility. Moral disengagement involves cognitive mechanisms such as diffusion of responsibility, dehumanization, and attribution of blame, allowing individuals to engage in behaviors they would otherwise find unacceptable. In the context of p-hailing riders, moral disengagement helps explain how riders justify risky behaviors when distracted, such as using mobile phones or engaging in other distractions while riding (Bandura, 2002; Moore, 2015). On the other hand, the Job

Demand-Resources (JD-R) model provides a complementary perspective by positing that job demands, such as riding distractions, can induce stress and burnout, ultimately resulting in adverse outcomes like risky behavior (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001). According to this model, resources such as training and support can mitigate the negative effects of job demands. In this study, the JD-R model is applied to understand how riding distractions, as job demands, influence risky riding behavior and how resources can alleviate these effects (Schaufeli & Taris, 2014; Bakker & Demerouti, 2017).

Integrating these two theoretical frameworks allows for a more detailed understanding of the interaction between riding distraction, moral disengagement, and risky riding behavior. The JD-R model suggests that high job demands, such as managing multiple distractions, can lead to stress and burnout, particularly when there are insufficient resources to manage these demands (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001). In such circumstances, individuals may resort to maladaptive coping mechanisms, such as moral disengagement, to justify behaviors that alleviate the pressure but compromise safety (Schaufeli & Taris, 2014). Similarly, Bandura's theory of moral disengagement provides a framework for understanding how cognitive restructuring permits individuals to engage in risky behaviors without experiencing moral conflict.

In the specific context of p-hailing, these theories collectively suggest that riding distractions function as significant job demands that can lead to risky riding behaviors. Moral disengagement serves as a cognitive mechanism mediating this relationship, enabling riders to rationalize unsafe practices as necessary responses to the demands of their work. This study significantly contributes to the literature by providing an in-depth analysis of these dynamics within the p-hailing industry in Malaysia by adopting the psychological and occupational determinants approach towards rider safety.

2.5 Hypothesis Development

Riding distractions constitute a significant factor contributing to risky riding behavior, especially for p-hailing riders who frequently manage multiple tasks simultaneously, such as communicating with customers, adjusting navigation, and handling deliveries (Charlton et al., 2020; Klauer et al., 2006). These distractions not only divert a rider's attention from the primary task of riding but also critically impair their decision-making abilities and situational awareness, both of which are fundamental for safe riding. When riders are preoccupied with multiple distractions, their capacity to anticipate and respond to sudden changes in traffic conditions is diminished, which further exacerbates the probability of engaging in hazardous behaviors such as speeding, lane weaving, and running red lights. The constant multitasking inherent in p-hailing work, combined with the stress of meeting delivery deadlines, cultivates a high-risk environment that substantially elevates the propensity for risky riding behavior. Prior research consistently indicates that distracted riding is a major contributor to increased crash risk, with distracted riders being up to four times more likely to be involved in accidents compared to those who remain attentive (McEvoy et al., 2006). Moreover, the ramifications of these distractions may be more pronounced among younger riders, who typically exhibit a

greater dependence on mobile technologies and may inadequately assess the risks associated with distracted riding. In line with these insights, it is hypothesized that:

> *H1: Riding distraction significantly influences risky riding behavior among p-hailing riders in Malaysia.*

The cognitive overload caused by multitasking during p-hailing activities can induce significant levels of stress and diminish a rider's ability to make morally sound decisions (Demerouti et al., 2001). The frequent need to manage multiple competing tasks, such as interacting with customers, navigating routes, and ensuring timely deliveries, can strain a rider's cognitive resources, leading to compromised judgment. Riding distractions create circumstances where riders might justify unethical behaviors, such as ignoring traffic regulations or taking dangerous shortcuts, in an effort to fulfill job demands and meet tight deadlines. According to Bandura's (1991) Moral Disengagement Theory, individuals often rationalize unethical actions by employing cognitive mechanisms to reduce their sense of personal accountability. These mechanisms include minimizing the consequences of their actions, displacing responsibility, and blaming external factors. In the context of p-hailing, such distractions can prompt riders to activate these mechanisms as a way to rationalize behaviors that would otherwise be considered unacceptable. This rationalization process serves to mitigate feelings of guilt, thereby making it easier for riders to engage in unsafe practices without experiencing significant moral conflict. As a result, the pressures of multitasking and the resulting cognitive strain contribute to a higher likelihood of moral disengagement, ultimately leading to riskier riding practices. Therefore, it is hypothesized that:

> *H2: Riding distraction significantly influences moral disengagement among p-hailing riders in Malaysia.*

Moral disengagement serves as a cognitive mechanism that enables individuals to rationalize behaviors that are misaligned with their moral standards (Bandura, 2002; Moore, 2015). This cognitive process involves a range of psychological strategies, including minimizing the perceived harm of one's actions, displacing responsibility onto external factors, and dehumanizing those who might be affected. In the context of p-hailing riders, the significant pressure to complete deliveries on time, often within narrow time windows, may foster an environment where moral disengagement is used to justify engaging in risky riding practices. The urgency associated with meeting customer expectations and platform-imposed deadlines can make riders more prone to rationalizing behaviors that they would otherwise deem unacceptable, such as speeding or disregarding traffic rules. Research has consistently shown that individuals who engage in moral disengagement are more likely to participate in unethical or unsafe behaviors, including risky riding (Detert, Treviño, & Sweitzer, 2008). This pattern of behavior is particularly concerning in high-stress contexts like p-hailing, where the interplay between external pressures and cognitive justification mechanisms can significantly elevate the risk of accidents. Given these insights, the following hypothesis is proposed:

