

**PRECARITY IN PLATFORM WORK: A STUDY OF
PRIVATE-HIRE CAR DRIVERS AND FOOD DELIVERY
RIDERS**

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IPS Working Paper No. 44

**PRECARITY IN PLATFORM WORK: A STUDY OF PRIVATE-HIRE CAR
DRIVERS AND FOOD DELIVERY RIDERS¹**

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EXECUTIVE SUMMARY

Background

Since 2019, aided by a Social Science Research Council Thematic Grant, researchers from the Institute of Policy Studies began research to understand the experiences of platform workers, specifically the experiences of private-hire car (PHC) drivers and delivery riders. This research was complemented by a collaboration with technology super-app Gojek which started in January 2021 and ended in April 2021. While planned before the COVID-19 pandemic and extended well into the current times, the studies were conducted against the backdrop of increasing economic and social uncertainty and work precarity; conditions that have existed before the pandemic but further amplified since then. We were interested in areas such as the profile of these workers, the reasons for their joining and/or leaving (if at all) platform work, financial and physical health, job protections and precarity, future job prospects and to discover other job-related insights to obtain a better appreciation of these workers, as well as their contexts. This working paper reflects our ongoing work in this area.

Method

This report is based on both quantitative and qualitative data. We surveyed 958 platform drivers through listings provided by Gojek. The majority of these drivers used other platforms as well. We also conducted 75 in-depth interviews in total with 43 drivers and 32 riders. To engender a more in-depth understanding of the lived experiences of these workers, we also adopted ethnographic approaches and studied some of our consenting participants *in*

situ by following and observing them for an extended period of time as they carried out their work.

Findings

Overall, platform work has been beneficial for some, particularly in the short term. There are however downsides and major areas of concerns in the long term.

On livelihoods, platform work allows full-time platform workers to earn a sizeable income, For part-timers, platform work can help supplement their incomes, It also provides a fall back option for those whose primary work is no longer feasible.

Due to the relatively lower barrier of entry, platform work provides alternative job options for individuals with lower educational attainment. They can earn better incomes compared to their existing jobs or the ones they can potentially land into. Our interviews also reveal that platform work provides a convenient way of finding work at a switch of the app, especially for those who otherwise would have had difficulties meeting their important expenses. Amongst riders from low-income backgrounds and those living in rental flats, food delivery can be seen as a way out of unemployment, relying on others, and feelings of general helplessness.

Platform work also affords them the flexibility and autonomy that might be absent from other lower-skilled work. Interviews show that flexibility allows platform workers to be able to determine their income, how they use their time, and attend to unexpected life emergencies. In our survey with drivers, three-quarters (76 per cent) reported that flexibility of working hours was one of the reasons for their decision to drive, and slightly less than half of the respondents

chose the reason that they liked to be their own boss (46 per cent) or prioritised work-life balance (48 per cent).

However, platform work has its downsides. Flexibility comes with caveats. To earn sizeable incomes, platform workers would have to “slog away” and work long hours to get an adequate number of passenger rides / food delivery requests and incentives, and work at least during peak hours where fares are higher. “Slogging away” would have an impact on their lives, especially on their health and the dangers they face on the road. This is further supported by our survey, where approximately 40 per cent of those surveyed were not satisfied with their driving hours. Furthermore, even though 57 per cent said that they could tolerate the pressures of being a PHC driver very well, only one in five said that their overall quality of life has improved since becoming a PHC driver.

Further, this flexibility with limited employee protection means that workers are sensitive to volatile market forces. They are subjected to much lower earnings when more people enter into the platform. There is also the belief among some drivers that platforms are making it harder to gain incentives.

In addition, platform workers are subjected to the rules and controls of platforms, known as ‘algorithm management’. Riders and drivers have limited control over how jobs are allocated, how their workday will look like, or the places they will go. While workers have the agency to engage strategically, platform companies are still able to nudge platform workers into certain behaviours through a series of incentives and penalties.

Platform work could hamper the long-term career mobility of platform workers. The work takes time away from building skillsets to develop a career, and those who are more educated may find it harder to transit out to jobs which leverage on the constant building of human capital. Our interviews reveal that platform

workers perceived a decrease in their future career options. Status frustration may emerge if they perceive themselves as overqualified for platform work.

At least four in 10 surveyed drivers said they foresee themselves staying in the ridesharing industry for another three to five years at least, with experienced drivers, older drivers and drivers without university qualifications more likely to indicate so. Around half of surveyed drivers said that they would leave the ridesharing industry if there were job opportunities, showing that a sizeable portion would prefer to be in a different job if they could.

When asked if they could easily get a job similar to their previous role and/or related to their education/training, only 31 per cent of surveyed drivers agreed. Among drivers aged 30 – 59, drivers with at least a bachelor's degree who were older had greater difficulty in finding a job similar to their previous role and/or related to their education/training as compared to those with only a secondary education and below. Given that people with a university education would aspire towards getting a Professional, Manager and Executive (PME) role, this result may reflect that mature, educated drivers may find it harder to switch to a PME role due to their age and the digital transformation today which requires workers to be up to date with the latest in-demand skills.

Platform workers have a lack of savings and are financially stressed. A large majority of those surveyed were also worried about retirement adequacy (84 per cent) and whether they had enough savings for a medical emergency (88 per cent). Close to three-fifths of respondents reported high levels of financial stress. Middle aged drivers between the ages of 40 to 49 were also more likely to be financially stressed as compared to other age groups.

In addition, platform workers may need more financial protection. They do not have financial security such as CPF and insurance. Around 50 per cent of surveyed drivers did not make any voluntary CPF contributions, and only 16 per cent contributed 10 per cent or more of their incomes. Younger drivers were less likely to make any voluntary CPF contributions as compared to older drivers. At least one-third of surveyed drivers said that they were not willing to contribute anything for a retirement savings plan, while slightly more than one-quarter were not willing to set aside some funds for a healthcare savings plan or unemployment insurance. Experienced drivers and drivers who drove longer hours per week were more likely to be unwilling to save up for a retirement savings plan, while drivers who were new to the job were more likely to set aside funds for a healthcare savings plan.

Health presents an issue in what is essentially blue-collared work. Platform workers usually have to work through peak hours - typically lunch and dinner time. Around 44 per cent of surveyed drivers reported worsening health levels ever since they started driving, while only 4 per cent said that their health had been better since they started driving. Drivers who had driven for more years, those who drove longer hours per week, and those who turned to driving because they had no choice were more likely to say that their health had been worse since they started driving. Around two-thirds of drivers said they felt stressed about taking long breaks during their driving hours.

Through our interviews, we also find that danger is on the back of the minds of some platform workers and riders. Accidents and uncertainties are a fact of life for the riders, which is further troubled by the lack of financial, social, and medical protection in platform work. In addition, 39 per cent of drivers surveyed were dissatisfied with their subsidised/free prolonged medical leave, while 32 per cent of drivers surveyed were dissatisfied with the preferential GP consultation rates that they receive from ridesharing companies.

Lower-income individuals or those living in rental flats may become entrenched in such platform work, and their social networks may be limited to this community. While platform work provides opportunities for them, it runs at risk of trapping them in precarity in the long run as they get invested in platform work. This poses additional challenges for their future aspirations such as home ownership.

Platform workers face high risks of precariousness and insecurity. They also experience precariousness as a process, at every stage of the work process dealing with everyday stressors. The precarity of this job also adds some emotional burden to platform workers as they are exposed to the constant challenges in the landscape and lack stability in this job. More than eight in 10 surveyed drivers were worried about the significant effects of COVID-19 on their incomes. Around 91 per cent of drivers surveyed were also worried about the reduction of financial incentives, and around two-thirds were worried that the rapid rise of self-driving vehicles would affect their incomes. The long-term future and planning of platform workers are also uncertain, especially for those with young families and those living in rental flats, given the limited financial security and savings for retirement.

Recommendations

We recommend that the design of interventions for platform workers should consider the heterogeneity of such workers. By examining the differences in the profiles of drivers by their age and employment status, we find that these could affect their levels of anxiety, their willingness to set aside income for savings and protection and their levels of work satisfaction.

We suggest that there can be greater clarity in terms of responsibility and representation for platform workers. A larger portion of drivers who were surveyed looked to the government to ensure their well-being.

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We also propose five interventions to support platform workers; (1) Rest period policy – nudge drivers to rest after driving for a pre-determined time and encourage healthier lifestyles. (2) Saving up for retirement/health issues – mandate or Incentivise platform workers and platform companies to make contributions to CPF and health savings and insurance plans (3) Assistance to pivot to new careers – Facilitate career drivers and riders to explore other work options. (4) Awareness campaign on PHC driving and riding – Educate potential drivers and riders on the realities of platform work. (5) Urban infrastructure landscape – Integrate existing infrastructure and food delivery work to create a safer environment for all.

In summary, our studies indicated that while platform work affords many benefits for some particularly in the short term, there are caveats to these conditions and bring along risks and dangers. A main concern lies in the future of platform workers. The long-term effects of platform work are uncertain given the high level of precarity and lack of financial and social protection in such work. Given these concerns, we need continued research to promptly address the pressing concerns and further enhance the initial recommendations listed in the report.

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1. INTRODUCTION

It's the height of the pandemic and *Riz² clicks his small digital prayer counter, repeating religious verses as he waits in his car for the next ping³. He is grateful for the extended grace period at HDB carparks⁴.*

Hamdan parks his slim motorbike outside an abandoned house and waits. The spot is conveniently located between two popular restaurants and provides “free parking”.

Marcus cycles fast throughout the day traversing the neighbourhood. A highly committed rider, he almost instinctively knew where things were, and had developed “tricks” to earn more money.

Hashim shares a video where a taxi crashed into the back of his car causing him to spin on the highway late at night. He has no expectation of his platform helping him.

Key participants, Riz, Marcus, Hamdan and Hashim, have very different backgrounds but all work to the “ping” of the app. Riz, a married, 38-year-old experienced PHC driver with ITE qualifications, quit his job to join Uber as it gave him the potential to earn a lot more than what his previous job was paying but has been looking for another job for two years. Marcus, a fit 32-year-old, is a top tier delivery rider who has a diploma and is married. Not looking for another job, he is focused on maximising his daily earnings. Hamdan, a 37-year-old rider and an avid adventurer who had to cancel his overseas trip which he won in a competition because of the pandemic, is single and attended a

² Pseudonyms were used for all our participants appearing in this report to protect their identities

³ Ping is often used by participants to mean jobs given by the platform.

⁴ To help platform workers, grace period at HDB, URA carparks were extended to 20 minutes from the normal 10 minutes. See <https://www.straitstimes.com/singapore/grace-period-at-hdb-ura-carparks-will-be-extended-to-20-minutes-to-help-delivery-drivers>.

polytechnic. He has some savings and is looking at how he can afford an HDB. Hashim hesitantly took on platform work as a driver two years ago after he had difficulties finding employment after leaving his job as a manager at his former workplace. These four drivers and riders represent just a few of the numerous platform workers roaming our pavement and streets carrying out essential work.

Platform work refers to “transactions mediated by an app (i.e. a specific purpose software program, often designed for use on a mobile device) or a website, which matches customers and clients, by means of an algorithm, with workers who provide services in return for money” (OECD, 2019, p. 14). In the past few years, platform work has gained prominence as an alternative mode of employment, and many have been drawn to join platform work with the benefits it brings, primarily in income and flexibility. With more individuals taking on platform work and pursuing this as their primary or sometimes only means of income, there have been growing concern about the lack of job protection and social protection for platform workers, and a corresponding increase in discourse on whether platform workers should be seen as employees.

Wanting to have a more in-depth understanding of the motivations, profiles, challenges and everyday lived experiences of platform workers, researchers from the Institute of Policy Studies began to carry out research since 2019 to understand the experiences of these workers, specifically private-hire car drivers and delivery riders. The studies seek to uncover insights on the motivations of platform workers in joining or leaving platform work, the impact on their future job prospects, their finances and health, job protections and precarity, the profiles of platform workers, and other newer job-related insights. We applied quantitative and qualitative methods to carry out research on this group of people who are now a ubiquitous part of the everyday in Singapore.

Two of the more prominent platform workers are food delivery riders and private-hire car (PHC) drivers (also referred to as ‘riders’ and ‘drivers’ respectively in this report) and this report provides insights into these platform

workers. While they both are referred to as platform work and share similarities in terms of their precarity, the differences in the type and nature of their work also bring about unique challenges that require targeted investigation and policy recommendations.

In this report, we present and analyse the findings from our survey and data generated from interviews, in car discussions, ride-alongs and journaling, which aim to:

- Shed light on the benefits platform work has brought to platform workers
- Examine the key concerns with regard to platform workers, namely in areas such as their motivations and stressors, future job prospects, finances and health, job protections and precarity.
- Understand the different profiles of platform workers
- Understand the self-perceptions of platform workers on their self-employment status
- Identify possible interventions to help platform workers

We hope that this report would provide a balanced perspective on platform work and add to the conversation on platform work, by appreciating the benefits which platform work provides to platform workers, while highlighting the “pain points” or challenges associated with platform work and how platform work may impact the future of platform workers.

1.1 Journey into Platform Work

While PHC drivers and delivery riders are both platform workers, they belong to two separate communities who take part in different work processes. To provide a picture of the everyday lived experiences of the PHC drivers and delivery riders, we created an experience journey map for each group.

Our in-depth research allowed us to deconstruct the work experience and break down the driver and rider journey maps into 7 and 6 stages respectively. These maps also help in highlighting specific pain points along the journey which might need to be addressed.

1.1.1. Driver Journey Map

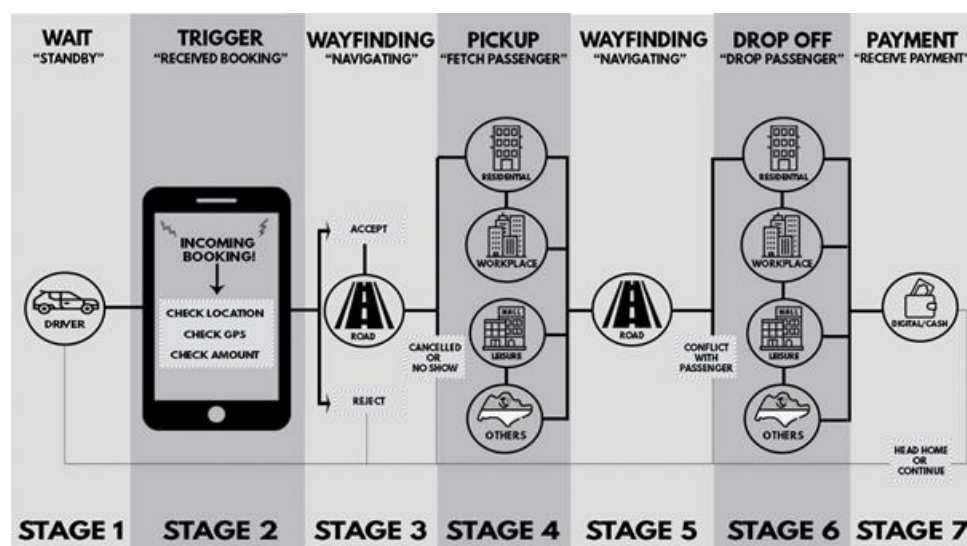


Image 1: Driver journey map with 7 stages

The 7 stages of a driver's journey are:

1) Waiting

This is the stage between rides, the stage where the driver is standing by for "Pings" or service requests to come (if at all). Some drivers were "stuck" in this stage for extended periods of time while waiting at various places, especially at places which provided free parking. This was

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especially the case during the Circuit Breaker, though this has eased somewhat with more drivers sharing that they obtain more “pings” on most days currently. This is also the stage where drivers could be at home getting ready for work and/or the period where they take a lunch break. Top earners tend to do less waiting; they take very short breaks and drive long hours to reach their financial targets for the day.

2) **Trigger**

During this stage, the driver receives a booking and decides on whether he/she would like to proceed. While many of the top tiered drivers do not pick and choose as they want to maximise fares and do not want to negatively impact their cancellation rates, part-timers have the flexibility of “choosing” and deciding which trips are worth their time.

3) **Wayfinding**

This is the stage when the driver is navigating the streets on route to the passenger. Many drivers depend not only on their GPS but also the experience they have built up and sometimes their network of drivers who provide them useful information to avoid potential barriers like traffic congestions. This is also the stage where passengers sometimes suddenly cancel their booking even while drivers are on their way to pick them up.

4) **Pickup**

The driver has arrived at the pick-up point and would sometimes have to wait for passengers to arrive, which is not always guaranteed. No shows are unfortunately not uncommon. Here, first impressions matter and most drivers would ensure that they greet the passenger and ask if they are the intended passenger. The customers’ ratings matter and can have a direct impact on their income.

5) **Wayfinding**

The driver is sending the passengers to the agreed destination upon picking the passengers up. This can potentially be a stressful situation because not only do they have to “deal with” the **In Here** (i.e. the passenger) but also the **Out There** (i.e. other road users). A bad experience could lead to poor reviews which would in turn impact their ratings and ultimately number of jobs or incentives. New locations such as recently constructed BTOs are especially difficult to reach as GPS systems may not have been recently updated. Signage in the area may not be clear.

6) **Drop Off**

This is the stage where they have arrived at the destination. Some drivers try to “end” the journey on a good note for fear of their ratings being impacted, regardless of how positive or negative the ride was. Every single trip they take is evaluated by passengers and the system. These evaluations can be consequential.

7) **Payment**

This is the stage where drivers are to be paid for their services, and this could be in the form of digital payments or physical cash. Though not common in Singapore, drivers sometimes encounter “runaway passengers” or passengers who leave without paying. Drivers might also find themselves without change should the passenger give “too large a note”. After this stage, the driver can decide to return home especially if he/she is exhausted or feels that sufficient income has been achieved for the day. Some platforms allow the driver to make a selection for passengers who need a ride near his/her home which makes the last trip financially worthwhile. If they plan to continue working after dropping off a passenger, they hope to receive another ping soonest. If not, this will require them to wait at suitable spots or drive a little more possibly to areas where there is a higher demand for ride hailing services.

1.1.2. Rider Journey Map

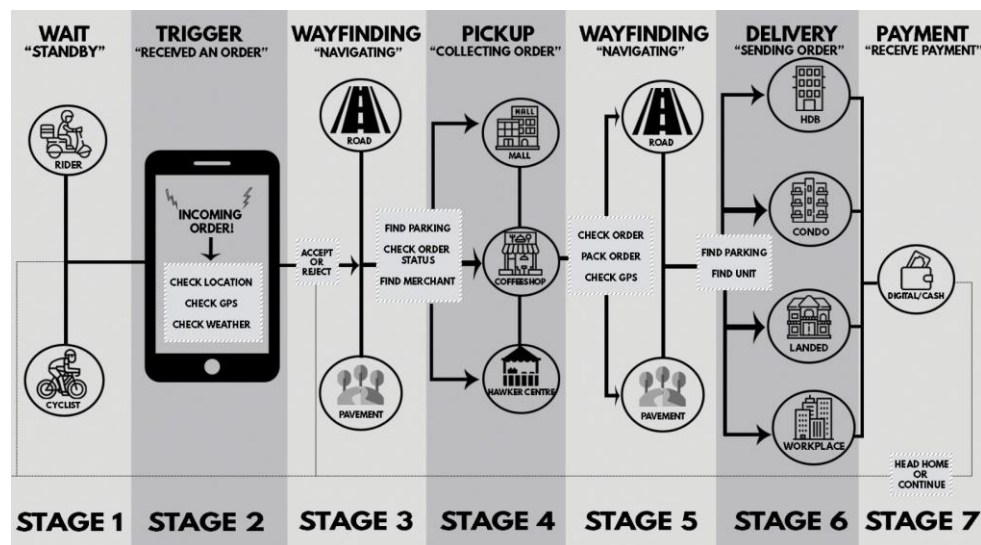


Image 2: Rider journey map with 6 stages

1) Waiting

In this stage, delivery riders would either log in or out of the system in between deliveries. Some take the opportunity to rest until the next job at self-designated waiting areas or even at home until they receive their next job. This stage includes preparation time, such as setting up their phones or checking on the serviceability of their vehicles. Preparation time for some respondents meant sending messages to the app operators hoping for more jobs or going to the bike workshop for repairs and maintenance.