> *H3: Moral disengagement significantly influences risky riding behavior among p-hailing riders in Malaysia.*

Moral disengagement plays a key mediating role in the relationship between riding distraction and risky riding behavior. When faced with high job demands, such as managing multiple distractions, riders often resort to moral disengagement as a coping mechanism to manage stress and justify unsafe behaviors (Schaufeli & Taris, 2014). This cognitive restructuring diminishes feelings of guilt or moral conflict, allowing individuals to rationalize behaviors that conflict with their moral standards. Mechanisms of moral disengagement include minimizing the consequences of risky actions, displacing responsibility, and dehumanizing others who may be impacted. For p-hailing riders, these mechanisms help justify behaviors that would otherwise contradict their ethical standards, thus facilitating continued engagement in unsafe riding practices. The high-pressure demands of p-hailing work, such as navigating traffic, responding to customer demands, and meeting tight delivery deadlines, create a stressful environment. This stress increases the likelihood of using moral disengagement to rationalize shortcuts or unsafe behaviors deemed necessary to meet job demands. Empirical evidence supports this mediating role of moral disengagement, showing that cognitive rationalizations explain how stressors lead to maladaptive behaviors (Nguyen et al., 2024). Under heightened stress, individuals are more likely to engage in moral disengagement, which permits them to justify unethical or unsafe actions without significant moral conflict (Bandura, 2002; Detert, Treviño, & Sweitzer, 2008). This, in turn, increases the risk of harmful behaviors, as moral safeguards are bypassed. The interaction between external job demands and internal cognitive justifications highlights the pivotal role of moral disengagement in shaping rider behavior. By facilitating the reinterpretation of risky actions as justifiable responses to occupational demands, moral disengagement serves not merely as a coping mechanism but as a key factor mediating the relationship between riding distractions and risky riding behaviors. Consequently, it is hypothesized that moral disengagement significantly mediates the relationship between riding distraction and risky riding behavior among p-hailing riders. Therefore, the following hypothesis is proposed:

> *H4: Moral disengagement mediates the relationship between riding distraction and risky riding behavior among p-hailing riders in Malaysia.*

This study proposes four key hypotheses that explore the relationships between riding distraction, moral disengagement, and risky riding behavior among p-hailing riders. Riding distraction is hypothesized to directly influence both risky riding behavior and moral disengagement, while moral disengagement is expected to impact risky riding behavior significantly. Furthermore, moral disengagement is posited to mediate the relationship between riding distraction and risky riding behavior. These hypotheses are visually represented in the Figure 2.1 Research Framework, which aims to provide a comprehensive understanding of the cognitive and behavioral dynamics underlying risky riding practices in the p-hailing context.

Mediating Variable

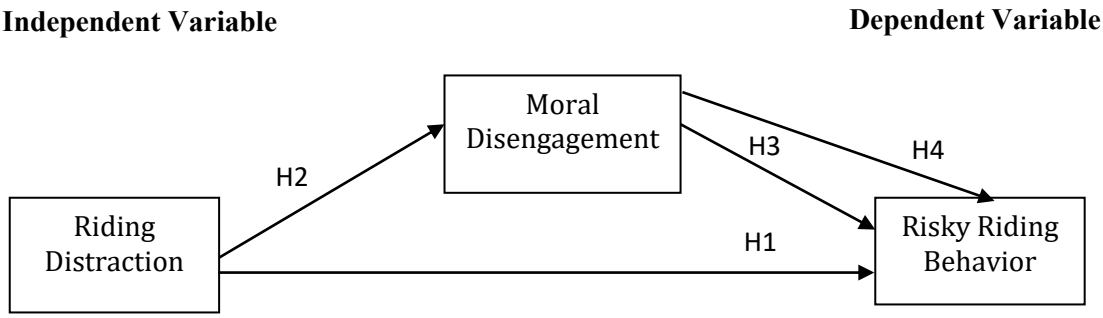

Figure 2.1 Research Framework

3. METHODOLOGY

3.1 Research Design

This study employs a quantitative research design to investigate the relationships between riding distractions, moral disengagement, and risky riding behavior among p-hailing riders in Malaysia. A self-administered questionnaire was utilized to gather data from the respondents, ensuring consistency in data collection while minimizing interviewer bias. The quantitative approach was chosen due to its suitability for systematically examining the hypothesized relationships among the study variables, enabling the use of rigorous statistical techniques to validate the proposed theoretical model (Creswell, 2014).

3.2 Sample and Data Collection

The target population for this study comprises 53,000 p-hailing riders in the northern region of Malaysia, specifically those affiliated with major delivery platforms such as GrabFood and Foodpanda, which distributed across three states; Perlis (3,000 riders), Kedah (20,000 riders), and Penang (30,000 riders) (Rusli, Mohammad, Kamaluddin, Bakar, & Isa, 2022). Based on G*power analysis, a minimum of 166 respondents was determined to be necessary for the study. However, to ensure a more robust sample, a total of 200 respondents were targeted using stratified sampling to ensure representativeness across the three states.

The states were used as the criteria for stratification, with the number of respondents from each state calculated proportionally to their population size. As shown in Table 3.1, the stratified sampling resulted in 12 respondents from Perlis, 75 from Kedah, and 113 from Penang.

Table 3.1: Stratifiction of Respondents

Strata	No of Estimated Population	Proportionate Ratio	Minimum Respondents for Each Strata	Actual Respondents for Each Strata
Perlis	3000	166 (3000/53,000)	~ 10	12
Kedah	20,000	166 (20,000/53,000)	~ 63	75
Penang	30,000	166 (30,000/53,000)	~ 94	113
Total	53,000	166 (53,000/53,000)	~ 167	200

While stratified sampling was used to determine the number of respondents from each state, the actual selection of participants employed a convenient sampling technique. This approach was necessitated by the lack of a comprehensive sample frame or name list of every p-hailing rider in the region.

Data collection was conducted through face-to-face interactions at popular eateries frequented by p-hailing riders in each locality. The researchers approached riders during their breaks and requested their participation in the study. This method allowed for efficient data collection while ensuring a diverse representation of riders across different platforms and locations. Respondents were assured of the confidentiality and anonymity of their responses, in line with ethical research practices (Saunders, Lewis, & Thornhill, 2016).

3.3 Measurement Instruments

The questionnaire consisted of three sections: demographic information, constructs measuring riding distractions, moral disengagement, and risky riding behavior. Each construct was measured using a Likert scale, with items adapted from existing validated scales in the literature as depicted in the following Table 3.2.

Table 3.2: Research Instruments

Construct	Source	Number of Items
Riding Distractions	Klauer et al. (2006)	6
Moral Disengagement	Bandura (1991); adapted by Nguyen et al. (2024)	8
Risky Riding Behavior	Qian et al. (2024)	10

Riding distractions were measured using a 6-item scale adapted from Klauer, Dingus, Neale, Sudweeks, and Ramsey (2006), which focused on various types of distractions experienced by riders. Moral disengagement was assessed using an 8-item scale adapted from Bandura (1991) and Nguyen, Le, and Pham (2024), which examined the cognitive mechanisms that justify risky behaviors. Risky riding behavior was evaluated using a 10-item scale adapted

from Qian, Xu, and Zhang (2024), covering behaviors such as speeding, running red lights, and using mobile phones while riding.

3.4 Data Analysis

Data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) to test the hypothesized relationships and the mediating effect of moral disengagement. PLS-SEM is suitable for this study due to its ability to handle complex models and its robustness with smaller sample sizes (Hair, Hult, Ringle, & Sarstedt, 2017). PLS-SEM was used to assess the structural model (inner model) and measurement model (outer model).

4. RESULTS AND DISCUSSION

The demographic analysis of the study participants revealed a diverse sample of p-hailing riders across the northern region of Malaysia as shown in Table 4.1. It presents key characteristics of the respondents, including age distribution, education level, riding experience, and average working hours.

Table 4.1: Demographic Findings

Demographic Variable	Category	Frequency (n = 200)	Percentage (%)
Age	18-24 years	100	50%
	25-34 years	60	30%
	35-44 years	30	15%
	45 years and above	10	5%
Education Level	High School	90	45%
	Diploma/Technical Cert	60	30%
	Bachelor's Degree	40	20%
	Postgraduate	10	5%
Riding Experience	Less than 1 year	40	20%
	1-2 years	110	55%
	3-5 years	40	20%
	More than 5 years	10	5%
Average Working Hours	Less than 4 hours/day	30	15%
	4-6 hours/day	50	25%
	6-8 hours/day	80	40%
	More than 8 hours/day	40	20%

The age distribution of the p-hailing riders in the sample shows a strong skew towards younger individuals. The largest age group is the 18-24 years category, which constitutes 50% of the sample. This dominance of younger riders is consistent with the nature of p-hailing work, which often appeals to individuals who are seeking flexible job opportunities, such as students or those early in their careers. The 25-34 years age group makes up 30% of the sample, indicating that a significant portion of riders are in their mid-20s to early 30s, potentially balancing the demands of this work with other life responsibilities. The older age groups, 35-44 years and 45 years and above, represent 15% and 5% of the sample, respectively, suggesting that p-hailing is less commonly pursued as a long-term career by older individuals.

The education level of the riders reveals that nearly half of the sample (45%) has only a high school education. This indicates that p-hailing is a viable job option for individuals with lower educational qualifications, offering them a way to earn income with relatively low entry barriers. The next largest group, with 30%, holds a Diploma or Technical Certificate, which suggests that some riders have pursued vocational training or higher education but may not yet be utilizing those qualifications in their current employment. Additionally, 20% of the riders have a Bachelor's degree, highlighting that some individuals with higher education are also engaging in p-hailing, possibly due to the flexible nature of the work or as a temporary employment solution. Only 5% of the sample has postgraduate qualifications, indicating that highly educated individuals are less likely to be involved in p-hailing.

The riding experience data shows a substantial portion of the sample (75%) has less than three years of experience, with 20% having less than 1 year and 55% having between 1-2 years. This high percentage of relatively inexperienced riders suggests that many individuals are new to p-hailing or have only recently entered the field. This lack of experience can contribute to increased vulnerability to risky riding behaviors, as less experienced riders may not have fully developed the skills or judgment necessary to navigate the challenges of the job safely. The remaining riders have more experience, with 20% having 3-5 years of riding experience and only 5% having more than 5 years, indicating that long-term engagement in p-hailing is relatively uncommon.