2) Trigger

The trigger stage occurs when the riders receive an order on their phone; they wait for this crucial moment. However, a trigger does not mean they will accept the job. Here, they can choose to reject or accept the job. Riders consider factors such as the type and size of the delivery package, weather, location and distance of a restaurant, traffic, restaurant reputation, and the potential earnings from that job.

3) **Wayfinding**

Upon accepting the job, riders would have to travel to the merchant to pick up the food and drinks. Street knowledge counts as they need to figure out the best route (e.g. cycling through blocks or parks and not relying solely on the GPS) to a merchant's location, which is especially problematic in malls or places with poor signage. For motorcyclists, timing their arrival at the venue is essential; arriving too early means a longer waiting time. In areas where parking is an issue, longer waiting times may lead to parking fees or fines.

4) **Pickup**

Once riders arrive at the F&B outlet, they proceed to their designated pickup areas. Riders then inform the outlet staff of their item's order number. After receiving the item, riders are expected to verify the individual items received against the order in their apps; however, not all riders do this. The time taken for drivers to pick up their goods varies between outlets; popular locations may have a substantially larger volume of orders. In such cases, this creates a bottleneck in the labour process. For example, it is common to see riders gather in the waiting areas during lunchtime for pick up at fast-food chains like McDonald's. Riders often rush to their vehicles to make up for the lost time.

5) **Wayfinding**

In this stage, riders navigate their way to the customer. Riders find landed property located within private estates notably more challenging to navigate than HDB apartments. Roadways within these areas are commonly a network of capillary lanes with unusual names. The street is not the only place where riders need to carry out wayfinding. Mandatory security screening and procedures in office buildings and condominiums increase the time taken to deliver food to customers.

6) Final Delivery

Here, riders have successfully navigated to their customer's location and have attempted to deliver the items. In most cases, the rider makes a successful delivery.

7) Payment

This is the final stage of a typical delivery map. In this stage, however, things can still go wrong. There are instances where customers are uncontactable ("no-shows"), in which case riders have to use their apps to ask for help from their respective platform companies. In instances where no-show customers opt to make payment in person by cash, riders may have to negotiate with the platform so that they are not held liable for the missed payment. From here, they either continue to the next job or end their workday.

2. OVERVIEW AND METHODOLOGY

This report contains data from an ethnographic study and a survey. The ethnographic study, which started in 2019 and is still ongoing, is part of a larger research project funded by a Social Science Research Thematic Grant awarded to the Social Service Research Centre at the National University of Singapore. The survey was conducted with research funds and support from ride-hailing platform, Gojek and started in January 2021 and ended in April 2021.

Employing a mixed method approach in generating and analysing quantitative and qualitative data from the two studies, we were able to achieve an in-depth understanding of the motivations, aspirations, lived-in experiences and considerations of private-hire car drivers and delivery riders. We also sought to discover gaps between what is currently available and what is needed to ensure the welfare of these platform workers.

The quantitative and qualitative approaches worked in tandem to help paint a more accurate picture of platform workers.

2.1 Quantitative Method: Survey

The survey data contained in this report was obtained through a survey of private-hire car drivers on the Gojek platform conducted from 21st January 2021 to 4th April 2021. About 958 respondents completed the survey (see Table 1).

The sample for this survey was obtained from Gojek's listings of drivers. Gojek obtained permission from drivers to provide their email addresses to IPS Social Lab. These potential respondents then received a unique survey link through email and text message sent by Social Lab. Respondents who successfully completed the survey received a \$20 NTUC FairPrice Online voucher two to four weeks after the survey closing date via email. The survey was conducted only in English. While the survey was conducted with drivers using the Gojek

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app, it should be noted that around 75 per cent of the respondents actively use other platforms as well. The survey did not ask drivers to discuss their experiences driving with the Gojek platform. Thus, survey responses should be taken to be indicative of PHC drivers' lived experiences regardless of the platform they are on.

The online platform was chosen for practical and safety reasons. Our respondents are very mobile and are familiar with using the smartphone to carry out tasks. As time is of essence to our driver respondents, adopting this approach to surveying would allow them to do the survey at their convenience. Moreover, given the concerns during this period of the COVID-19 pandemic where Singapore sought hard to contain the spread of the virus, the online modality of the survey also reduced the amount of physical interaction required in administering the survey.

Nonetheless the need to check emails and use a unique survey link may not have been convenient to the majority of those who had been invited to the survey. This accounts for the 36% response rate, certainly reasonable for studies of this nature but much poorer compared to high quality household surveys.

Table 1: Response rates from Survey Administration periods 1 - 4

Administration periods (Waves)	No. of drivers who completed survey	Total emails/SMS sent out in this wave	Response rate (%)
Wave 1 (21 January – 3 February)	429	1,169	37
Wave 2 (4 February – 17 February)	319	752	42
Reminder to non-responders in W1 & W2	84	1,162	7
Wave 3 (3 March – 16 March)	102	231	44

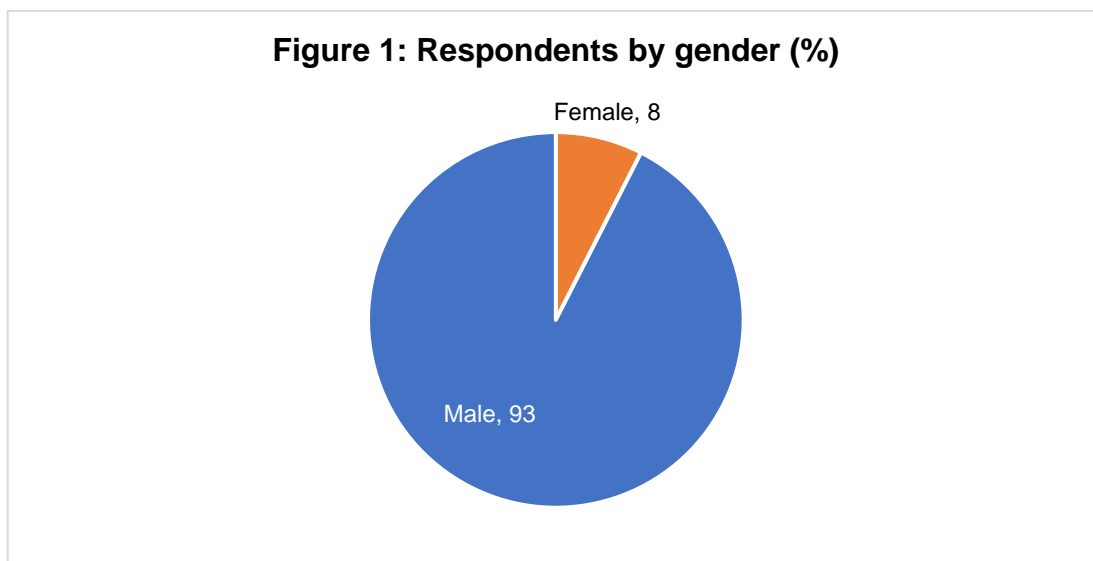
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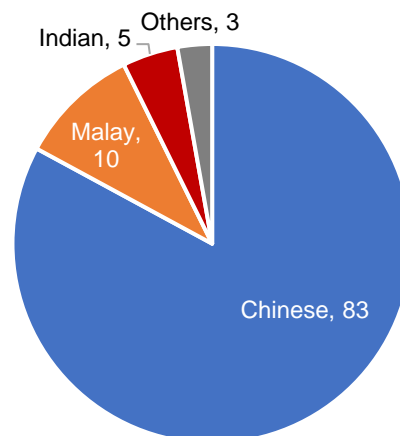
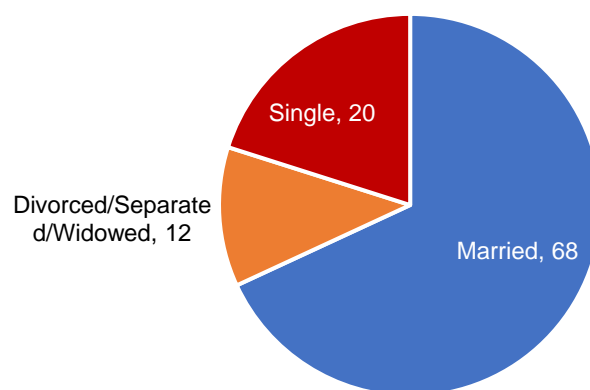
Wave 4 (29 March – 5 April)	24	74	32
TOTAL	958	2636	36

2.1.1 Quantitative Method: Survey

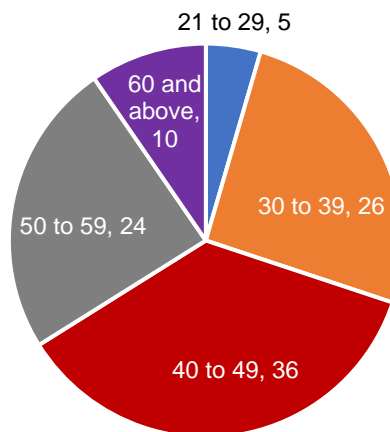
In terms of the demography of drivers that we surveyed, we find that an overwhelming majority (93 per cent) of survey respondents were males and just 8 per cent⁵ were females (Figure 1). In terms of race, 83 per cent were Chinese, 10 per cent were Malay, five per cent were Indians and three per cent were of other racial backgrounds (Figure 2). Looking at their marital status, 68 per cent of survey respondents were married, 20 per cent were single while 12 per cent were divorced, separated or widowed (Figure 3).



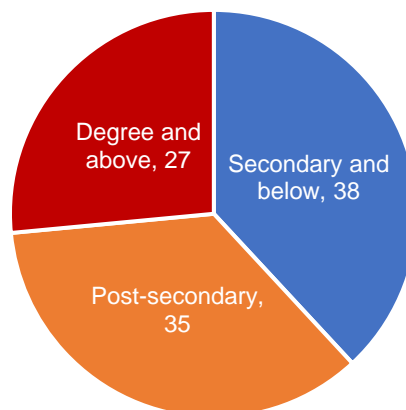
⁵ We present whole numbers in the report for ease of reading. As such some percentages may not add up to 100% because of rounding issues.

Figure 2: Respondents by race (%)**Figure 3: Respondents by marital status (%)**

Around 36 per cent of the respondents were 40 to 49 years old (see Figure 4). At least 26 per cent were 30 to 39 years old, while those aged 21 to 29 years old made up only five per cent of the survey respondents. Those aged 50 years old and above made up 24 per cent of the respondents, while only 10 per cent were 60 years old and above.

Figure 4: Respondents by age (%)

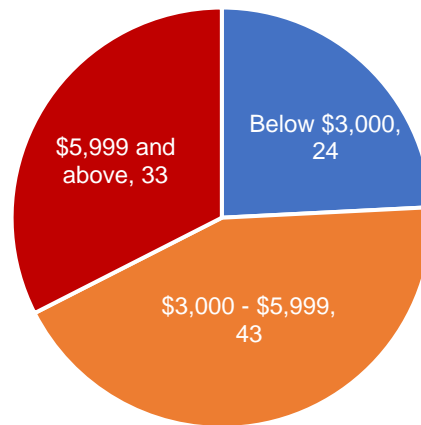
Respondents' education profiles were fairly well divided; around 38 per cent reported having a secondary education or lower, while 35 per cent reported having a post-secondary education (see Figure 5). Around 27 per cent of respondents were university degree holders.

Figure 5: Respondents by education (%)

In terms of income group, 43 per cent of respondents said they had a combined monthly household income of around \$3,000 to \$5,999 (see Figure 6). Around 33 per cent said they had a combined household income of more than \$5,999

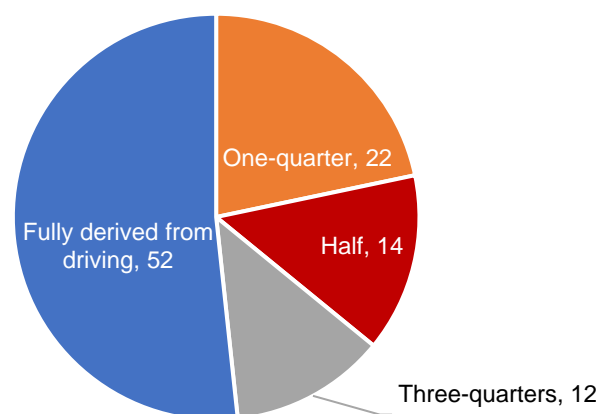
while 24 per cent said they had a combined household income of less than \$3,000.

Figure 6: Respondents by monthly combined household income (%)



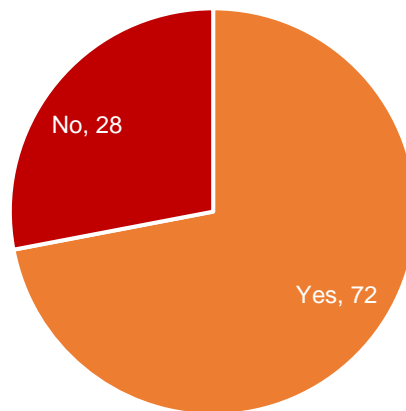
Slightly more than half of respondents said their income was fully derived from their driving (see Figure 7). Around 22 per cent said that at least one-quarter of their income came from their driving; 14 and 12 per cent say that at least half and three-quarters of their income came from driving, respectively.

Figure 7: Respondents by proportion of income derived from driving (%)



Lastly, seventy-two per cent of respondents said that driving a PHC or taxi was their primary job (see Figure 8).

Figure 8: Respondents by PHC/taxi driving as primary job (%)



While we have endeavoured for robustness in data collection processes such as using a listing of platform drivers and refraining from crowd sourcing for survey participants, the respondents to this survey may not neatly mirror the actual population of private-hire car drivers. We are unaware of any source which informs us about the exact profiles of drivers to ascertain how different our sample is from the actual population of these drivers. The Labour Force Survey 2020 by the Ministry of Manpower however does state that “those who work as private-hire car drivers tend to be non-tertiary educated (70%) and were aged 50 & over (57%).” (MRSD, MOM, 2021:17)

This survey, where invited respondents had to complete online, is more likely to see better educated private-hire car drivers and those who are younger participate in it. This is compared to when the survey is administered by an interviewer, which tends to enable those with less education and older to participate. Due to the age and education bias in this survey, there should be some caution when generalising these findings to all private-hire car drivers. Nonetheless the survey does provide an indication of views of a reasonable number of these workers and when analysed by various factors provides useful insight.

2.2 Qualitative Methods: In-depth Interviews and Ethnography

In order for us to have a nuanced and better understanding of the everyday lived experiences of our platform workers, we generated qualitative data via 75 in-depth interviews and adopted ethnographic approaches such as more informal short semi-structured interviews and participant observation. Informed consent was duly practiced throughout and anonymity was promised. The latter explains why pseudonyms are used to protect the identities of our participants.

2.2.1 In-depth Interviews

We carried out 75 in-depth interviews with participants in person or via zoom. Forty-three participants were interviews with drivers (aged 27 to 70) and 32 were interviews with riders (aged 21 to 40). Most of our participants were full-time workers who derived at least three-quarters of their income from platform work. The rest of the participants did the work part-time and most of the income came from other jobs.

While we somewhat preferred face-to-face in person interviews, we left the choice of being interviewed remotely via video conference platforms like Zoom or in person to the participant. For interviews conducted in person, the time and location of the interview was carried out at a time and venue most convenient to the participant. While interviews started in early 2020 before safe management measures were in place, the large majority of in-depth interviews were carried out at various points of the pandemic, and understandably, some participants preferred for interviews to be carried out via Zoom. When interviews were done in person, we strictly adhered to the prevailing COVID-19 safe management measures of the time. Interestingly, while we preferred in-person interviews because it allowed the researcher to benefit from more communication cues (e.g. body language when answering questions) and respond accordingly, a number of Zoom interviews, especially with the drivers, were done while participants were in their cars via their smartphones, allowing for more organic conversations. Researchers were able to ask questions such

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as how their day was, how their customers were, and to take us on a tour of their car before the interviews. Hence, while interviews were done remotely, these interviews provided an unexpected *in-situ* experience for us albeit mediated by a digital platform, Zoom. To maximise having more communication cues during interviews, we requested interviews over Zoom to have both audio and video, and all our participants consented to our request.

Most of these interviews were audio recorded with consent and subsequently transcribed so as to be analysed. Each interview lasted between an hour to two hours. Key participants were interviewed multiple times, and informed consent was always practiced. Some of the driver participants for in-depth interviews were recruited from the survey sample. The other participants interviewed were from the ethnography sample, via personal networks and by drivers or riders introducing us to others (snowball sampling).

2.2.2 Ethnographic Approach

Ethnography is an immersive technique that uses an open-ended interpretive process that prioritises long term interaction between the researcher and participant. For this study, participant observation was used in tandem with informal and often short semi-structured in-depth interviews to nurture a shared understanding of the everyday experiences and challenges of the workers. It allowed us to provide a “thick description” (Geertz, 1973) of the processes, experiences and culture of driving and riding from an “insider’s point of view” (emic perspective, i.e., from the point of view of drivers and riders). This approach enabled our ethnographers to get close to other people’s activities and daily experiences (Emerson et al., 2011).

We built relationships with key participants. Interactions with riders include participant observations, communication over a period of time, note recordings, digital journaling, casual conversations and messaging. We also went online to scrap websites, official channels and social media groups.

The team also had casual interviews with over 100 delivery riders and drivers.



Image 3: Following a rider during his workday

We also adopted one of the more conventional, multi-sited ethnographic techniques (Marcus, 2009), whereby researchers followed key participants through their daily lives. For riders, this saw us following riders as they carried out their deliveries via bicycle, motorbike or even by car (see Image 3). We also spent months observing riders at malls, restaurants, other eating places and waiting spaces.

For drivers, we took advantage of situations where there were customers/passengers in the car to observe and have casual conversations *in situ* (see Image 4).

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Image 4: Interview with a driver in the car

In all instances, informed consent was practiced before drivers began answering any questions. There were a few who refused to have these casual conversations in the car. The latter was usually due to the lack of time and/or not being comfortable to share about themselves and their work. For those who consented and became our key participants, multiple sessions were carried out with some involving in-depth interviews in their cars.

Our questions for both drivers and riders ranged from motivation to join, their working hours, background, employment history, and opinions around the app. All the while, we would observe as they carried on with their work, observing, for example, their interactions with other stakeholders in the journey such as restaurant staff, other road users and road infrastructure, the type and number of devices they used, what type of vehicle they used and how they used them while carrying out their work.

3 BENEFITS OF PLATFORM WORK: INCOME AND FLEXIBILITY

Because [platform] once you hit \$50 you can cash out already. ... But when I joined, I was having my first daughter, so we need fast money for like pampers, milk, everything ah the baby stuff.

Saiful, 25, Rider

With a young family and limited savings, Saiful, 25, needed fast cash to pay for his family's daily needs. The high level of flexibility and the instant access to cash is highly favourable to many like Saiful. There are others who joined because of other various reasons, such as 55-year-old Harris, who runs a successful business that generates a comfortable income and claimed to join platform work because of "boredom". However, if we were to focus on answers given by participants who are full-timers, it is clear that increased income and job flexibility are the two main reasons participants cite for joining platform work.

3.1 Livelihoods

Platform work allows individuals the possibility to earn substantial income, especially for those who would otherwise not have been able to earn such income levels. Due to the relatively lower barrier of entry, platform work provides opportunities for individuals with lower education attainment.