The data on average working hours per day indicates that p-hailing riders typically work between 4 to 8 hours daily, with 40% of the sample working 6-8 hours and 25% working 4-6 hours. This suggests that for many riders, p-hailing represents a significant daily commitment, potentially contributing to fatigue and time pressure, which are critical factors influencing risky riding behaviors. Another 20% of the sample works more than 8 hours per day, likely representing those who rely heavily on p-hailing as their primary source of income. Lastly,

15% of the sample works less than 4 hours a day, possibly indicating part-time involvement or using p-hailing as supplementary income.

The assessment of the measurement model is critical to ensure that the constructs are measured accurately and reliably. The outer loadings for each indicator were examined to assess the reliability of the indicators in measuring their respective constructs. As shown in Table 4.2, all outer loadings exceed the recommended threshold of 0.70, indicating strong correlations between the indicators and their constructs (Hair, Risher, Sarstedt, & Ringle, 2019). For example, the outer loadings for "Riding Distraction" range from 0.778 to 0.876, demonstrating that these indicators reliably measure the construct. Similarly, "Moral Disengagement" (0.794 to 0.864) and "Risky Riding Behavior" (0.781 to 0.877) also exhibit strong outer loadings, supporting the robustness of the measurement model.

Table 4.2: Outer Loadings

Indicator	Riding Distraction	Moral Disengagement	Risky Riding Behavior
RD1	0.809		
RD2	0.842		
RD3	0.798		
RD4	0.876		
RD5	0.778		
MD1		0.811	
MD2		0.864	
MD3		0.838	
MD4		0.794	
MD7		0.832	
MD8		0.799	
RRB1			0.877
RRB2			0.849
RRB3			0.858
RRB5			0.826
RRB6			0.781
RRB8			0.789
RRB10			0.796

Note: Notes: Indicators below than 0.70 were deleted

Composite reliability and average variance extracted (AVE) were used to assess the internal consistency and convergent validity of the constructs. As indicated in Table 4.3, the composite reliability values for all constructs are above the threshold of 0.70, with "Riding Distraction" at 0.871, "Moral Disengagement" at 0.893, and "Risky Riding Behavior" at 0.908. The AVE values for all constructs are above 0.50, confirming that the constructs capture a sufficient amount of variance from their indicators, thus supporting convergent validity (Hair, Risher, Sarstedt, & Ringle, 2019).

Table 4.3: Composite Reliability and AVE

Construct	**Composite Reliability**	**AVE**
Riding Distraction	0.871	0.64
Moral Disengagement	0.893	0.73
Risky Riding Behavior	0.908	0.72

Discriminant validity was assessed using the Fornell and Larcker criterion and the Heterotrait-Monotrait (HTMT) ratio. The Fornell and Larcker criterion compares the square root of the AVE for each construct with the correlations between constructs. As shown in Table 4.4, the square root of the AVE for each construct is greater than its correlation with any other construct, indicating good discriminant validity (Hair, Risher, Sarstedt, & Ringle, 2019). For instance, the square root of the AVE for "Riding Distraction" is 0.806, which is higher than its correlations with "Moral Disengagement" (0.531) and "Risky Riding Behavior" (0.567), confirming that each construct is distinct.

Table 4.4: Fornell and Larcker Criterion

Construct	**Riding Distraction**	**Moral Disengagement**	**Risky Riding Behavior**
Riding Distraction	0.806		
Moral Disengagement	0.531	0.85	
Risky Riding Behavior	0.567	0.62	0.85

The HTMT ratio was also used to assess discriminant validity. As shown in Table 4.5, all HTMT values are below the threshold of 0.85, indicating that the constructs are distinct from one another (Henseler, Ringle, & Sarstedt, 2015). The HTMT value between “Riding Distraction” and Moral Disengagement” is 0.693, “Riding Distraction” and Risky Riding Behavior” is 0.661, and "Moral Disengagement" and "Risky Riding Behavior" is 0.698, which is well within the acceptable range, further supporting discriminant validity.

Table 4.5: HTMT Criterion

Construct	Riding Distraction & Moral Disengagement	Riding Distraction & Risky Riding Behavior	Moral Disengagement & Risky Riding Behavior
HTMT	0.693	0.661	0.698

The multicollinearity was assessed by examining the variance inflation factor (VIF) values for the constructs. As shown in Table 4.6, all VIF values are below the threshold of 5, indicating that multicollinearity is not an issue in the model (Hair, Risher, Sarstedt, & Ringle, 2019). For example, the VIF values for "Riding Distraction," "Moral Disengagement," and "Risky Riding Behavior" are 1.397, 1.424, and 1.416, respectively, suggesting that the constructs are not excessively correlated and can be reliably interpreted.

Table 4.6: Multicollinearity Analysis (VIF)

Construct	VIF
Riding Distraction	1.397
Moral Disengagement	1.424
Risky Riding Behavior	1.416

The path coefficients were analyzed to test the hypothesized relationships between the constructs. As shown in Table 4.7, all path coefficients are positive and significant at the $p < 0.01$ level. Specifically, the relationship between "Riding Distraction" and "Risky Riding Behavior" is significant (path coefficient = 0.469, t-value = 7.583), indicating that higher levels of distraction are associated with increased risky riding behavior. "Riding Distraction" also has a significant positive effect on "Moral Disengagement" (path coefficient = 0.491, t-value = 7.962), and "Moral Disengagement" significantly influences "Risky Riding Behavior" (path coefficient = 0.448, t-value = 7.056). These findings support the proposed hypotheses and demonstrate the critical role of distraction and moral disengagement in influencing risky riding behavior among p-hailing riders as depicted in Figure 4.1.

Table 4.7: Path Coefficient

Path	Coefficient	t-value	p-value
Riding Distraction -> Risky Riding Behavior	0.469	7.583	<0.001
Riding Distraction -> Moral Disengagement	0.491	7.962	<0.001
Moral Disengagement -> Risky Riding Behavior	0.448	7.056	<0.001

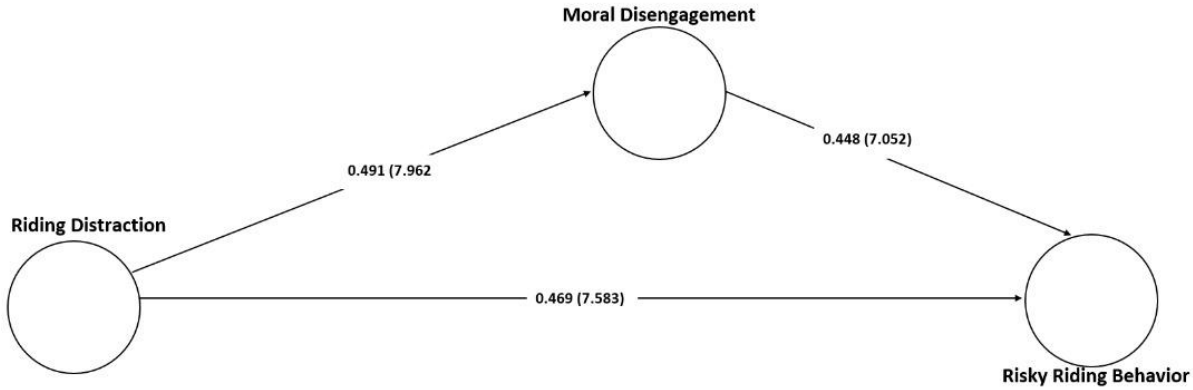

Figure 4.1 Measurement Model

The indirect effect of "Riding Distraction" on "Risky Riding Behavior" through "Moral Disengagement" was also examined. As indicated in Table 4.8, the indirect effect is significant (coefficient = 0.229, t-value = 6.50, $p < 0.001$), confirming that moral disengagement mediates the relationship between riding distraction and risky riding behavior. This finding highlights the importance of cognitive mechanisms, such as moral disengagement, in explaining how distractions can lead to unsafe practices among riders.

Table 4.8: Indirect Effect

Indirect Path	Coefficient	t-value	p-value
Riding Distraction -> Moral Disengagement -> Risky Riding Behavior	0.229	6.50	<0.001

The explanatory power of the model was assessed using R^2 and f^2 values. As presented in Table 4.9, the R^2 value for "Moral Disengagement" is 0.446, indicating that riding distraction explains 44.6% of the variance in moral disengagement. The R^2 value for "Risky Riding Behavior" is 0.467, suggesting that riding distraction and moral disengagement together explain 46.7% of the variance in risky riding behavior. The f^2 values indicate moderate to large effect sizes, with "Riding Distraction" having an f^2 of 0.334 on "Moral Disengagement" and 0.312 on "Risky Riding Behavior." These results demonstrate the substantial impact of riding distraction and moral disengagement on risky riding behavior.

Table 4.9: Coefficient of Determination (R2) and Effect Size (f2)

Construct	R^2	f^2
Moral Disengagement	0.446	0.334
Risky Riding Behavior	0.467	0.312

Predictive relevance was assessed using Q^2 values, as shown in Table 4.10 The Q^2 values for "Moral Disengagement" (0.175) and "Risky Riding Behavior" (0.348) are both above zero, indicating that the model has good predictive relevance (Henseler, Ringle, & Sarstedt, 2015). This means that the model can accurately predict the outcomes of the constructs, reinforcing the robustness of the findings.

Table 4.10: Predictive Relevance (Q^2)

Construct	Q^2
Moral Disengagement	0.175
Risky Riding Behavior	0.348

5. DISCUSSION

The current study aimed to examine the influence of riding distractions on risky riding behavior among p-hailing riders in Malaysia, as well as the mediating role of moral disengagement. This discussion section will address the findings in relation to the study's hypotheses, highlight theoretical contributions, and propose practical implications.

5.1 Hypothesis Testing

H1: Riding distraction significantly influences risky riding behavior among p-hailing riders in Malaysia.

The results indicate that riding distractions exert a significant positive influence on risky riding behavior among p-hailing riders (H1). Specifically, riding distractions, such as the use of mobile phones, adjustments to navigation systems, and frequent interactions with delivery applications, lead to an increased likelihood of engaging in hazardous practices, including lane weaving, running red lights, and speeding. These distractions severely undermine the rider's ability to maintain focus on the primary task of riding, thereby reducing their capacity to anticipate and appropriately respond to abrupt changes in traffic conditions, ultimately heightening the risk of collisions. The frequent use of mobile devices, whether for navigational purposes or communication with customers, induces significant cognitive overload, making it difficult for riders to effectively manage their tasks and prioritize road safety. These findings are corroborated by prior research (e.g., Charlton et al., 2020; Klauer et al., 2006), which has consistently demonstrated that rider distractions impair response times and situational awareness, thus elevating accident risks. Moreover, the competitive dynamics of the gig economy further exacerbate these risks, as riders are frequently compelled to multitask to fulfill stringent delivery schedules, resulting in compromised safety practices. The current study's findings emphasize the necessity for targeted interventions designed to mitigate distractions and cultivate safer riding practices among p-hailing riders. Such interventions must address both the technological and environmental determinants of these behaviors, including regulatory policies on mobile device usage, improved rider training

programs, and the creation of less pressure-intensive work environments that discourage multitasking and prioritize safety.