Full-time platform workers with limited education have a lower pool of alternative jobs available for them. Platform work can provide an opportunity to earn a better income. With only a PSLE certificate, Saiful, a 25-year-old rider, has been in odd jobs since he was 16, jumping from being a waiter to a cleaner to a mover and resorting to similar jobs. Most recently Saiful was a bus supervisor and claimed that he earned less than \$1,000 a month: *"It was an overnight job, I go home sleep, cannot even see my daughter. Also not like say earn a lot. Might as well work Grab."* There is an economic logic to their decision in joining platform work such as food delivery; food delivery can be better than

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unemployment and the various types of precarious or low-wage jobs available to them.

Platform work also provides a quick and convenient way of finding work at a switch of the app, especially for those who otherwise would have had difficulties meeting important expenses. For them, it provides an avenue for quick cash.

At that moment, I was in need of cash lah. Like fast cash lah, cos that year was also my marriage year. So there was quite a few expenses, then I need to pay for my wedding, everything, right. I couldn't postpone my ceremony halfway and uninvite my family and friends. So Gojek was the quick alternative for me which I can generate income in a fast way and quick.

Jeremy, 34, Driver

This possibility and accessibility of earning substantial income, especially for younger riders, is highly attractive. 21-year-old Xian Shu started out as a rider after completing secondary school and have been a full-time rider ever since:

Because [platform] rider don't need qualifications at all so I begin to have the love for money. It's like more income, more cheerful lor. Like [platform] is actually a money-making app, its actually a money sensible app because it is actually suitable for younger ones because you work more they pay you more. It's actually quite high pay.

Amongst the low income and those living in rental flats in the food delivery scene, many of our rider participants see food delivery as a “way out”. It is a way out of unemployment, relying on others, and feelings of general helplessness. For these riders, there will always be work available and accessible to them on these platforms. As Amirah states, “*money is always there; it is up to the individual if they want to ‘grab it’*”. While some might argue

that this is not a favourable job, it is a way to gain financial independence, be self-reliant, and independence for many of our participants living in these rental units. As Amirah, a mother of two, mentions,

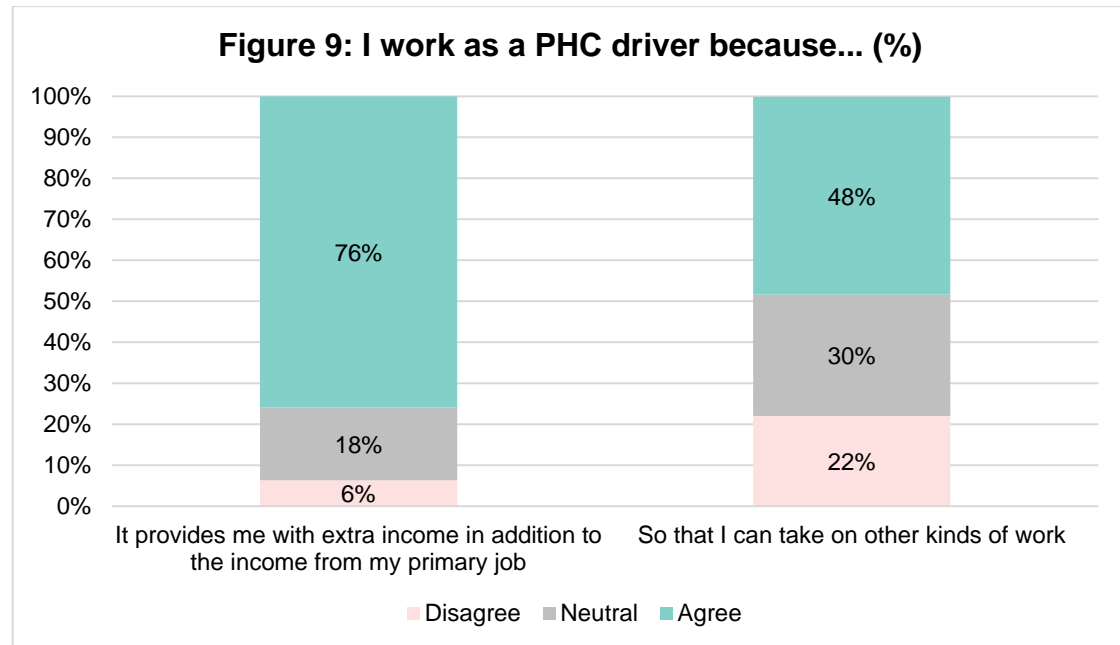
If I need to buy something for my child that is \$20, and I don't have the money... I don't need to ask other people. I can just log in to the app and get the money.



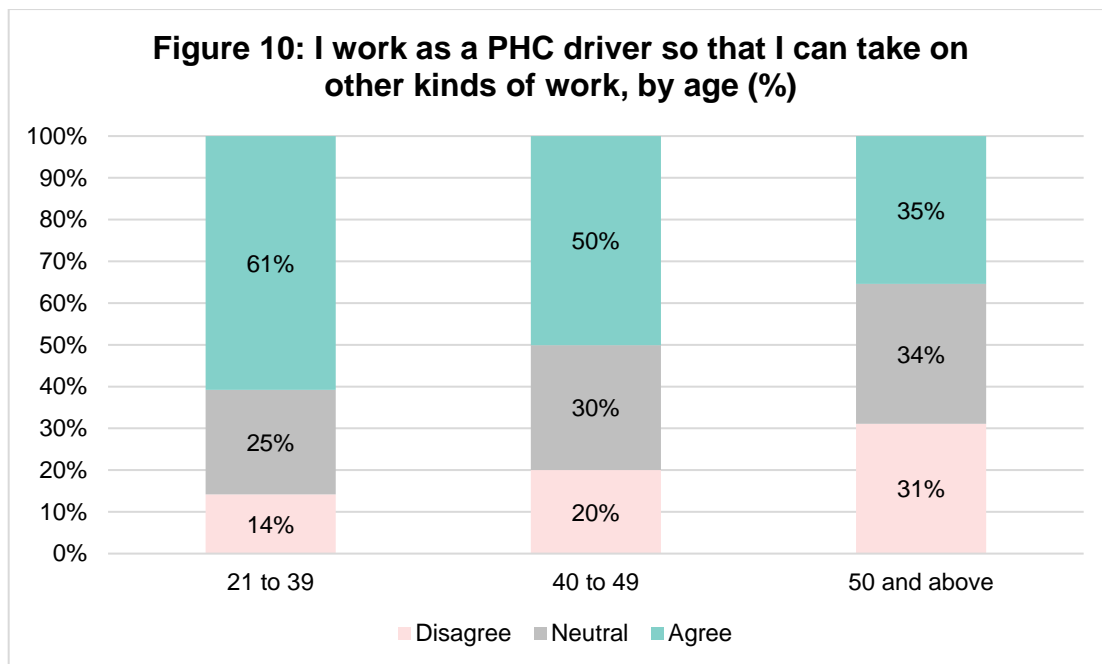
Image 5: Scenes of bicycles and delivery riders are commonplace in public rental housing estates

As the quotes by the driver and riders suggest, a major pull factor for being a platform worker is the perceived relative ease to monetary gains. Many buy into the simple work logic of transporting passengers or delivering items and getting paid. For full-timers, platform work allows them to earn a living. For part-timers, platform work can help supplement their incomes, providing them with extra money in addition to their primary income. It also offers a fall-back option should their primary work involvement not be feasible.

Based on our survey of private-hire car (PHC) drivers, around three-quarters of respondents who drove as a side job said that their driving supplemented their income from their primary job (see Figure 9). Slightly less than half (48 per cent) of the drivers surveyed said they turned to driving so that they could take on other kinds of work (see Figure 9).



Disaggregating the results by age, we find that younger drivers were more likely to work as a PHC driver so that they can take on other kinds of work. Around 61 per cent of drivers aged 21 to 39 took on driving to take on other kinds of work, as compared to 50 per cent of drivers aged 40 to 49 and 35 per cent of drivers aged 50 and above (see Figure 10).



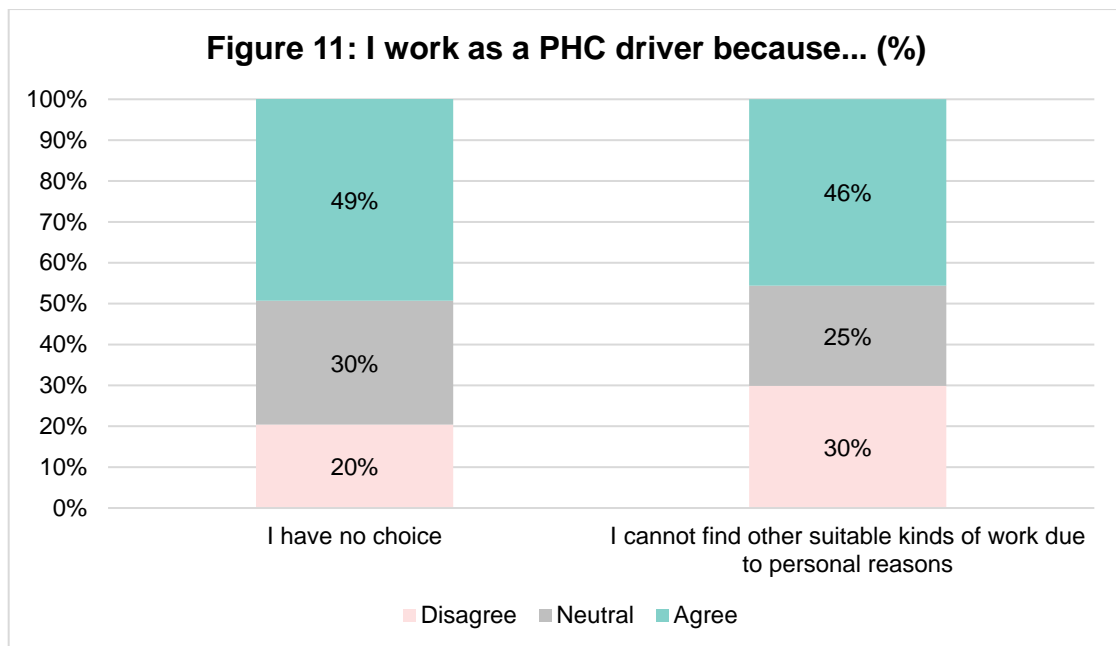
In addition to the interviews conducted with platform workers, our survey also supports the point that platform work provides some with employment and a source of income for those who are unable to find a job elsewhere. From the survey, we observe that slightly less than half of driver respondents said that they turned to driving because they had no choice⁶ (49 per cent; see Figure 11) and that they were unable to find other work because of personal reasons, like caregiving responsibilities (46 per cent; see Figure 11).

⁶ It should be noted that according to the MOM Labour Force in Singapore 2021 report, 81% of resident regular primary platform workers took up own account work on a preferred basis. The disparity between our study and MOM's study is likely due to several reasons –

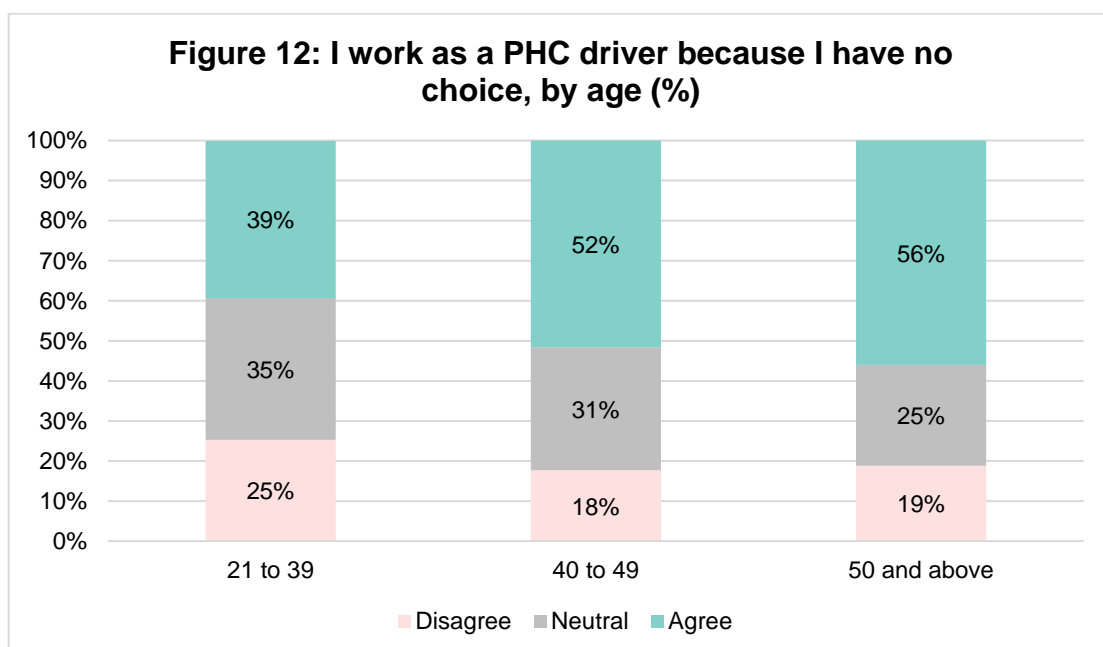
a. The available data from MOM applies to own account workers who rely on transport and delivery service matching platforms to obtain work. This includes taxi drivers, private-hire car drivers and delivery workers who used online matching. While the available MOM data does not provide specific figures for private-hire car drivers, Min Tan See Leng in a Parliamentary speech dated 15 September 2021 for 2020 data noted that 70% of them do this on a preferred basis. b. The survey items we rely on to make our conclusions differ from those which MOM uses. Our survey asks respondents pointedly whether they work as PHC driver because they have no choice. It thus taps onto the respondent's perceptions of their individual realities. The MOM survey asks private-hire car drivers if they were in own account work because they could not find work as an employee– to derive an indication of private-hire car drivers who were in their current jobs because they had no choice. c. MOM's data is based on MOM's comprehensive labour force survey which has very high response rates as it is a mandatory survey. Our survey requires voluntary participation and thus has much lower response rates.

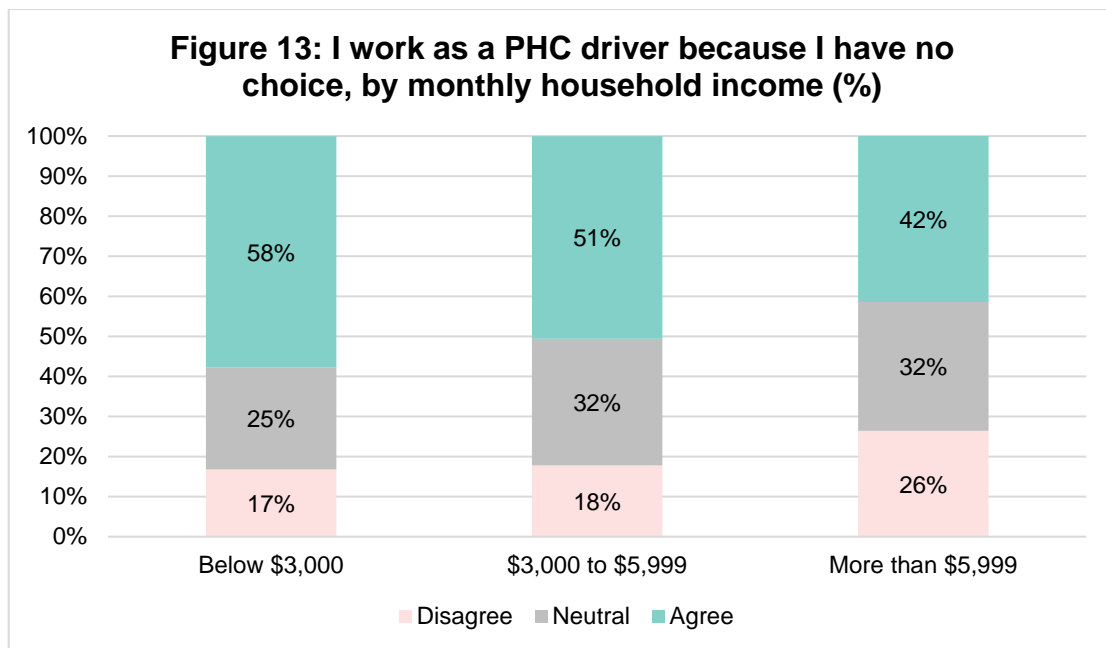
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We disaggregated the responses by various demographic characteristics and find that older respondents (see Figure 12) and those from lower income households (see Figure 13) were more likely to say that they had no choice but to become a PHC driver.





Likewise, older (see Figure 14) and lower income (see Figure 15) respondents took up driving as they found it difficult to find other jobs due to personal reasons. Education (see Figure 16) was also important, where those who had lower educational qualifications were more likely to say that they were unable to find other kinds of work.

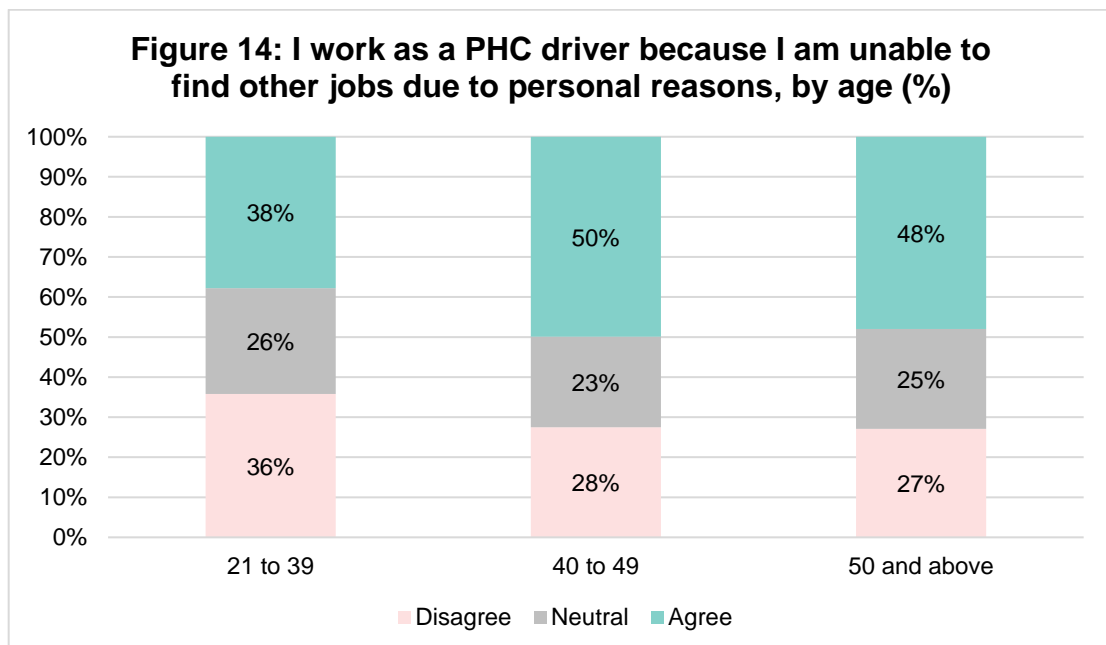


Figure 15: I work as a PHC driver because I am unable to find other jobs due to personal reasons, by monthly household income (%)

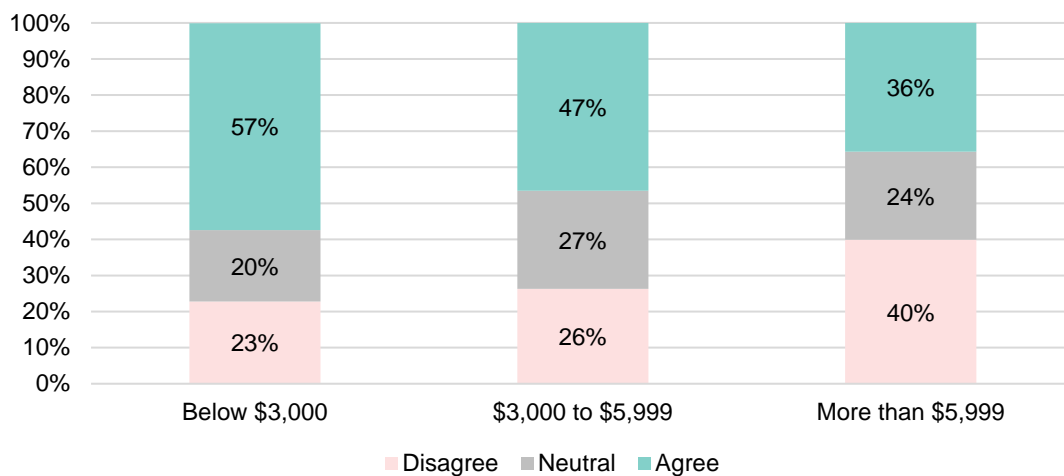
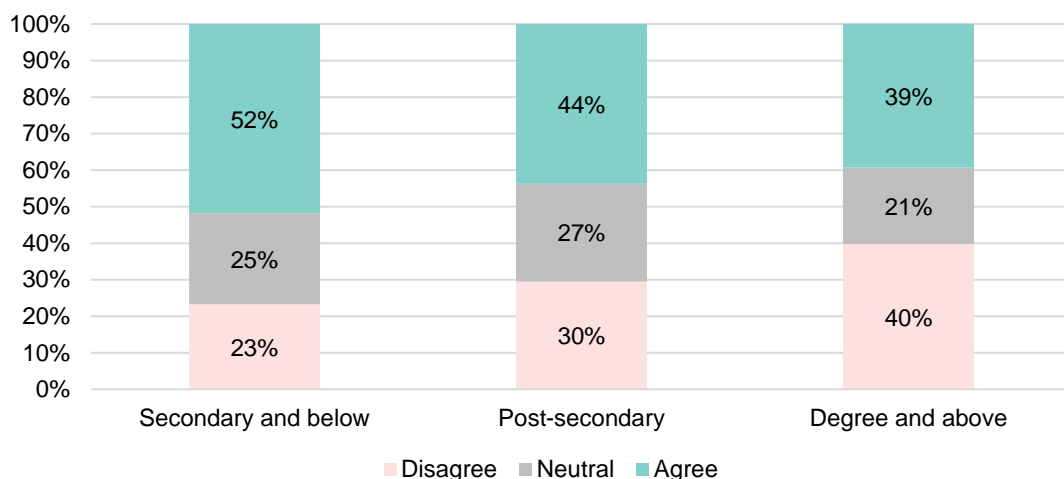


Figure 16: I work as a PHC driver because I am unable to find other jobs due to personal reasons, by education (%)



Many individuals, like Saiful (as quoted above), also switched to platform work as they found that it paid more than their current job and/or that platform work gave them the possibility of earning an income which could be higher than what they could expect from other jobs based on their qualification. This is especially so for platform workers who do not have university credentials. As Razi, a 38-year-old driver, explains when we asked him why he took up driving,

If I want to work full-time, my gaji (pay) with my current (ITE) cert berapa aje boleh bawa balik (how much can I bring back?). So this is so-called the best option lah currently.

Interestingly, during the “early days” of PHC drivers in Singapore when Uber was still around and Grab had just entered Singapore, there were reports of drivers who drove between 12-14 hours per day with one day off per week earning anywhere between \$5,000 to \$8,000. There were reports of those earning even five figure salaries a month⁷. As Razi recalls,

The syiok is there because at that point of time, the Grab ride hailing is still in its starting time. So they throw in all those good incentives lah. Good incentives, that’s why more and more drivers came in and that’s why at that point of time also vocational license is not implemented yet. So, got all different kinds of drivers lah on the road.

The most Razi has made in a month was \$8,000 which was three times what he was earning as a truck driver before becoming a PHC driver. Interestingly, it was also more than what many degree holders his age would expect to earn according to the median salary of degree holders⁸.

Just like Razi, many of our interview participants who previously held blue collared jobs felt encouraged to “test drive” and be platform workers by news of how much people were earning from being a PHC driver. They would typically moonlight and drive part-time after work. This experience nudged them to make the switch; once they saw how much more they could make, they quit their jobs and drove full-time as a PHC driver. Hence, it seems that individuals did

⁷ While many drivers claimed that earning five figure salaries was very possible during that period, none of our participants reported having five figure monthly incomes.

⁸ Median for degree holders is \$7,434. See Dollars and Sense. (2021, July 19). What’s The Median Salary In Singapore (At Every Age, Gender, Education and Race). Retrieved February 16, 2022, from <https://dollarsandsense.sg/whats-median-salary-singapore-every-age-gender-education-race/>.

experience an increase of income by becoming a platform worker. Also, as the quote from Razi suggests, incentives are an important part of earnings and this will be discussed later in section 4.3.2.

Furthermore, due to the low barriers to entry to platform work especially for delivery riders, platform work has provided an alternate job not only for individuals without qualifications but also individuals who have difficulty securing a job perhaps because of some difficulty. Shafik, 24, suffers from health issues and has limited work options. Living in a rental flat, he has to make a living for his wife and children. As such, he explains his decision to do food delivery;

I'm not fit to work at warehouses because of my injury, I'm not fit to work as technician or any place that's dusty. That only leaves me with offices. [...] My education level (ITE) is not that high, so there's very limited choices for me also. So, my choice of work is very limited. Since I feel comfortable doing this job, might as well continue.

Hence, platform work provides an opportunity for people to make a living, especially for those who may not earn substantial incomes in their primary job, or those who were not able to find a stable job elsewhere. Wan Ying worked in relatively low paying logistics work for many years before stumbling into platform work, which allowed her the flexibility of increasing her earning power:

"Why I become a [platform] rider, I actually need some income to supplement. So this more flexible because you can work anytime. So I choose to do. ... After my work, I work 5.30pm to either 9.30 or 10pm, Monday to Friday.

Wan Ying, 39, Rider

The flexibility and the ability to earn instant income also attracts those who are looking to leave their existing careers. They might have felt that platform work was the quickest means to securing decent paying employment, as illustrated by Chin Han:

I was flying for so many years; even though I have a engineering degree I don't think I can get a job which can pay \$4000-\$5000 unless I have been in the company for a long time...we have always had a car at home so I thought why not use it and I did my research, this was the best option (i.e did not need long interview wait, and there were loans/expenses that he had to settle soonest)...people don't think about it, how many jobs can give you a car; on top of a salary, that's \$1500 to \$2000 more

Chin Han, 47, Driver

3.2 Flexibility and Autonomy

The only pros is that it's flexible. That's it!

Hashim, 37

Platform work is also attractive because it provides individuals with work which they believe would give them some degree of flexibility and autonomy, features of work which are seldom accorded to lower skilled workers. Flexibility in the platform economy is specific to two functions: the ability to accept or reject jobs, and schedule their work time. Platform workers can be offline anytime and there are no obligations to a complete set working hours. Flexibility as a main reason why people drive was also what Hall and Krueger (2018) found out in their study on Uber drivers in the United States.

As Jim, a 61-year-old full-time driver, explains when talking about the benefits of being a platform worker,

Flexible. I have time to work, rest and relax. Before Covid, I would go to Melaka every 2 months, like a retreat, 3 days 2 nights holiday. So I will work and save up, 3 days of rent, pay and go on holiday.

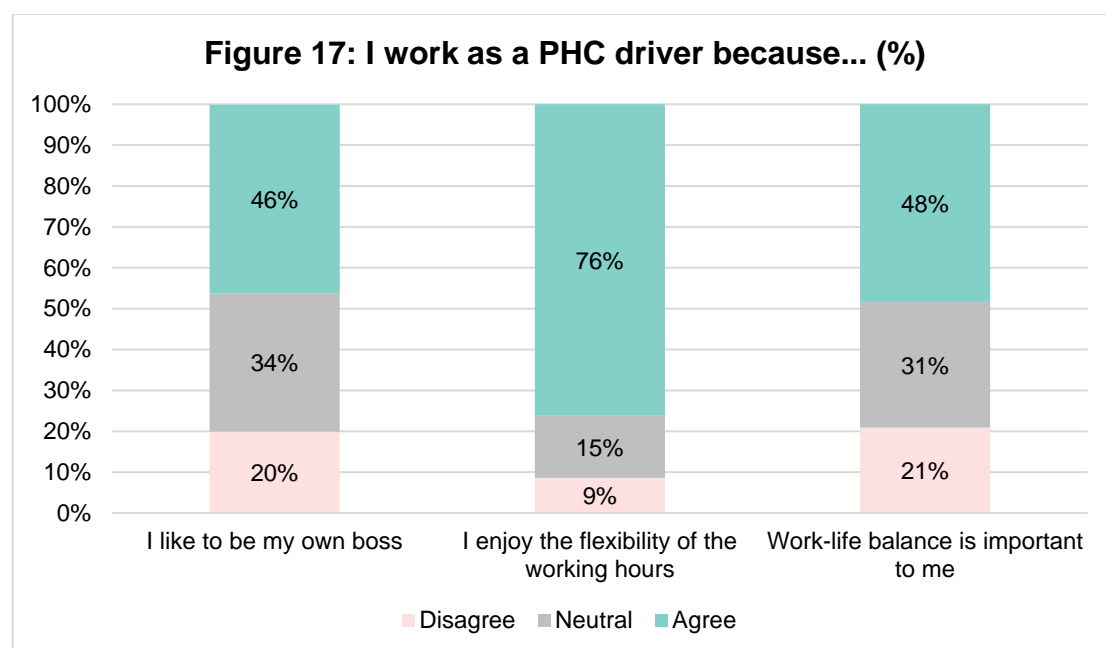
The flexibility is also ideal when the platform worker needs to attend to an unexpected family emergency. There is no need to get permission from a supervisor to attend to these issues. As one driver, Zamani aged 37 explains,

Private-hire? Kirakan macam (For example,) this flexibility in the sense of, in case of emergency, I don't have to ask my hire superior to take leave. Of course, this industry have no leave lah. We have to take care of our own health and, plan out our leave, plan out our off day. All is mostly us lah. Whereas there's the most, how to say eh, the best thing lah for me. In case of

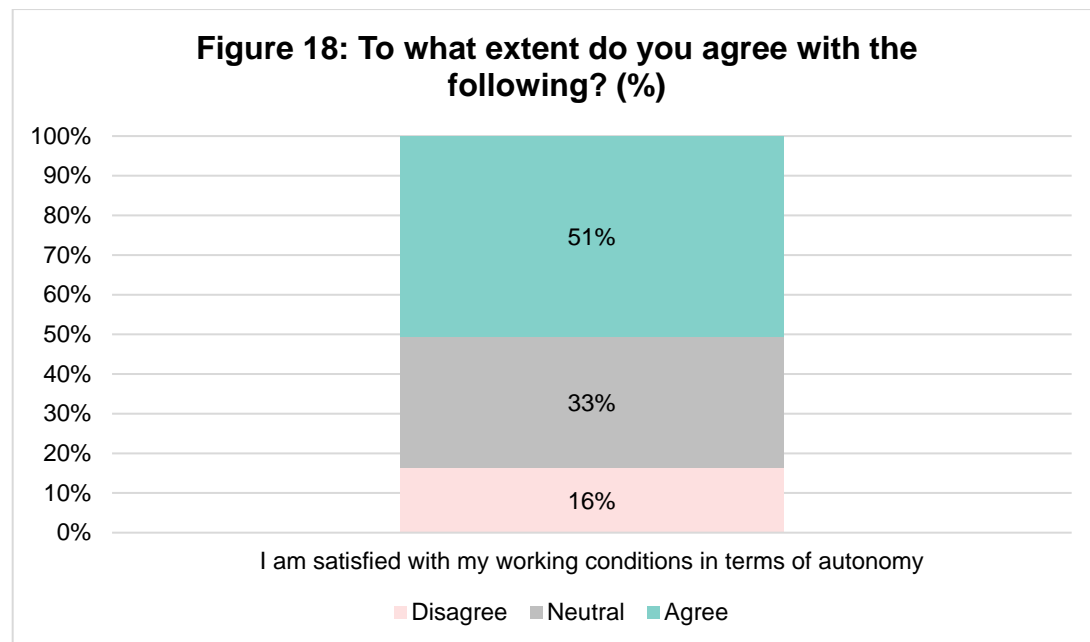
emergency, kirakan bebas (like I am free) lah tak payah (no need) tanya siapa-siapa (permission from anyone) lah.

Some riders subscribe to the notion that being a rider means being your own 'boss', albeit with caveats that they have to be responsible to complete their work. They relish the opportunity to be able to determine their income and how they use their time.

According to our survey with drivers, three-quarters (76 per cent) of respondents reported that flexibility of the working hours was one of the reasons for their decision to drive, and slightly less than half of the respondents chose the reason that they liked to be their own boss (46 per cent) or prioritised work-life balance (48 per cent) (see Figure 17).

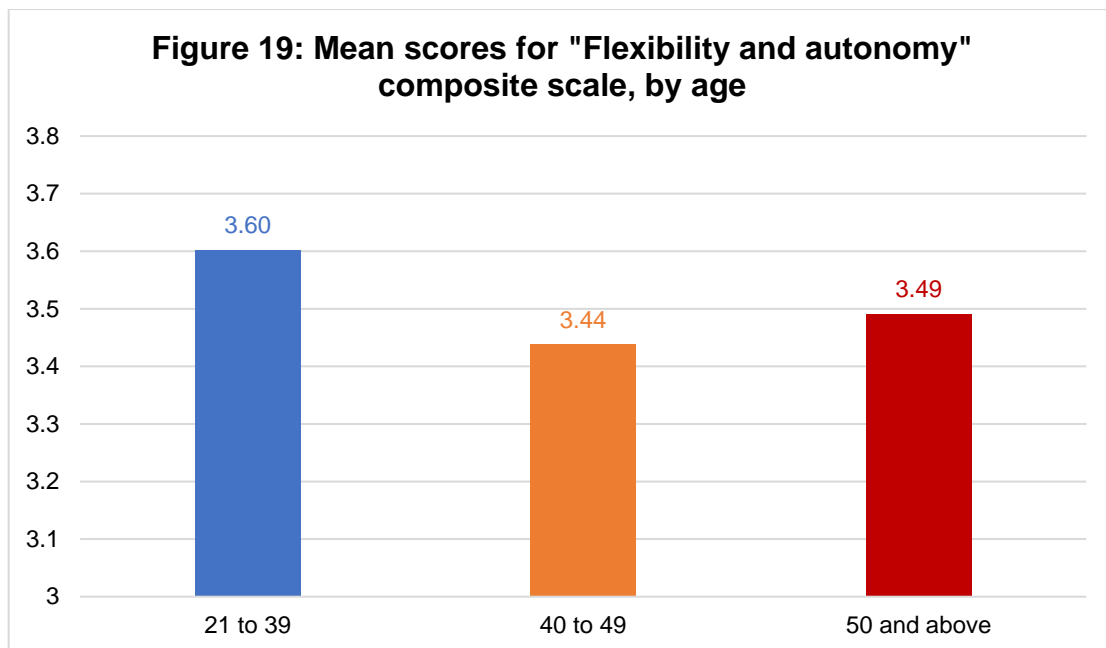


Slightly more than half of respondents (51 per cent) likewise said that they were satisfied with their working conditions in terms of their autonomy (see Figure 18).



We combined the above four survey items⁹ into a composite scale (satisfactory internal consistency, $\alpha = .750$) to obtain an aggregate measure of driver attitudes on work flexibility and autonomy. A one-way ANOVA was then conducted to determine if there were any differences between the different age groups regarding flexibility and autonomy. On average, respondents in the 40- to 49-year-old age group were less likely to become a PHC driver because they were motivated by its job flexibility and autonomy as compared to respondents in the 21 to 39 age group (see Figure 19). There was no statistically significant difference between the 40- to 49-year-olds and those aged 50 and above. Hence, younger drivers were more likely to relish the prospect of flexibility and autonomy that the work provides.

⁹ The four survey items are “I work as a PHC driver because I like to be my own boss”, “I work as a PHC driver because I enjoy the flexibility of the working hours”, “I work as a PHC driver because work-life balance is important to me” and “I am satisfied with my working conditions in terms of autonomy”.



I cannot sit in the office whole day, and then have to hear all the complaints [from the admin staff/supervisors] so driving [platform] is more suitable for me. Also I can do other jobs too [does occasional work with others]. I am more suited for this job.

Koh, 34, Driver, Former logistics specialist

The draw of flexibility becomes amplified to platform workers who were previously engaged in low-autonomy, typically blue-collar or lower-skilled work. In such work, there is usually limited freedom to choose working hours, with many and strict rules, and the nature of their work is highly physically demanding. Adil, 40, used to work for a fast-food chain as a delivery worker before switching to platform work due to the demands of the work and the freedom to take charge in his deliveries:

(On working as a fast-food delivery) "Whenever you have order, every completed order you get paid. ... You are still paid

by the hour, secured. You don't worry. ... After the ban, I tried cycling in the uniform in the hot sun, cannot. Their uniforms are thicker and it's difficult to breathe in. Bags are big and distances are pretty far. Don't have freedom to say you cannot go this place or that. You are employed under them, must go."

Similarly, Guan, 48, switched to becoming a driver after taking into consideration of his age and the long hours required for him in his previous job as a chef.

(Previously worked as a chef in hotel) that line many hours, sometimes past midnight...now age is catching up, so I don't work too much, just earn enough when I can.

As such, platform work provides individuals with work which they believe has conferred them some amount of flexibility and autonomy.

4 PLATFORM WORK: KEY CONCERNS

Platform work has provided its workers with an avenue to earn a living and access to a job which provides them with flexibility and autonomy. It has indeed become an attractive job option for many. However, the downsides of working in platform work over the long term need to be understood to have a balanced discourse on platform work.

In this section, we further deconstruct the experience of PHC drivers and delivery riders and point to areas of concern. We highlight the downsides of platform work, such as the need to “grind” to earn more and how flexibility might be “inflexible” when chasing ideal wages. We also examine the long-term career prospects, finances and health of platform workers, the potential to entrench lower income individuals into poverty, and the precarious nature of the job.

Flexibility and autonomy of platform work has been a draw to work in the gig economy. However, for those who rely on this job for their livelihoods, there exists a paradox - enjoying the flexibility of this job by taking breaks can be costly.

While platform work also provides these workers with sizeable incomes, sometimes much more than what they would normally be able to attain, there are concerns about the sustainability of such work. Involvement in full time platform work can impede the long-term career mobility of such workers and take time away from upskilling pursuits. The precarity of platform work also questions the viability of this job as a career.

The areas of concern we present in this report are not intended to diminish the important contribution that platform providers bring to the economy. As we have shown earlier, these platforms have been successful in providing people a source of income, especially those who for a variety of reasons such as

retrenchment, are displaced from full time work or because of their backgrounds and family responsibilities, do not qualify easily for full time work, and for that matter those who require additional income which cannot be obtained through their full time jobs. By highlighting areas of concern, we hope that this will afford more opportunity areas for the design of interventions by both platform companies, associations and the government which could ultimately improve the working experience of these workers.

4.1 “Slogging away” to earn more

Flexibility comes with many caveats. In order to earn sizeable incomes, workers are encouraged and incentivised to forgo their freedom. Flexibility can be a trap for inflexibility. Platform workers are responsible for their own earnings and have to be highly committed to the work so that they can leverage on getting an adequate number of job and incentives. In order to earn sizeable incomes, platform workers have to “grind” – they must be highly committed so that they can get an adequate number of passenger rides / food delivery requests and incentives.

4.1.1 Marcus’s and Neil’s journey to a sizeable income

To really illustrate the grind some platform workers such as Marcus, a 32-year-old delivery rider, and Neil, a 61-year-old driver, undertake to be top tier workers and earn around \$4,000 - \$5,000 and \$8,000 respectively a month, we share here snippets from the ethnographic field notes and interviews with them.