H2: Riding distraction significantly influences moral disengagement among p-hailing riders in Malaysia.

The analysis also found that riding distraction significantly influences moral disengagement (H2). Riders experiencing distractions were more inclined to engage in moral disengagement mechanisms, such as rationalizing unsafe behaviors as necessary to fulfill job requirements. This finding underscores the intricate cognitive processes involved, where riders justify rule-breaking behaviors under the pressures of stressful work environments to alleviate guilt and preserve a sense of efficacy in meeting job expectations (Bandura, 1991). The frequent need to respond to customer inquiries, adjust navigation systems, and manage numerous tasks concurrently fosters a cognitive context in which moral disengagement becomes an adaptive coping strategy. Riders often perceive their unsafe actions, such as disregarding traffic signals or exceeding speed limits, as unavoidable necessities given the tight deadlines and delivery quotas imposed on them. This rationalization process is particularly worrisome, as it effectively normalizes risky behaviors, rendering them habitual over time. Furthermore, the presence of persistent distractions erodes the clear distinction between acceptable and unacceptable behaviors, contributing to a higher propensity for morally disengaged decision-making. These findings underscore the importance of addressing not only the immediate distractions but also the deeper cognitive frameworks that enable riders to rationalize these risky behaviors. By gaining a more nuanced understanding of these cognitive dynamics, interventions can be strategically designed to target the root causes of moral disengagement, thereby fostering a stronger commitment to safety among p-hailing riders. This includes developing interventions that not only limit the sources of distraction but also reshape the cognitive perceptions that allow unsafe practices to be justified under work pressures.

H3: Moral disengagement significantly influences risky riding behavior among p-hailing riders in Malaysia.

Moral disengagement was shown to significantly influence risky riding behavior (H3), indicating that riders who engage in moral disengagement are more predisposed to unsafe riding practices. This finding is consistent with extant literature suggesting that individuals who rationalize unethical behaviors are more inclined to engage in them without experiencing moral conflict (Detert et al., 2008; Moore, 2015). The mechanism of moral disengagement operates by allowing individuals to decouple their actions from their moral self-regulation, thereby enabling engagement in behaviors they would otherwise consider morally reprehensible. This psychological detachment can contribute to the gradual erosion of personal ethical standards, particularly when individuals are chronically exposed to demanding work environments. In the specific context of p-hailing, the frequent deployment of moral disengagement strategies, such as minimizing the perceived consequences of risky behaviors or displacing responsibility onto external factors (e.g., customer demands or stringent delivery deadlines), fosters a culture in which unsafe practices become normalized. Riders often perceive their actions as unavoidable, further entrenching these behaviors into

their daily routines. Additionally, the inherent pressures of the gig economy, characterized by heightened performance expectations and the constant demand for availability, exacerbate the propensity for moral disengagement. The normalization of these justifications not only increases the prevalence of risky riding behaviors but also diminishes the likelihood that riders will acknowledge the potential dangers associated with their actions. Over time, this disengagement from moral standards can foster a desensitization to risk, leading to increased indifference towards the hazards inherent in these behaviors. The implications of these findings are substantial, suggesting that interventions aimed at mitigating risky riding behavior should not only address external factors, such as reducing distractions, but also directly confront the cognitive and psychological processes that underpin moral disengagement. Targeting the root causes of moral justification, such as the pressures and cognitive distortions experienced by riders, is crucial for cultivating a culture of safety that remains robust even under high-stress conditions. Such interventions may include cognitive behavioral training programs designed to reframe the rationalizations that riders use to justify unsafe practices. By challenging and restructuring these cognitive distortions, it may be possible to reduce the frequency of moral disengagement and promote greater adherence to safe riding behaviors. Furthermore, organizational policies that reduce the stress and performance pressures placed on riders, such as fairer delivery expectations, enhanced rest breaks, and support for managing workload, can help mitigate the situational factors that precipitate moral disengagement. Encouraging a work environment where safety is prioritized over productivity can significantly alter the motivational landscape, thereby reducing the reliance on cognitive justifications that enable risky behaviors. Ultimately, an integrated approach that addresses both the situational determinants and the underlying cognitive processes is necessary to foster a sustainable culture of safety among p-hailing riders.

H4: Moral disengagement mediates the relationship between riding distraction and risky riding behavior among p-hailing riders in Malaysia.

The mediation analysis (H4) demonstrated that moral disengagement partially mediates the relationship between riding distraction and risky riding behavior. This finding underscores the complex interplay between external environmental factors and internal cognitive processes in shaping risky behaviors among p-hailing riders. While riding distractions directly contributes to risky behavior by impairing attention and decision-making capabilities, moral disengagement facilitates the justification and perpetuation of these behaviors, thereby exacerbating the associated risks. Moral disengagement mechanisms, including moral justification, displacement of responsibility, and minimization of consequences, enable riders to cognitively rationalize their unsafe actions, thus reducing the psychological barriers to engaging in such behavior. These cognitive processes allow riders to maintain a sense of self-efficacy while circumventing the moral conflict that would otherwise deter them from engaging in risky riding practices. This psychological detachment from the ethical dimensions of their actions is particularly concerning as it can lead to a systematic erosion of personal safety standards, making dangerous riding behaviors an entrenched component of their professional routines. Moreover, the mediating role of moral disengagement implies that