Marcus

Marcus has been a highly committed full-time rider for the last two years. Despite the inconsistency in the larger social landscape due to the pandemic, Marcus has, as he states, “always been very consistent. I work more than other riders. I know I can compete.” He works 14 hours on average on weekdays and

according to him, “half days” on the weekends. He earns almost \$5,000 every month. He categorises himself as one of the few ‘top riders’ of his area. Behind this, hides the gruelling nature of his work. To understand his workday, IPS researcher Wen Li followed him on a weekend. The day lasted for almost 9 hours, cycling about 50km, which according to Marcus, is a “very chill day” for him.

Here are snippets from her fieldnotes:

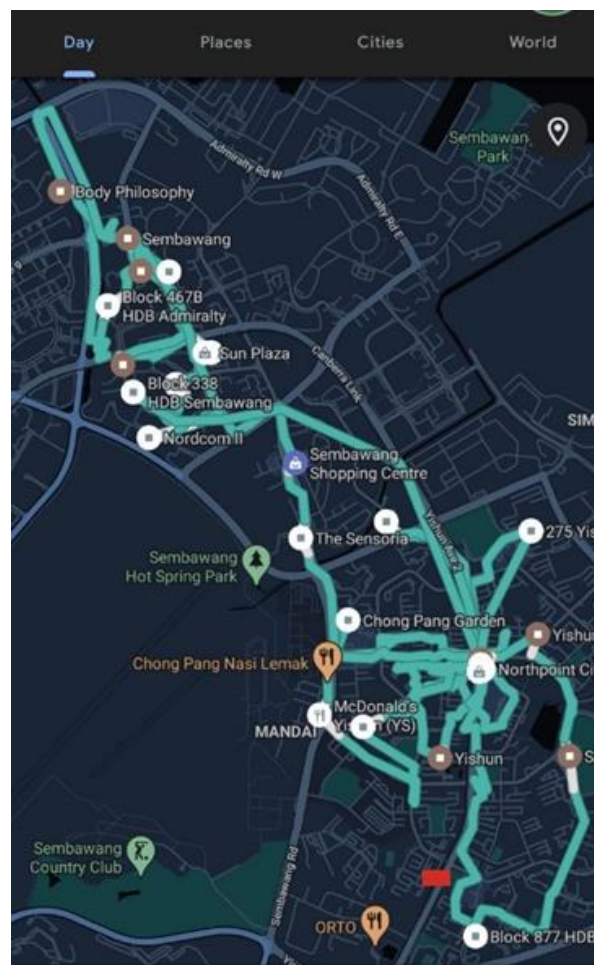


Image 6: The distance and route travelled by Marcus and IPS researcher Wen Li on his ‘half’ day – Sunday. A total of about 50km of distance was covered from Khatib to Woodlands.

We ended up cycling for about 50km that day. ... He accepted every single job. He says, “I will never decline any orders. This acceptance rate will allow me to increase my ranking.” The

IPS Working Paper No. 44 (February 2022):

Precarity in Platform Work: A Study of Private-hire Car Drivers and Food Delivery Riders
by Mathew, M., Zainuddin, S., Thian, W.L, Phoa, F. & Lee, C.

platform assigns Marcus to different places every day, even across zones, from Khatib to Woodlands (see Figure 23). Every day, Marcus follows different delivery paths. While he expresses dislike in travelling to specific locations, such as industrial areas, he never rejects any orders. His consistency in accepting every job meant that his batch ranking was high, and he was rewarded with consistent orders being assigned to him. He did not have time to eat lunch ... Throughout the day, the only rest times were the short waiting times at the merchants. ... We arrived at a merchant notorious amongst riders for being slow, where we took our only toilet break while waiting for the food. ... Marcus receives orders non-stop, orders come in almost immediately after each completed order. There was no time to rest ... It was almost 4pm when we had our first meal of the day after his shift.

Ethnographic Fieldnotes, Wen Li

In doing this, Marcus sacrificed more time for more income – an inherent feature in the seemingly ‘flexible’ platform work:

When I started, I just wanted to do peak hours. Because my friend told me 1 hour you can do 4, maximum. So that’s already \$20, so 5 hours is \$100. But slowly I realise that’s not true. It’s true before all these things happen (covid). But now more riders, more people ordering food... . So I started to adjust my time, until now I am already coming out at 6am. ... So I work 6am to 8pm. ... Everyday, most of the time.

Marcus is what some academics describe as an ‘ideal worker’ (Acker, 1990, p. 149), “the male worker whose life centres on his full-time, life-long job, while his wife or another woman takes care of his personal needs and his children”, with minimal disruptions to work. In order to earn \$5,000 a month, Marcus wakes up at 5.30 am every day, after an average of 5 to 6 hours of sleep (“6 hours is way

more than enough already for humans”, he would say). He prepares to start his workday and logs on to his app without fail around 6am. Upon getting his first order on the app, he moves out and starts his day, armed with only a second-hand bike and a helmet. He works over 14 hours a day on weekdays and 8 to 9 hours on weekends, or as he would call it, ‘half days’. “I think I easily cycle well over 60km a day,” Marcus would casually mention. His record was 80km a day. The ‘successful’ worker then has relatively fixed and strict work schedules with a high level of discipline.

Neil

Neil is a top tier PHC driver who has been working as a PHC driver for eight years at the time of speaking with him. He started with Uber and is now working for another platform. His highest qualification is ‘O’ Level qualifications and is married with three children in their late 20s.

Aged 61 during our interview with him, Neil drives for about 16 hours a day with no off days and earns about \$8,000 a month after deductions such as the 20% commission the platforms takes from all fares, rental and fuel.

This is an excerpt from an interview with him and it begins after we ask him what his earnings were:

Neil: *8k, and 3.5k deductions.*

Interviewer: *But you must work 16 hours?*

Neil: *Ya. 6 o’clock I start till about 11, take a break. 12 noon all the way until 8 or 9 at night, everyday, 7 days a week.*

Interviewer: *So your lunch?*

Neil: *All in the 1 hr break, lunch, brunch all.*

Interviewer: *Any breaks in between the 12 to 9?*

Neil: *No breaks, cannot have one.*

Interviewer: *Do you choose trips?*

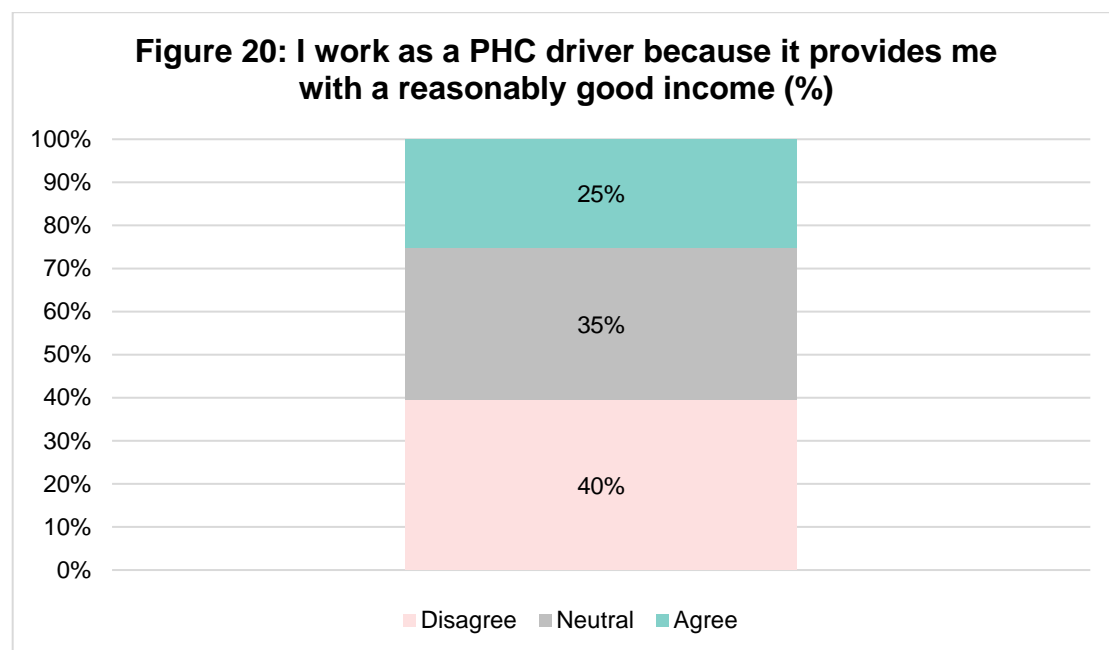
Neil: *I take every egg in the basket lah...*

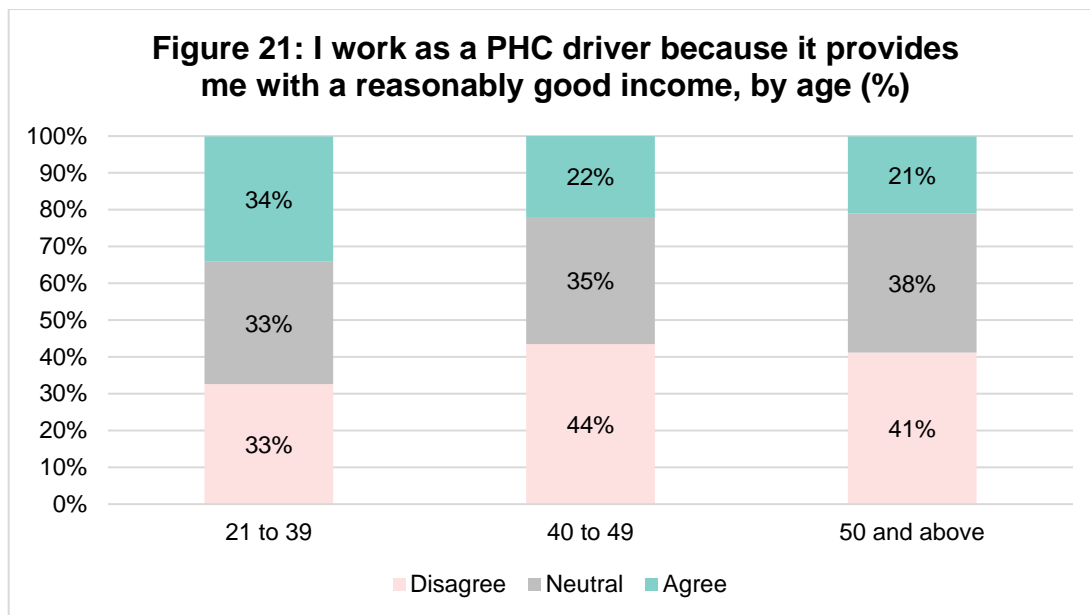
He reveals in the later part of the interview that he is working so hard to clear loans he took to pay for his son's university education. He gave himself another year to do so.

Unlike delivery riding which can involve substantial physical activity even if you use a motorbike, one can do full-time PHC driving and remain in the top tier even past their 60s. But it shows the amount you have to "grind" to remain at the top tier. 16 hours a day driving to earn \$8,000 or 14 hours a day cycling to earn between \$4,000 - \$5,000 are by no means easy ways to earn a living. At this point we must acknowledge that drivers and riders do sometimes inflate the exact number of hours they work. In Neil's case, his average driving time was probably between 13-14 hours based on his breakdown of his time with occasional spurts of 16 hour days when perhaps he feels he is physically up to increasing his collections. In our interviews with drivers and riders, we often were able to have them show us their apps which helped further corroborate the extent of their work. Needless to say for a good number of drivers and riders, better incomes on the platform require very long hours.

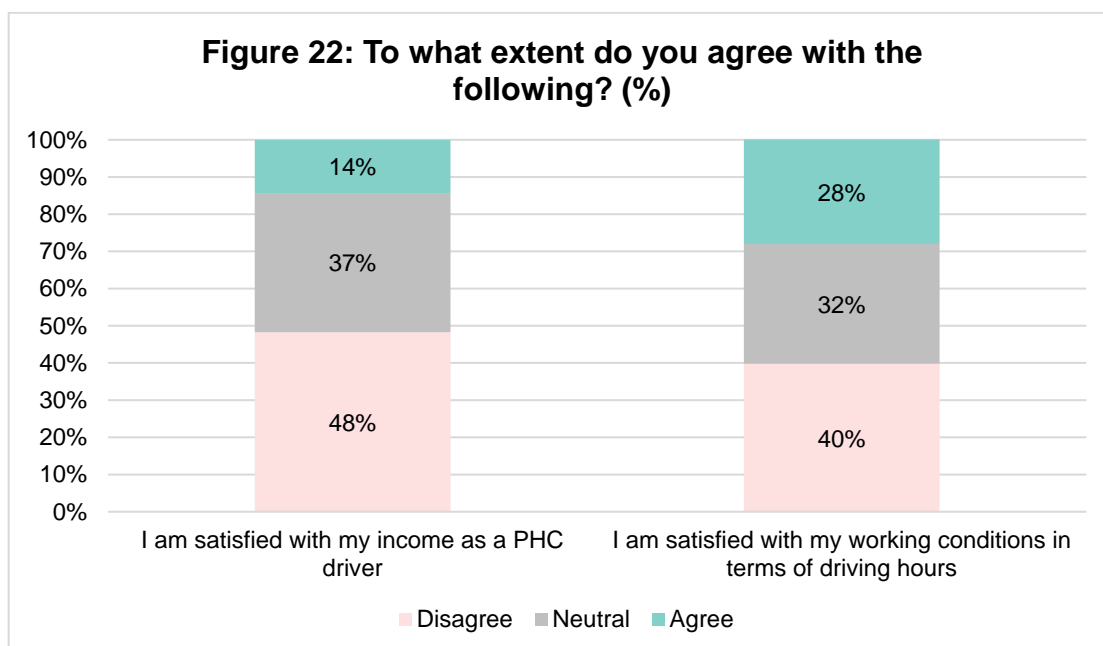
4.1.2 On income, work conditions and quality of life

In our survey with PHC drivers, only around 25 per cent of respondents indicated that they became a driver because it provided them with a reasonably good income (see Figure 20). Younger drivers were more likely to work as a driver because it provided them with a reasonably good income as compared to older drivers. This discrepancy could be based on the expectations that older drivers have, given their increased financial needs taking care of family needs and perhaps better earnings they had before taking on PHC driving (34 per cent, see Figure 21).



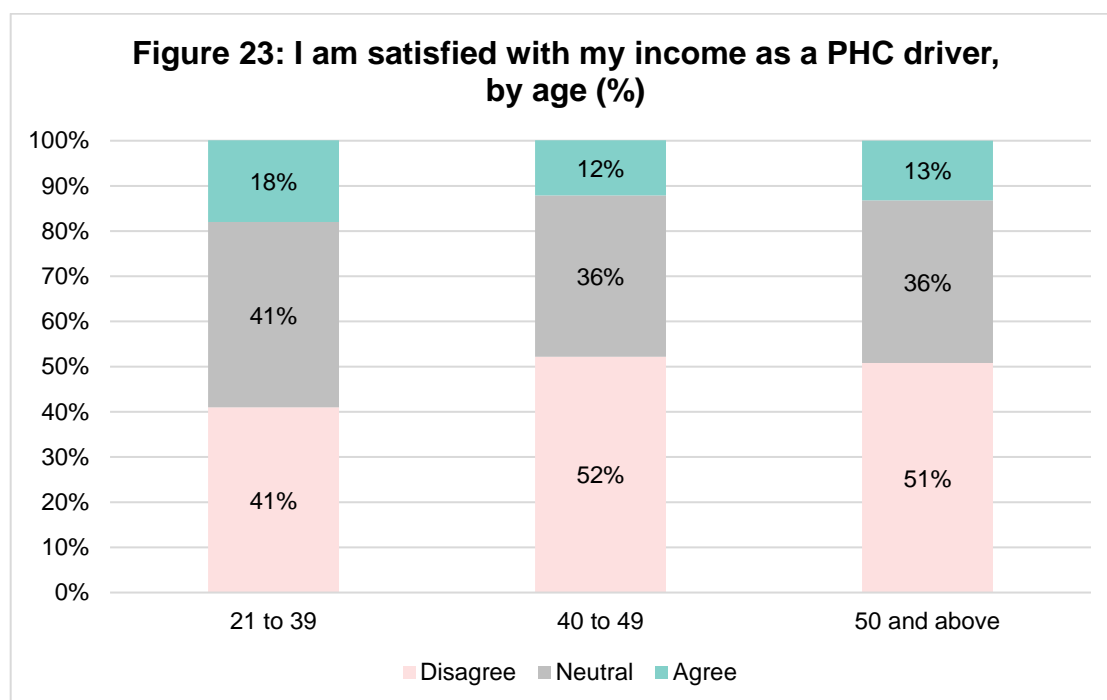


Close to half (48 per cent) of surveyed drivers were not satisfied with their income as a driver and approximately 40 per cent were not satisfied with their working conditions in terms of their driving hours (see Figure 22).

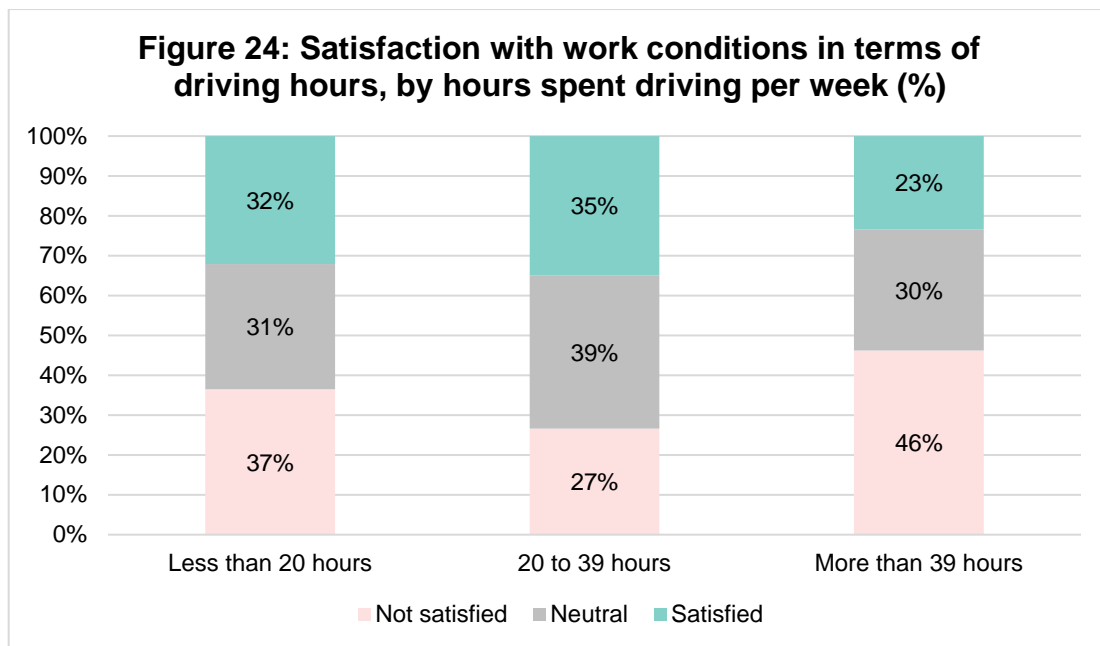


Older drivers were more likely to be dissatisfied with their income as a PHC driver. While around four in 10 surveyed drivers aged below 40 were dissatisfied

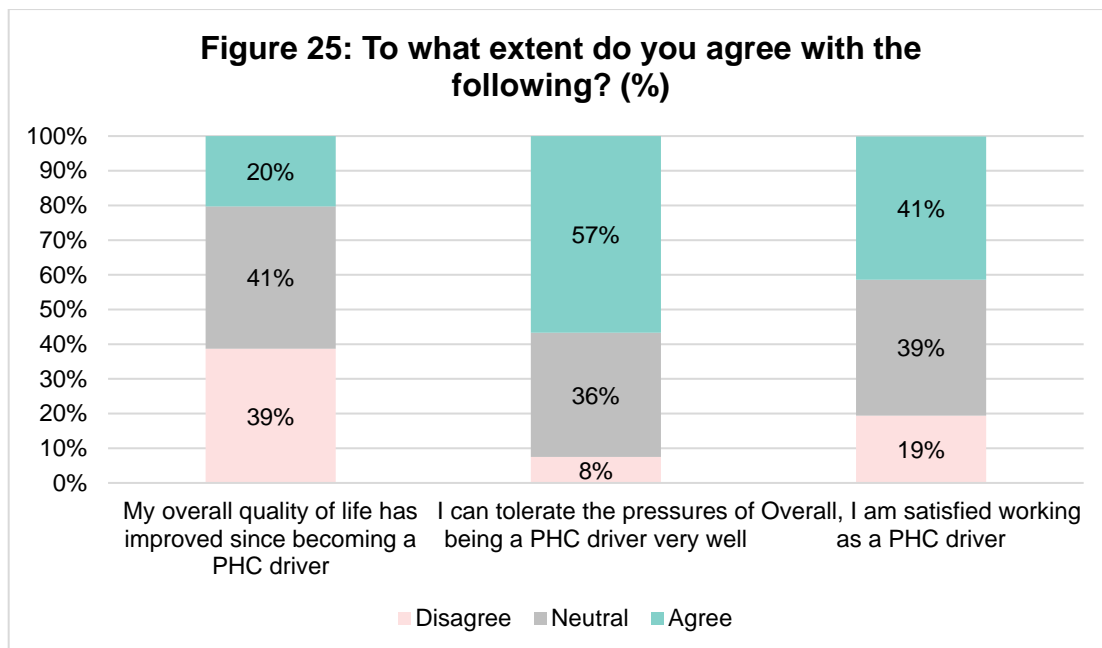
with their income, about half of surveyed drivers aged 40 and above were dissatisfied with their income (see Figure 23).



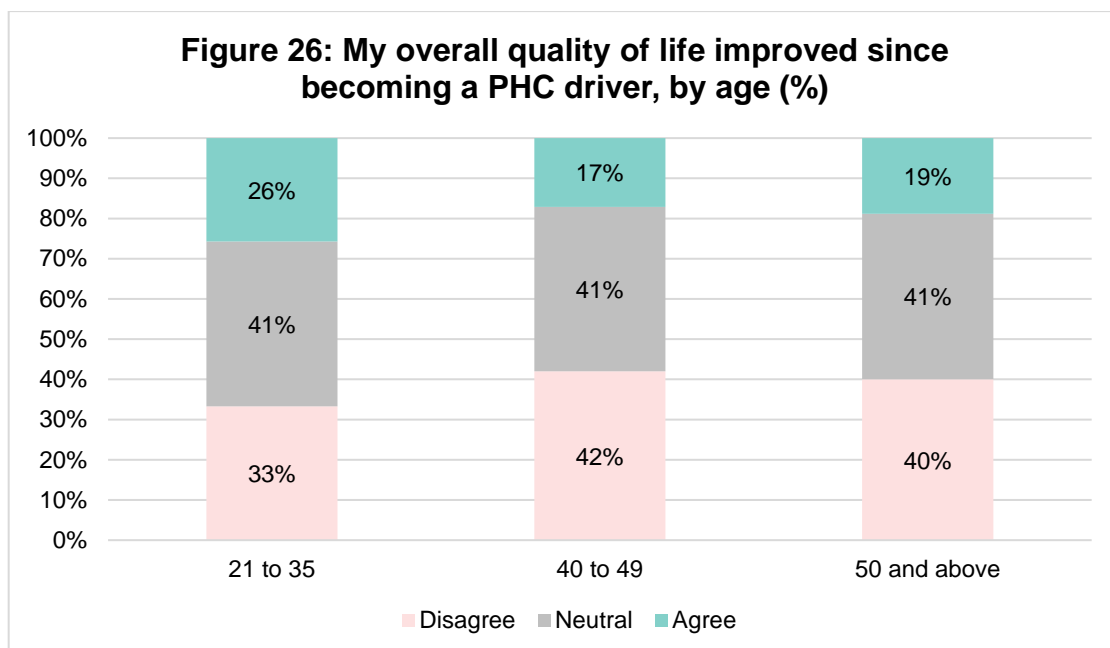
Respondents who drove fewer hours per week were more likely to be satisfied with their working conditions in terms of their driving hours (see Figure 24). More specifically, 46 per cent of respondents who drove more than 39 hours a week were not satisfied with their working conditions in terms of their driving hours, as compared to 27 per cent of those who drove 20 to 39 hours a week.

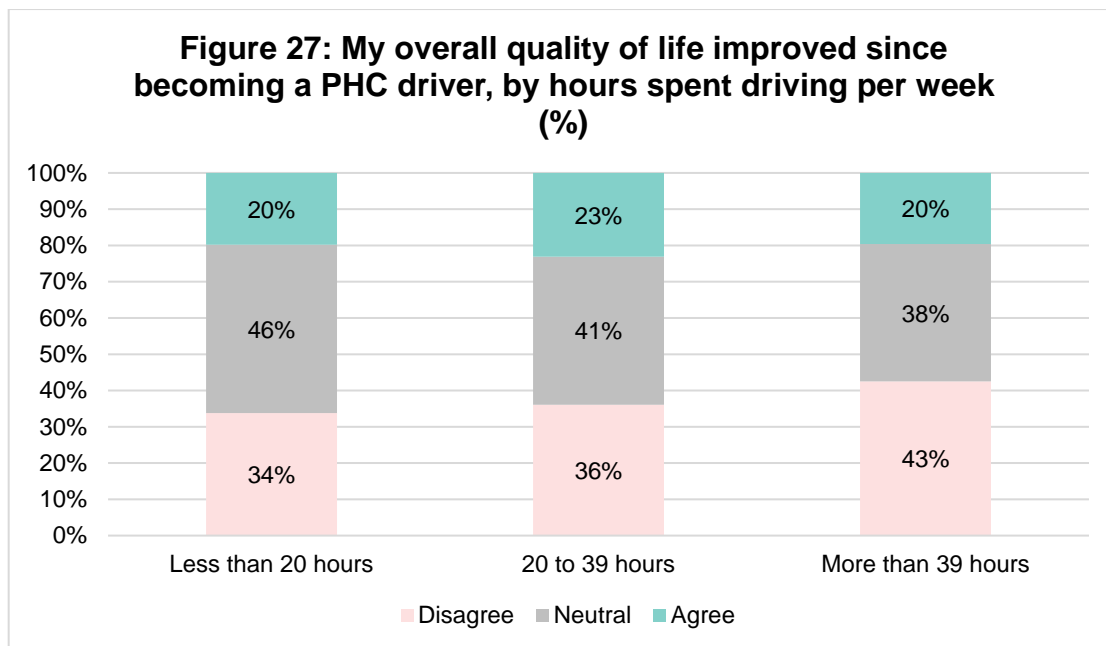


Furthermore, even though 57 per cent said that they could tolerate the pressures of being a PHC driver very well, only one in five said that their overall quality of life has improved since becoming a PHC driver (see Figure 25). Overall, taking all things into consideration, only around four in 10 respondents said they were satisfied working as a PHC driver (see Figure 25). Hence, while some drivers have been able to tolerate the pressures of driving very well, drivers are generally not satisfied with the job and do not feel that their overall quality of life has improved as a result of working as a PHC driver.



Respondents who were younger (Figure 26) and respondents who drove fewer hours in a week (Figure 27) were more likely to say that their overall quality of life has improved since becoming a PHC driver.





Generally, respondents who were younger (see Figure 28), who drove fewer hours in a week (Figure 29) and respondents who have been driving for less than one year (Figure 30) were more likely to say that they were satisfied overall working as a PHC driver. Regression analysis also showed that drivers who were satisfied with their incomes, drivers who were satisfied with their driving hours, drivers who were satisfied with the autonomy in the job, drivers who find driving as a positive challenge, drivers who felt less stressed, and drivers who were able to tolerate the pressures of the job were more likely to say that they were satisfied overall working as a PHC driver. The most significant predictors were viewing the work as a positive challenge, satisfaction with income, and being able to tolerate the pressures of the work well.

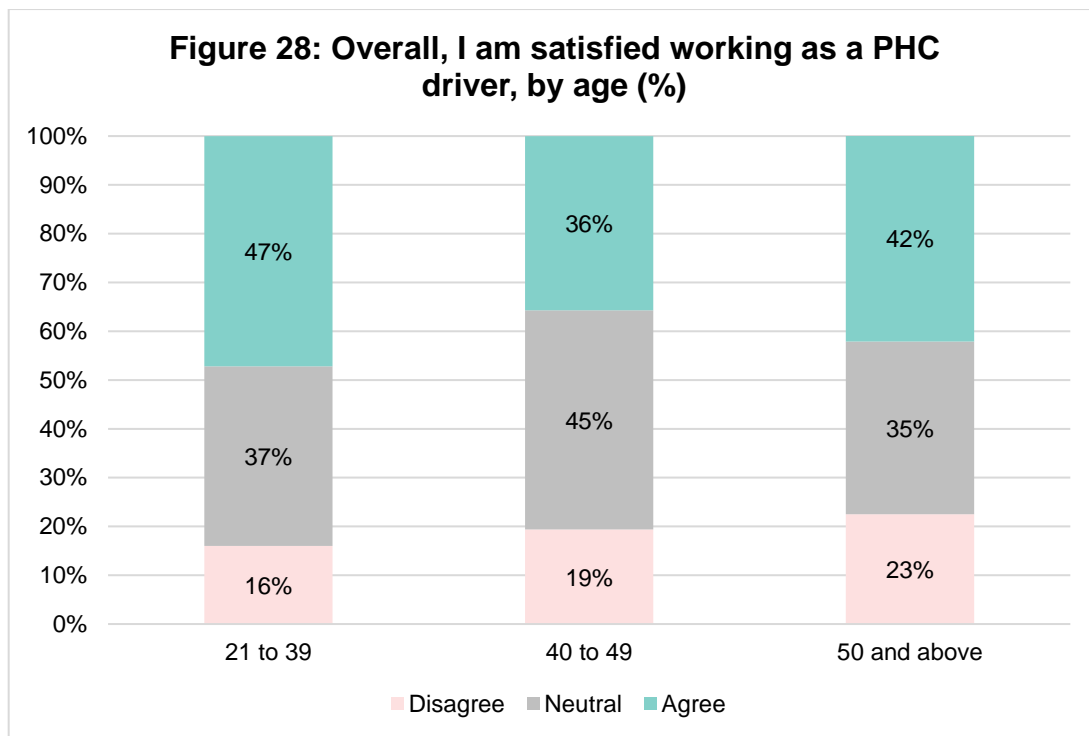


Figure 29: Overall, I am satisfied working as a PHC driver, by hours spent driving per week (%)

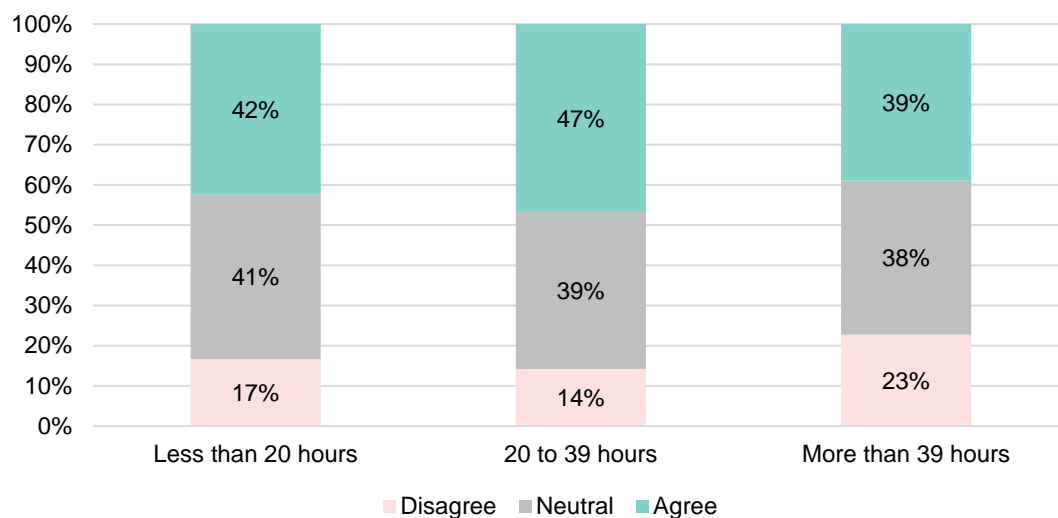
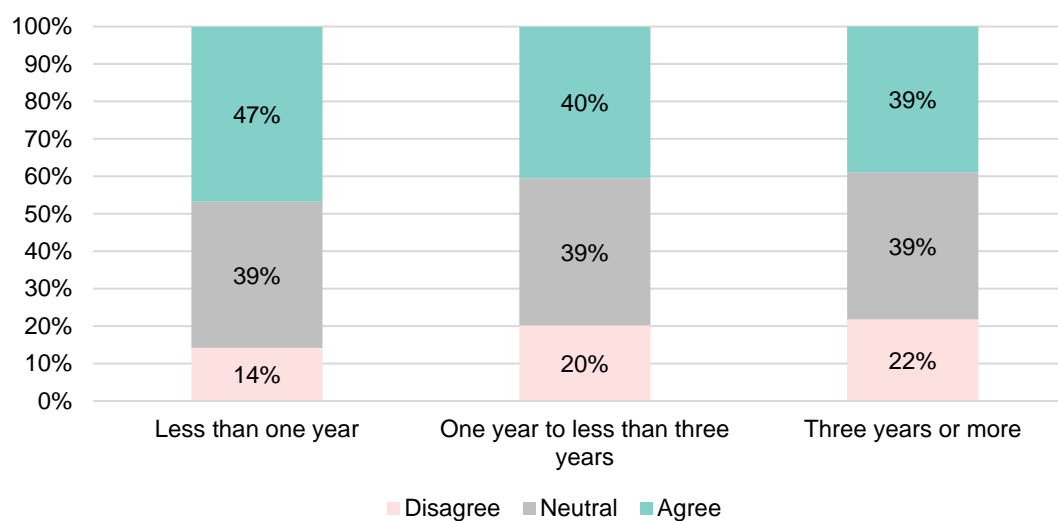


Figure 30: Overall, I am satisfied working as a PHC driver, by number of years worked (%)



4.2 Two-Sides to Flexibility

While flexibility is one of the biggest draws to platform work, we argue that for platform workers, especially for full-timers like Marcus and Neil who derive full income from platform work, “grinding” is the only way to earn a sizeable income and they are unable to enjoy the flexibility platform work brings. It is important to remember that platform workers, unlike many other freelancers, are not able to set their prices; they are essentially price takers and thus do not have as much control over how much they can earn.

Several more seasoned full-time drivers who have driven for at least five years shared how they enjoyed the flexibility the job provided in the early Uber days. They spoke about how they would be able to choose to bring their families for outings to neighbouring JB or bring their mothers to the market and still earn a “good” wage. They lament about how the situation is vastly different now.

Great to get money but no time to spend money.

Hashim, 37, Driver

This idea of flexibility gives the perception that platform workers have the freedom to choose when they want to work and for how long, which contrasts with the traditional fixed hour work. Although, as Jamil and Noiseux (2018, p.15) argue in their ethnographic work on Uber drivers in Canada,

the issue of freedom to choose is the fact that this question is somehow irrelevant for many full-timers who spend most of their non-sleeping time behind the wheel.

This is true especially for full-time drivers we studied. Part-timers have the “safety net” of their main job but full-timers depend mostly on the job for income. As Razi, 38, Driver explains,

Unless you are not aiming to get income for that month lah. Then there's a lot of flexibility lah, work 1, 2 hour lah. If work 1, 2 hour I can choose lah. Maybe I work at 10 to 12 today or 6 to 8 today. If you are working 10 to 12 hours, it doesn't matter you are 9 to 9, or 10 to 10, you are on the road.

Hence, while it seems that platform workers can choose the date and time they would like to work, full-time platform workers would need to work at least during peak hours where fares are higher and if possible¹⁰, chase and earn incentives, in order to maximize their incomes. It is extremely difficult to maintain their income otherwise. When discussing flexibility and having the ability to choose working days/hours, this was what Ben (R12), a 40-year-old full-time driver who has been driving for 5 years said,

If you want to earn in this industry, you have to work the important days which is like Friday and Saturday, so that's one of the cons. You have to sacrifice your family time because my wife is on you know, office hours so Saturday, Sunday she's at home. My son is also at home on Saturday and Sunday.

But I, typically I work one of the weekends, so one weekend I'll take off. Meaning either one Sunday I'll take off, or Saturday I'll take off. Which means instead of 2 off days, it's just like 1 off day and that's it. You know, one of the weekends will get burnt lah.

Further, this flexibility without much employee protections also opens drivers up to being rather sensitive to volatile economic market forces. According to more experienced drivers, earnings have been falling, especially compared to the earlier days when ride hailing companies were new in the market and vigorously recruiting drivers. Drivers attribute this reduction in income to the larger number of people joining platform work even before the pandemic took place. They

¹⁰ Possible because many drivers we spoke to “gave up” on trying to find out what the incentive system is and do not make it a point to chase incentives as it constantly changes and is often very difficult to get.

allege that unlike the taxi system, where there was a cap on the number of taxis, the number of PHC licenses can increase without much limit. Moreover the much larger incentives that used to be a significant boost to earnings seem to have been greatly reduced. Though there is no way drivers could substantiate this, there was a belief among some that platforms would make it harder for them to gain the incentives. As Chia shared, “Like when you are near the number (of expected trips which allows you to enjoy an incentive) suddenly like no more calls like that.”

As much as the promise of flexibility is alluring, it comes with caveats. While there exists a perception that platform workers can “be their own boss”, research on Uber shows that the app monitors and controls drivers’ activities through incentivisation schemes and an assortment of algorithms (Rosenblat & Stark, 2016) which will be further discussed in the following sections.

4.3 Algorithmic Management – Managing ‘Freedom’

While there appears to be a simple work logic to platform work, where workers get paid in exchange for completing a task as with most work, the actual picture is more complex and in this case, not fully known. Platform workers are subjected to the rules and controls of the platform company while the company gathers the data of the workers to evaluate compliance. Such considerations gave rise to the concept of ‘algorithmic management’. Effects of algorithm management have become associated with workers’ diminishing control over work and the automation of decision-making (Howcroft & Bergvall-Kåreborn, 2019).

Algorithm management in the gig economy, or the “oversight, governance and control practices conducted by software algorithms” (Möhlmann & Zalmanson, 2017, p. 4), presents functions in which technology can support managerial

control. As Waters and Woodcock (2020) described in their study on Deliveroo, these platforms have the ability to thoroughly monitor the labour process and function as an ‘algorithmic panopticon’ – with a godlike view over all of their workers’ entire labour process. As driver Riz, 38 explains,

They (the platform), knows a lot about us. They have AI technology. They know where we are, our passengers, the jobs we get. They can also control if they want to. Who gets more ping (jobs), who gets less. What the incentives are. They have all the info, they can control.

The asymmetrical access to information is a key feature in platform work, where workers often have to engage in decision making processes without the knowledge required to evaluate the decision (Rosenblat and Stark, 2016). Riders and drivers have limited control over how jobs are allocated and how their work day will look like, or the places they will go.

It's stated by [platform] rules and regulation, if you cancel too much, you are not eligible for quest incentives, then if they subsequently cancel too much they will get suspended. They know riders keep cancelling, come up with too much cancelled orders, so like that lor

Desmond, 26, Rider

As Desmond’s quote illustrated, platforms have rules to ensure smoother operations of the app, which at the same time, limits the behaviours of workers. They would encourage or nudge riders towards certain behaviours through incentives and penalties, thus limiting freedom.