interventions must extend beyond simply mitigating external distractions; they must also confront the internal psychological justifications that riders employ to legitimize their actions. For instance, interventions could include cognitive-behavioral training aimed at helping riders identify and critically challenge these internal rationalizations. By targeting these cognitive distortions, such interventions can foster greater self-awareness and ethical accountability, thereby reducing the likelihood of moral disengagement. The normalization of moral disengagement can result in desensitization to risky behaviors over time, making these practices habitual and deeply ingrained in the riders' daily routines. Therefore, it is crucial to develop strategies that not only enhance awareness of the dangers posed by distractions but also cultivate a moral framework that reinforces safe riding as an integral component of professional conduct. Furthermore, a multifaceted approach that addresses both external and internal factors is essential for effectively reducing risky riding behavior. Interventions could be designed to foster a culture of ethical responsibility, wherein the use of moral disengagement as a coping mechanism is actively discouraged. By promoting ethical awareness and enhancing the cognitive skills needed to resist rationalizing unsafe behaviors, it becomes possible to mitigate the risks associated with riding distractions more effectively. Such training could involve scenario-based learning, where riders are presented with common job-related challenges and guided through ethical decision-making processes to reinforce safe practices. Additionally, organizational-level interventions must consider how structural elements, such as workload and delivery deadlines, contribute to the propensity for moral disengagement and risky behaviors. Addressing these systemic issues is crucial to creating a supportive environment that prioritizes rider safety.

5.2 Theoretical Implications

The study makes several theoretical contributions. First, it extends the application of Moral Disengagement Theory (Bandura, 1991) to the context of p-hailing riders. Although moral disengagement has been widely examined in various organizational contexts, its role in the domain of road safety, specifically among delivery riders, has been insufficiently explored. This study provides empirical evidence that moral disengagement serves as a mediator in the relationship between riding distractions and risky behaviors, thus highlighting its critical relevance in traffic safety research. By extending Moral Disengagement Theory to a novel context, this research not only broadens the scope of the theory's applicability but also underscores the importance of understanding the cognitive processes, such as dissonance and rationalization, that play a pivotal role in safety-critical occupations. The findings suggest that delivery riders employ moral disengagement mechanisms as a coping strategy to manage the pressures associated with multitasking and stringent deadlines, which are inherent in their work environment. Moreover, this study makes an important contribution to the literature by situating moral disengagement within the unique contextual parameters of the gig economy, including the pressures for rapid deliveries and the constant balancing act between customer service and road safety. This contextualization deepens the theoretical understanding of moral disengagement by illustrating how the external pressures characteristic of the gig economy shape internal cognitive coping mechanisms, thereby leading to increased risky behaviors.

The influence of these stressors highlights the dynamic interplay between external work conditions and internal psychological responses, providing a more comprehensive perspective on the antecedents of moral disengagement.

Second, the study integrates the Job Demand-Resources (JD-R) Model (Demerouti et al., 2001) with the Moral Disengagement Theory, thereby offering a more holistic framework for understanding the interaction between job demands, cognitive coping strategies, and safety-related outcomes. By exploring how job demands, such as riding distractions, contribute to risky behaviors through the mediating effect of moral disengagement, the study introduces a cognitive dimension to the JD-R model, which has traditionally emphasized resource allocation and burnout. This integration permits a more nuanced understanding of how job demands not only impact physical and emotional exhaustion but also drive cognitive mechanisms that justify unsafe practices. By positioning moral disengagement within the JD-R framework, the study reveals how excessive workload and time pressures foster cognitive distortions that undermine adherence to safety protocols. Furthermore, the integration of these two theoretical models offers a novel perspective on the interaction between cognitive and environmental factors in shaping safety-related behaviors. This dual-theoretical approach emphasizes the importance of considering both situational job demands and individual cognitive processes when designing interventions aimed at mitigating risky behaviors. The study thereby advocates for an expansion of the JD-R model to include cognitive processes like moral disengagement, which are instrumental in mediating the effects of job demands on safety outcomes. This expanded framework provides a robust foundation for future research on occupational safety, particularly in high-risk sectors, and offers valuable insights into the cognitive underpinnings of risky behavior, which are critical for the formulation of effective preventative strategies.

5.3 Practical Implications

The findings of this study have significant implications for both policymakers and p-hailing companies. To mitigate risky riding behavior, comprehensive training programs must be implemented, focusing not only on managing distractions but also on cultivating a culture of safety and ethical responsibility. Delivery companies should educate riders on the dangers of distractions, the cognitive mechanisms that lead to moral disengagement, and the critical importance of maintaining undivided focus while on the road. By targeting these aspects, companies can foster a more profound understanding of the risks involved and build a safety-oriented culture. Moreover, the adoption of hands-free communication systems is imperative to minimize mobile phone usage during riding, thereby significantly reducing distractions and enhancing overall road safety. In addition, training programs should be meticulously designed to include practical strategies for managing both internal and external distractions and enhancing riders' situational awareness. These programs could incorporate scenario-based learning modules, which allow riders to engage with common distractions in a controlled and reflective environment. Experiential learning, through the simulation of real-life scenarios, is instrumental in helping riders internalize safe riding behaviors, thus promoting more informed

decision-making on the road. Regular refresher courses are also essential to ensure that safety practices are continuously reinforced, addressing both the development of new cognitive skills and the maintenance of previously learned safety measures.