4.3.1 Agency: Figuring how jobs are allocated

While there are riders who accept all jobs assigned, many others routinely decide whether to take up or reject an order. Reasons for not accepting orders include distance, traffic conditions, and the amount of food to be delivered. To illustrate the latter, items like large pizzas might not fit into the riders' delivery bags, and riders would have to decline such orders. One rider participant rejected an assignment because it required him to deliver from Dhoby Ghaut to Novena in 15 minutes – a journey that would typically take 35 minutes.

Digital spaces, such as Facebook, WhatsApp, and Telegram groups, are channels which riders and drivers use to find out about the specific geography of certain neighbourhoods or the happenings on a particular day, such as traffic jams, newly-launched incentives, area-specific issues, or policy announcements.

Land Transport Authority (LTA) has a team of enforcers on the ground, or 'green men', as more commonly known to riders, to ensure road and bicycle safety rules for food delivery riders. The riders have learned to avoid them using group chats to share information amongst themselves as the platforms they work for may not push out such information.

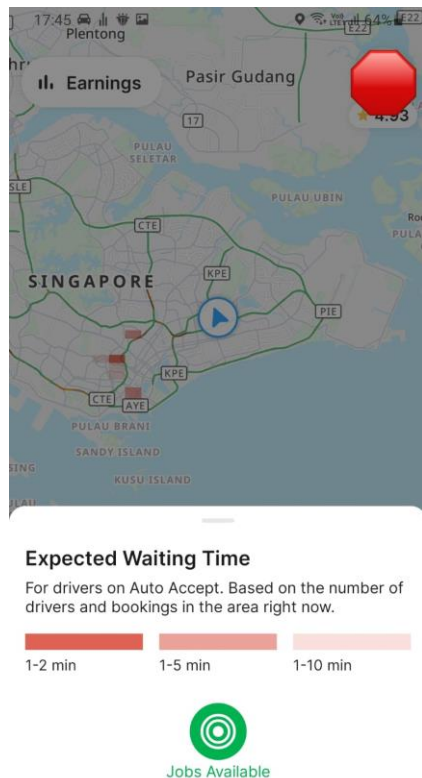


Image 7: A driver's screenshot of the "heat map" which functions to indicate areas with more demand

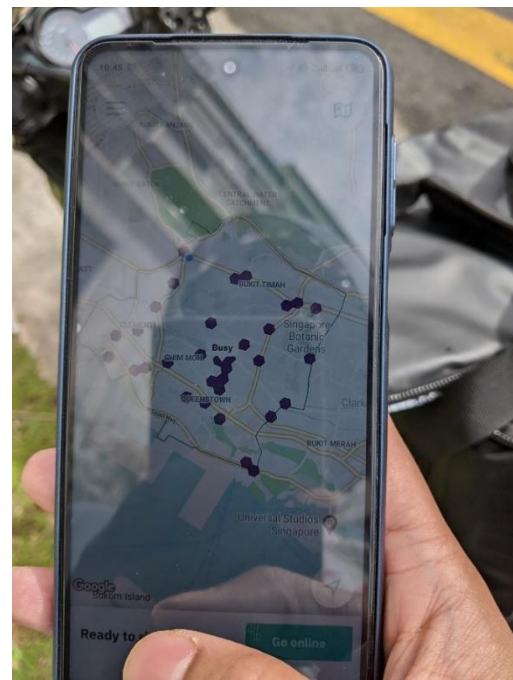


Image 8: Picture of rider's screen showing where the F&B outlets are and whether the area is "busy" (whether it has a lot of demand for riders).

When speaking with platform workers, we noticed that workers are constantly trying to figure out how jobs are allocated because this would directly impact their strategies and therefore earnings. There is no clarity on how platform companies allocate jobs, and drivers and riders are left guessing on a wide array of possibilities on how jobs are allocated such as proximity to pick up location, tier of worker, time of day (i.e. peak versus non-peak hours) or even device issues like not clearing one's cache. As 61-year-old driver Neil explains,

I a bit IT-oriented ah. Because you on the app, you drive around, believe me... Last week was at a yellow spot but I got no job for an hour. Yellow in the heat map means there is a demand, but I got to wait for 1 hour. Finally I got a job, but \$4.80. So at some point in time, you got to reboot the app, clear the cache and on again. That will help with the algorithm reset.

When you go the forum, people complain in the forum, I cannot get this, cannot get that. Full of comments on bad apps. Then I write in, try to clear your cache, that is the secret. The app does not do an auto clearing of the cache. So every morning, I will do a clearing of the cache. The app is not powerful enough. So I need to clear cache every morning before I start the system.

Platform providers typically have “heat maps” (see Images 7 and 8) to indicate to platform workers where the busy areas are located. Both riders and drivers alike look to these tools to know where to go for more jobs. Seen in that way, the app has the ability to also technically control the movements of workers.

4.3.2 Incentivising Behaviours

To incentivise platform workers to work harder, platform companies have devised a variety of strategies. These may include ranking riders/drivers, providing “quests”, “missions” or goals to hit, and providing incentives for riders/drivers to complete certain amount of orders or work certain timings. This allows platforms to manage the demand and supply of their services.

As Tom (R28), a 39-year-old PHC driver who has been driving full-time for about seven years, says about algorithm, control and job allocation,

...in terms of job allocation. Really fair as in if you start early, you drive for them, you don't go off route unnecessarily, the algorithm will really take care of you. They constantly give you jobs, and

good fare jobs. But if you are part-time driver, you sometimes online here, offline there, the system somehow knows so they never take care of them.

(Another company) on the other way round. They don't take care of the hardcore full-time drivers, they take care of the part-time drivers. I got friends who are driving, they are full-time drivers, they keep on getting \$13 job, while the part-timers they online in the evening they get the \$20, \$30 job.

Incentives are almost essential to a full-time rider/driver as they add substantially to their incomes and allow platform workers to reach their desired amount. As such, they are almost required to keep up with the changing, rapid stream of information from platforms to understand their income.

12 - 15 Aug Mission Rebate Scheme

For PHV Driver-Partners only: Starting 12 Aug (Thu), we are bringing back the Mission Rebate Scheme where you can earn 30% - 50% commission rebate throughout the entire week. This will replace the GrabWeeklyCover3 which will end on 11 Aug.

Please refer to the tables below and on the next tab for the incentive times and targets for 12-15 Aug (Thu-Sun) and 16-22 Aug (Mon-Sun) to enjoy the rebates from eligible JustGrab and JustGrabGreen jobs.

Note: Trips done from midnight onwards will be counted in the new day's incentive card (eg. 14 Aug 0001H trips will be counted in the 14 Aug card)

Incentive Day	Thu 12 Aug 2021	Fri 13 Aug 2021	Sat 14 Aug 2021	Sun 15 Aug 2021
Incentive Hour	6am - 9am 6pm - 8pm	6am - 9am 5pm - 8pm 10pm - 12am	12am - 2am 12pm - 2pm 6pm - 12am	12am - 2am 12pm - 2pm 8pm - 12am
*Trips target for the day	5	8	9	8
Commission Rebate	30%	50%	50%	50%

*Driver-partner must minimally complete the trip target to qualify for the commission rebate

Examples:

- On Thursday, a PHV driver-partner completed 5 trips within the incentive periods. He will qualify for the 30% commission rebate for all 5 trips accepted during the time periods.
- On Saturday, a PHV driver-partner received 9 trips in total but only 8 of the accepted trips falls within the incentive periods. He will NOT be eligible for the commission rebate

Image 9: Screengrab shared by one of our drivers to show the rebate scheme of a particular period

16 - 22 Aug Mission Rebate Scheme

Note: Trips done from midnight onwards will be counted in the new day's incentive card (eg. 14 Aug 0001H trips will be counted in the 14 Aug card)

Incentive Day	Mon 16 August 2021	Tue 17 August 2021	Wed 18 August 2021	Thu 19 August 2021	Fri 20 August 2021	Sat 21 August 2021	Sun 22 August 2021
Incentive Hour	6am - 9am	6am - 9am	6am - 9am	6am - 9am 6pm - 8pm	6am - 9am 5pm - 8pm 10pm - 12am	12am - 2am 12pm - 2pm 6pm - 12am	12am - 2am 12pm - 2pm 8pm - 12am
*Trips target for the day	3	3	3	5	8	9	8
Commission Rebate	30%	30%	30%	30%	50%	50%	50%

*Driver-partner must minimally complete the trip target to qualify for the commission rebate

Examples:

- On Monday, a PHV driver-partner completed 3 trips between 6am-9am. He will qualify for the 30% commission rebate for all 3 trips accepted during the time period.
- On Saturday, a PHV driver-partner received 9 trips in total but only 8 of the accepted trips falls within the incentive periods. He will NOT be eligible for the commission rebate

Requirements to qualify for rebates:

- Only JustGrab & JustGrab Green jobs are eligible for the rebate. My Destination Trips do not qualify.
- Applicable to PHV driver-partners only.
- Daily Min AR of 90% & Max CR of 10% applies to trips done. Min DR of 4.60 applies at all times.
- Incentive details will be available in-app by 16 Aug (Thu), 12am.
- Commission rebate will be paid out to your cash wallets by the next day, 8pm (i.e. Friday's rebate will be paid out by Saturday, 8pm). Trips count will be based on broadcast time during the incentive time period

Image 10: Screengrab shared by one of our drivers showing the new rebate scheme

As the above images shared by a participant (See Images 9 and 10) illustrates, incentives can change rather frequently and drivers are constantly trying to figure out what they are and how they can earn it. These incentives influence daily targets (i.e., how many trips/tasks to complete and points to achieve in a day), movement patterns (i.e., whether you drive more in the day or night, weekdays or weekends as they aim for the number of trips) and corresponding points rewarded (i.e. get a certain percentage off their commission or rebate incentives). It can push drivers to drive long hours to hit high targets. But as driver Harris, 55 observes, incentives which require platform workers to work much longer than normal hours, could possibly be seen as incentivising drowsy/fatigued or dangerous driving.

The incentives that they have are crap, like you got to hit 150 points or something like that which will translate about 30 rides a day. That means you have to work non-stop 14 to 16 hours a day. Why would they encourage drivers to meet an accident that way? Cos it's non-stop, dangerous. For them to hit the incentive of 30, 40 drives or passengers a day, and get \$100 more, it does not make sense. So the incentives are stupid. As an example, if you hit something like 80 points, you get \$25. If you hit something like 100 points, you get \$50. And you hit 150 points, you get \$100.

Incentives might also have an impact on platform worker's ability to "pick" jobs. Taking drivers as an example, cancelling the jobs assigned will have an impact on their cancelling rates, which would in turn have a negative impact on incentives and ultimately income. As 35-year-old full time PHC driver and former engineer, Charles, 35 explains,

You never cancel any job right, it's 100% ah. If you cancel one, you left with 90%. Then you cancel 2, it's 80%. Then if you drop

below 80, you are not entitled to any incentives. And then also I believe if your percentage is low, for example, let's say you are on 80%, another driver on 90%, another driver on 100% in the same location. Then I believe the job will go to the 100%, then the 90, then the 80. So you are affected no matter what.

The platform worker's income is very much dependent on how platforms design their incentive system. This is highly contingent on uncontrollable external factors such as the number of drivers/riders in the season, social restrictions, new regulations, or weather. The fluctuating nature of incentives can provide a source of stress.

At the same time, incentives can further reduce movement between platforms. Many participants we spoke to use multiple platforms as they tend to sign up to multiple platforms. While they may have a preferred platform, they may also log in to other apps during slower periods to maximise their earnings. However, with incentive systems, such multi-tasking is kept to a minimum. Workers who wish to chase after incentives are encouraged to accept more jobs on a specific app to either hit their goals or gain better ranks. 'Top' drivers/riders that we spoke to, tend to not switch apps as much compared to others. They are motivated to focus their time and energy if they can earn enough on one platform.

The flexibility and the promise of scheduling your own working time are thus heavily influenced by such incentive systems. As Adil, 40, notes:

Even if you have good reason, like medical reasons, go holiday. There's no such thing as apply leave. The ranking is still there. As long as you don't work, ranking goes down. You climb your way up there, then the moment you stop working, your ranking goes down.

Flexibility means that platform workers are responsible for their own time, their rankings, and earnings. The incentives also push platform workers to work constantly to maintain their ranks and incomes. Platform workers need to play by the rules to earn more money from the platforms, and would not be able to maximise their gains if they choose ‘flexibility’ over listening to the platform’s instructions. Furthermore, such incentive systems also nudge riders to travel to certain areas or accept orders that might be difficult.

4.4 Hamper long term career mobility

Despite the opportunity platform work provides for individuals to earn a living, we find that platform work could hamper the long-term career mobility of platform workers. We find that those who do well in the gig economy and are likely to put in substantial effort into platform work tend to be those who already have decent levels of human capital. They may also increasingly find it harder to find other jobs despite having the requisite skills.

Boon Lai, a university graduate, originally came into food delivery as a temporary measure over 4 years ago when he was 31. Since then, he has not been able to transition out:

I’m trying to do food delivery part-time as oppose to full-time. To find a job, you have to get your resume in order, you have to go through an interview, and all that. You face a lot of hurdles as a rider in finding a job, your resume is not really a resume because a resume should essentially show experience, but what is my experience the last few years? And being a food delivery, you don’t have the achievement that will stand out from hundreds of thousands of applications.

Boon Lai has tried multiple training and upskilling programmes that have not resulted in any career success. For some time, he struggled to find a job and

has since come to the conclusion to “accept reality Because there’s no point” – i.e. to continue doing food delivery until it is no longer viable. Boon Lai may not have been a precarious worker before food delivery, but after prolonged periods of being ‘stuck’ in this work, his career options and social security continues to drop. This is an area of concern for platform workers who are being underemployed. Lionel, 34, a diploma holder has also grown ‘comfortable’ to being a driver after being retrenched in 2019:

I (initially thought driving would be) temporary, but I got too comfortable inside there. It doesn’t (provide) as much as my previous job, but it keeps me surviving and I became too lazy to move out... I’m not sure if I can get a job, you know. Waiting for a confirmation and approval – my wedding expenses are not waiting for my approval; it’s asking for my payment!

Lionel was ‘too comfortable’ and was worried of becoming ‘too lazy’ to move out. Workers have to adjust to being a platform worker, which may also influence how they view their next work. Sarah, 52, is a diploma holder who used to draw a monthly salary of \$6000 at a management level, also felt she needed to adjust her mindset after settling into platform work, which influenced her perception in her job-seeking attitude:

Age-wise, I have to train my mindset lah. Whatever I’m earning now is (shaping) my mindset in a certain way. For my next job, I must change my mindset. I know that there are jobs in the market, but because of the job I’m holding, I got to adjust my mindset, because I may get something lower... I don’t mind doing admin work or (doing) what I used to do before. But in this situation, there aren’t any (jobs) for me.

The work itself has job security; platform workers have a strong sense that the chances of them being let go or fired by the platform is slim, but lacks in terms

of occupational security. Occupational security is the belief that one is “developing yourself through your work” (Standing, 2021 p, ix). As we find out from our drivers, many do not feel that the experience from driving will be considered relevant for other more traditional jobs outside of driving. Hence, while job security matters, drivers cannot help but feel that it is a dead-end job.

When we asked driver Riz about whether he was looking for a job, he took out his phone to show us the number of job applications he has made on the job website, JobStreet.com (see Image 11).

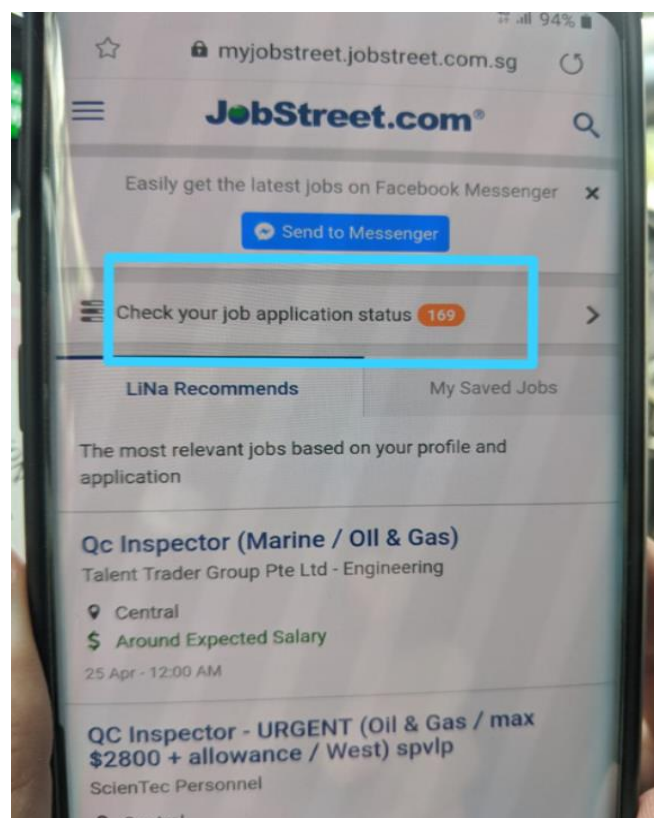


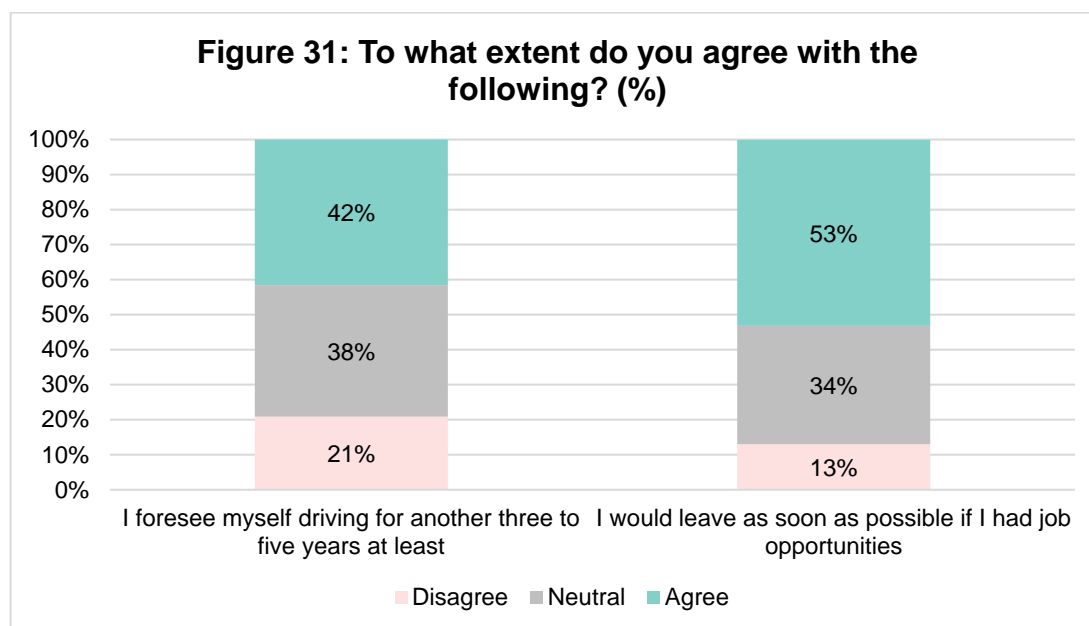
Image 11: Riz’s phone screen showing that he had made about 169 job applications in two years without much success.

He goes on to explain:

Jobstreet records shows my profile is being viewed by prospective employers. ... years of doing grab doesn’t give me a good heads-up to employers.

Riz, like many others, view the job as temporary and would like to leave as soon as possible but find it difficult to do so. It appears to be that the longer a worker stays in the platform work, the harder it is to leave, as a result of one's age and irrelevant platform work experience which has no value-add on one's resume. In addition, between work, family and rest, these time-starved individuals with supposedly flexible jobs are unable to fit in time to do a job search and/or attend an upgrading course in their packed schedules, in order to earn to pay rent and make enough for themselves and/or loved ones.

In our survey with drivers, at least four in 10 drivers said they foresee themselves staying in the ridesharing industry for another three to five years at least (see Figure 31). Once they have found a job opportunity in another industry, around half said that they would leave the ridesharing industry, showing that a majority would prefer to be in a different job if they could.