6. CONCLUSION

This research offers important insights into how riding distractions influence risky riding behavior among p-hailing riders in Malaysia, with moral disengagement playing a significant mediating role. The findings indicate that distractions such as using mobile phones or adjusting navigation systems lead to dangerous behaviors like speeding, weaving through traffic, and running red lights. Additionally, moral disengagement allows riders to justify these unsafe actions, especially under the pressure of meeting tight delivery deadlines and job requirements.

To address these issues, it is essential for delivery platforms and policymakers to introduce measures that not only limit distractions but also discourage cognitive justifications for risky behaviors. Strategies like enforcing stricter mobile device usage rules, offering training on managing distractions, and running awareness campaigns on ethical riding practices can be highly effective. Furthermore, providing hands-free communication tools and reducing work-related pressures could help decrease the mental strain that leads to moral disengagement. Future studies could focus on long-term interventions and assess the success of training programs designed to reduce distractions and promote ethical decision-making in high-stress work settings like p-hailing. Improving road safety for these riders will require a comprehensive approach that tackles both the external distractions and the internal cognitive processes that contribute to risky riding behaviors.

References

Ali, A., Wong, J. K., & Zulkifly, M. (2022). Road safety and delivery riders: A case study in Malaysia. *International Journal of Traffic and Transportation Engineering, 9*(2), 115-125.

Bakker, A. B., & Demerouti, E. (2017). Job demands-resources theory: Taking stock and looking forward. *Journal of Occupational Health Psychology, 22*(3), 273-285.

Bandura, A. (1991). Social cognitive theory of moral thought and action. In W. M. Kurtines & J. L. Gewirtz (Eds.), *Handbook of moral behavior and development* (Vol. 1, pp. 45-103). Lawrence Erlbaum Associates.

Bandura, A. (2002). Selective moral disengagement in the exercise of moral agency. *Journal of Moral Education, 31*(2), 101-119.

Charlton, S. G., Starkey, N. J., Perrone, J. A., & Isler, R. B. (2020). What's the risk? A comparison of actual and perceived driving risk. *Accident Analysis & Prevention, 137*, 105428.

Creswell, J. W. (2014). *Research design: Qualitative, quantitative, and mixed methods approaches* (4th ed.). SAGE Publications.

Demerouti, E., Bakker, A. B., Nachreiner, F., & Schaufeli, W. B. (2001). The Job Demands-Resources model of burnout. *Journal of Applied Psychology, 86*(3), 499-512.

Detert, J. R., Treviño, L. K., & Sweitzer, V. L. (2008). Moral disengagement in ethical decision making: A study of antecedents and outcomes. *Journal of Applied Psychology, 93*(2), 374-391.

Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2017). *A primer on partial least squares structural equation modeling (PLS-SEM)* (2nd ed.). SAGE Publications.

Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM. *European business review, 31*(1), 2-24.

Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the academy of marketing science, 43*, 115-135.

Klauer, S. G., Dingus, T. A., Neale, V. L., Sudweeks, J. D., & Ramsey, D. J. (2006). *The impact of driver inattention on near-crash/crash risk: An analysis using the 100-car naturalistic driving study data.* National Highway Traffic Safety Administration.

Malaysian Institute of Road Safety Research (MIROS). (2021). Road Safety Statistics.

McEvoy, S. P., Stevenson, M. R., & Woodward, M. (2006). The contribution of passengers versus mobile phone use to motor vehicle crashes resulting in hospital attendance by the driver. *Accident Analysis & Prevention, 38*(2), 248-254.

Moore, C. (2015). Moral disengagement in processes of organizational corruption. *Journal of Business Ethics, 137*(4), 755-768.

Nguyen, T. T., Le, Q. N., & Pham, P. H. (2024). The impact of time pressure on moral disengagement and unethical behavior. *Journal of Business Ethics, 165*(3), 523-535.

Qian, Z., Xu, J., & Zhang, Y. (2024). Exploring the effects of time pressure on drivers' risky behavior: A cognitive perspective. *Accident Analysis & Prevention, 142*, 105566.

Rowe, R., et al. (2019). Risky driving behaviors among young motorcyclists: A nationwide study. *Accident Analysis & Prevention, 129*, 239-245.

Rusli, R., Mohammad, M. Z., Kamaluddin, N. A., Bakar, H., & Isa, M. H. M. (2022). A Comparison of Characteristics Between Food Delivery Riders with and Without Traffic Crash Experience During Delivery in Malaysia. *Case Studies on Transport Policy*, *10*(4), 2244-2250. https://doi.org/10.1016/j.cstp.2022.10.006

Saunders, M., Lewis, P., & Thornhill, A. (2016). *Research methods for business students* (7th ed.). Pearson Education.

Schaufeli, W. B., & Taris, T. W. (2014). A critical review of the Job Demands-Resources model: Implications for improving work and health. In G. F. Bauer & O. Hämmig (Eds.), *Bridging occupational, organizational, and public health* (pp. 43-68). Springer.

Shu, L. L., Gino, F., & Bazerman, M. H. (2011). Dishonest deed, clear conscience: When cheating leads to moral disengagement and motivated forgetting. *Personality and Social Psychology Bulletin, 37*(3), 330-349.

Ulleberg, P., & Rundmo, T. (2003). Personality, attitudes and risk perception as predictors of risky driving behavior among young drivers. *Safety Science, 41*(5), 427-443.
World Health Organization. (2023). Global status report on road safety.