Experienced drivers, older respondents, and those without university qualifications were more likely to see themselves driving for at least another three to five years. In particular, slightly less than half of the respondents who had been driving for three years or more (48 per cent) said that they foresee themselves driving for at least another three to five years (Figure 32), as

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compared to 36 per cent of those who had been driving for less than one year. Similarly, at least 45 per cent of respondents aged 50 and above said that they would continue driving for another three to five years, as opposed to around 39 per cent of those from the 21 to 39 age group (Figure 33). Around 46 per cent of respondents with a secondary education and below and 41 per cent of those with post-secondary education said they would be driving for the next three to five years, as opposed to 37 per cent of those with at least a degree (Figure 34).

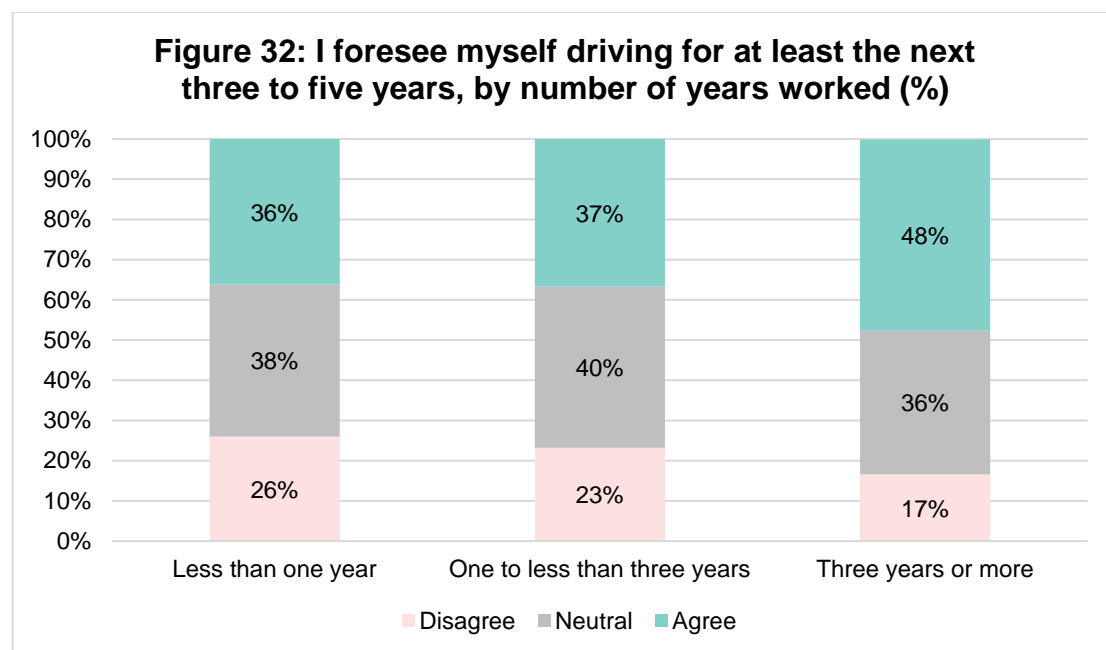


Figure 33: I foresee myself driving for at least the next three to five years, by age (%)

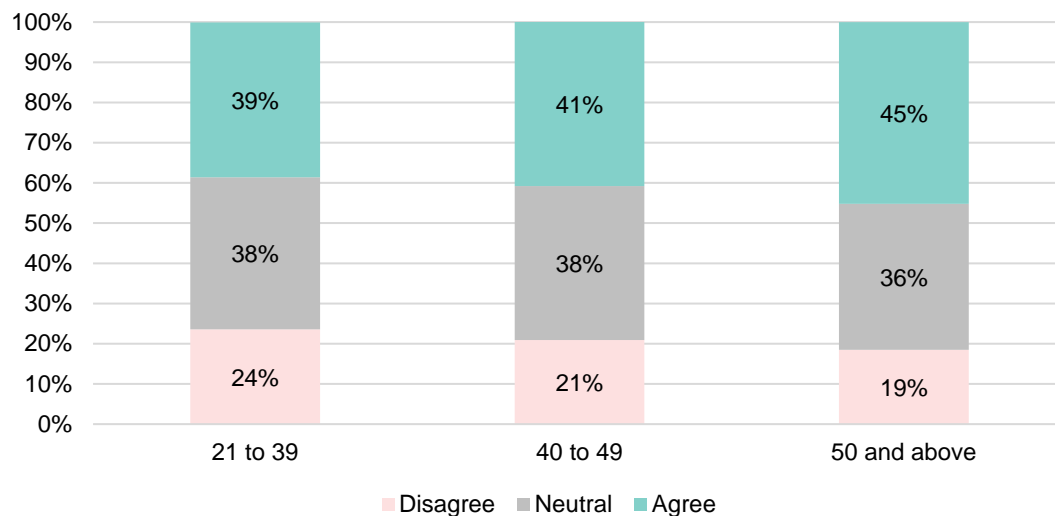
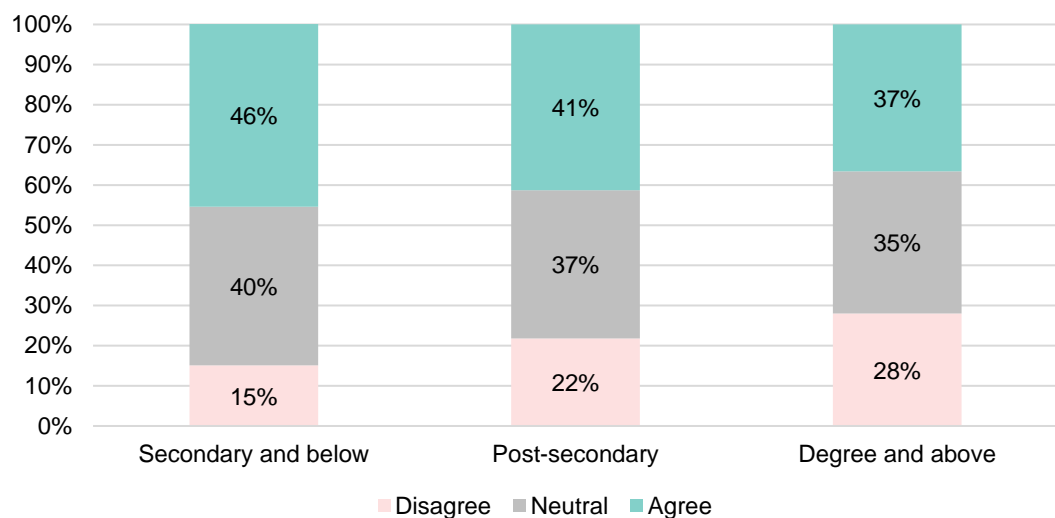
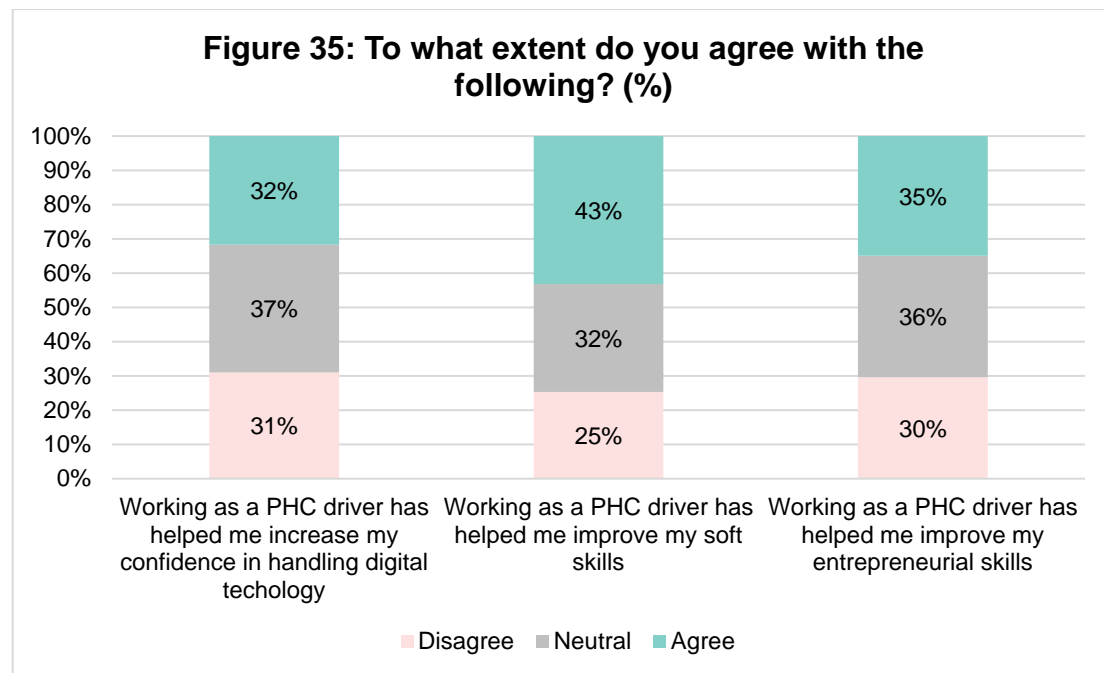


Figure 34: I foresee myself driving for at least the next three to five years, by education (%)



Regarding work skills, around 32 per cent said that driving has increased their confidence in handling digital technology, 43 per cent felt that they have improved in their soft skills (interpersonal communication, customer service and problem-solving), and around 35 per cent said they have improved in their entrepreneurial skills (see Figure 35).

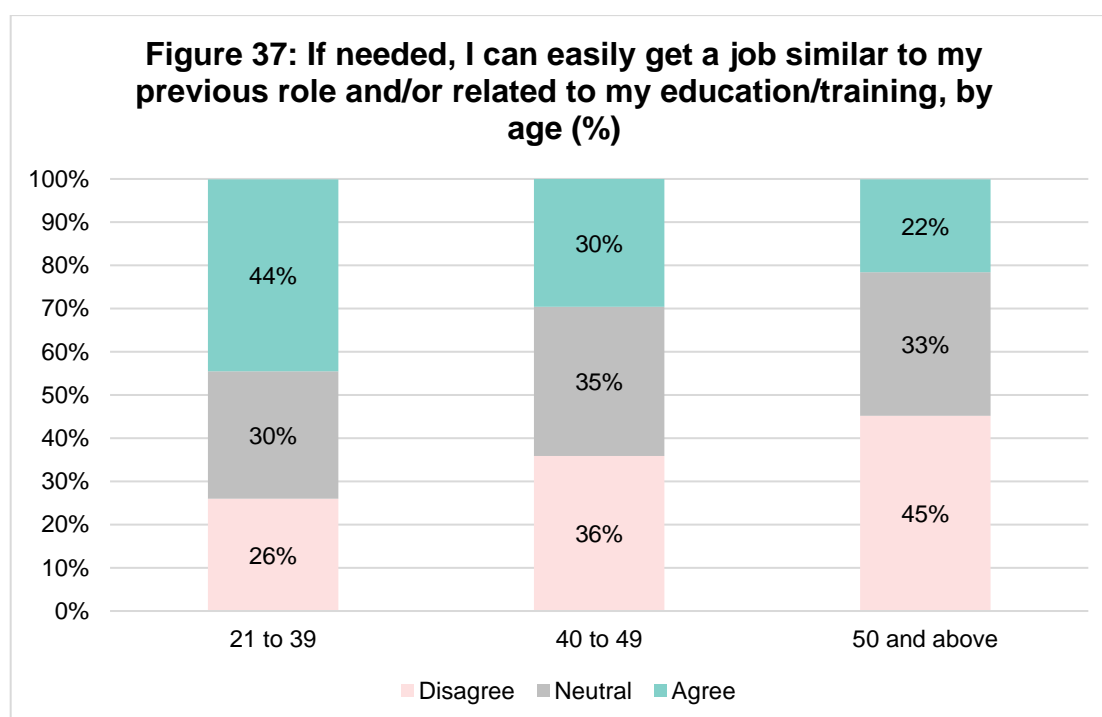
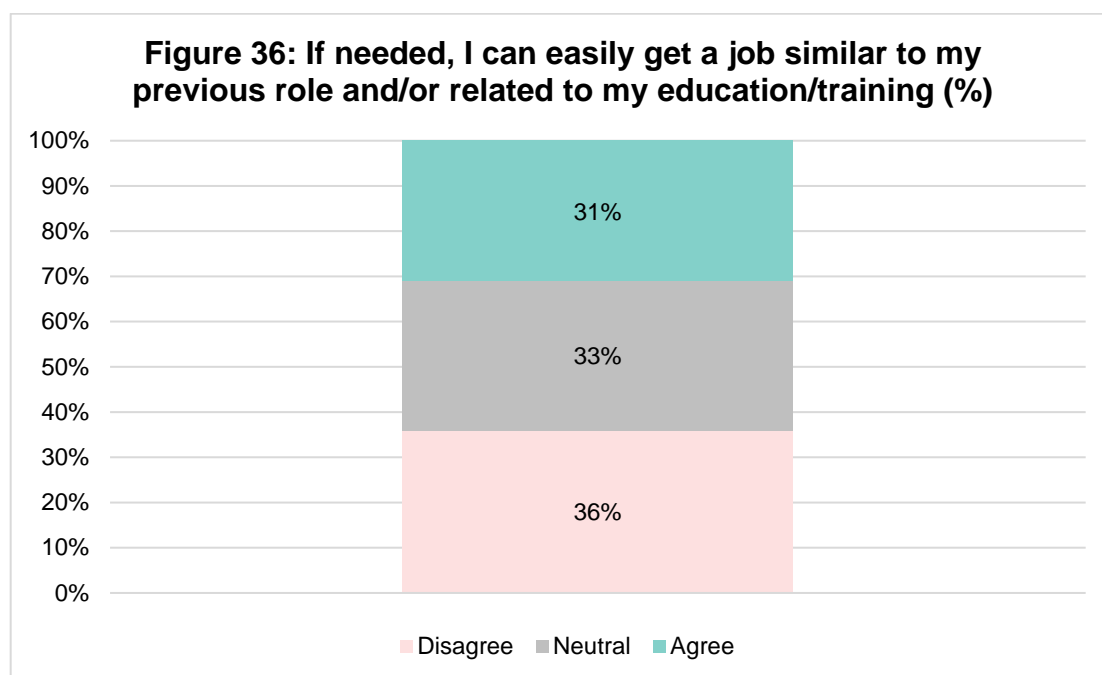


Age, education and proportion of income derived from driving were found to be significant predictors in understanding who were the drivers who felt no improvements in their skillsets¹¹. Specifically, drivers who were aged between 30 – 49 years old, drivers who had a bachelor's degree and above, and drivers who fully derived their incomes from driving were likely to feel that working as a driver did not help in increasing confidence in using digital technology. On the topic of soft skills, drivers who were aged between 30 – 49 years old and drivers who fully derived their incomes from driving were likely to feel that driving has not improved their soft skills. Lastly, drivers who have a bachelor's degree and above were most likely to feel that working as a driver has not improved their entrepreneurial skills.

Regarding career mobility, only around 31 per cent of surveyed drivers agreed that they could easily get a job similar to their previous role and/or related to their education/training (see Figure 36). Older drivers were less likely to feel that they would be able to easily get a job similar to their previous role and/or

¹¹ See Appendix B to see full analysis on skills mobility.

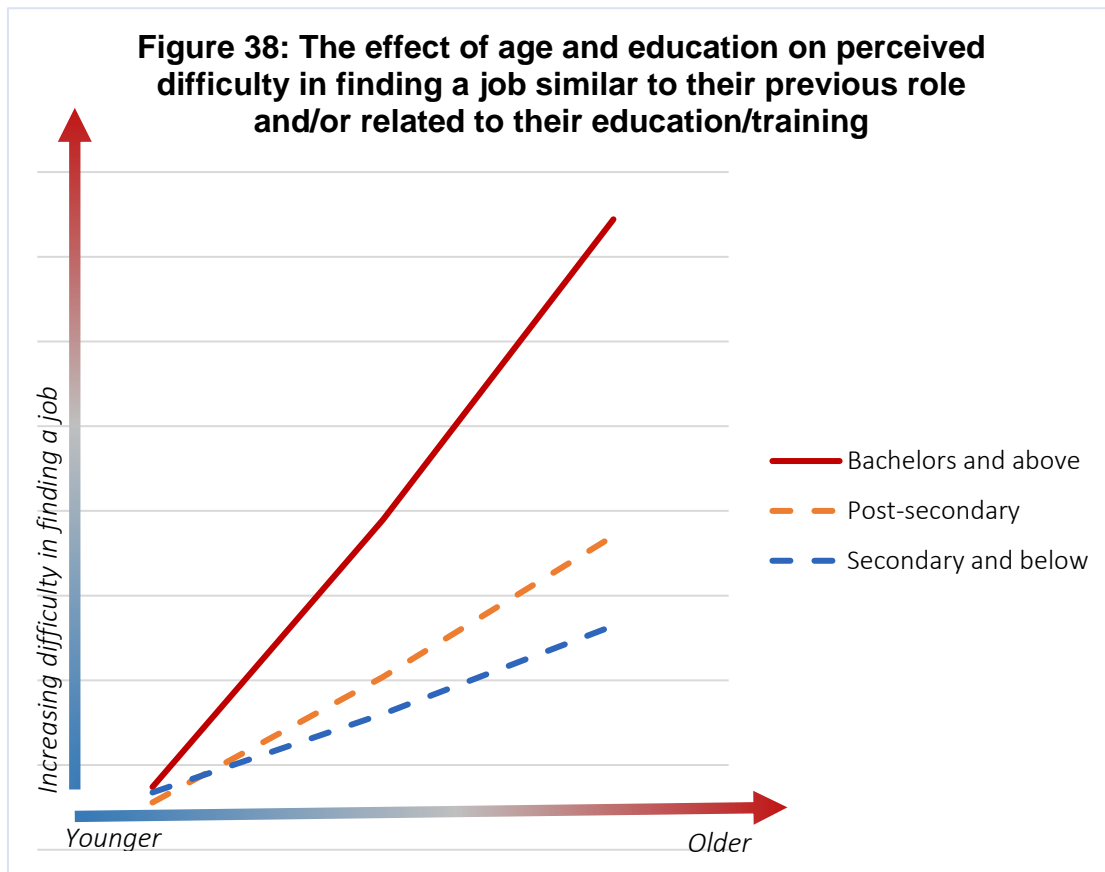
related to their education/training as compared to younger drivers (See Figure 37).



Our regression analysis also found that drivers who were aged 50 and above and drivers who derived their full incomes from driving were more likely to face difficulty in finding another job similar to their previous role and/or related to their education/training¹². Given their old age, drivers aged 50 and above may find it difficult to find another job. Those who derived full incomes from driving may not have time to build on their skills from their previous role and/or related to their education/training or develop networks.

An interaction effect was also present between age and education (see Figure 38). Among drivers aged 30 – 59, it was found that drivers with at least a bachelor's degree who were older had greater difficulty in finding a job similar to their previous role and/or related to their education/training as compared to those with only a secondary education and below. Given that people with a university education would aspire towards getting a Professional, Manager and Executive (PME) role, this result may reflect that older drivers with a university education may find it harder to switch to a PME role due to the work transformation today which requires workers to be up to date with the latest in-demand skills. In addition, these drivers may also find it harder to get employed in a PME role due to their age, with fewer roles available to them.

¹² See Appendix B to see full analysis on career mobility.



Looking at the gig economy more broadly, slightly over one-third of drivers view self-employed persons in the gig economy as the future (see Figure 39). Younger drivers were also more inclined to hold such an opinion, where 40 per cent of drivers aged 21-39 view self-employed persons as the future compared to 34 per cent of those aged 40-49 and 30 per cent of those aged 50 and above (see Figure 40).

Figure 39: I view self-employed persons in the gig economy, like myself, as the future (%)

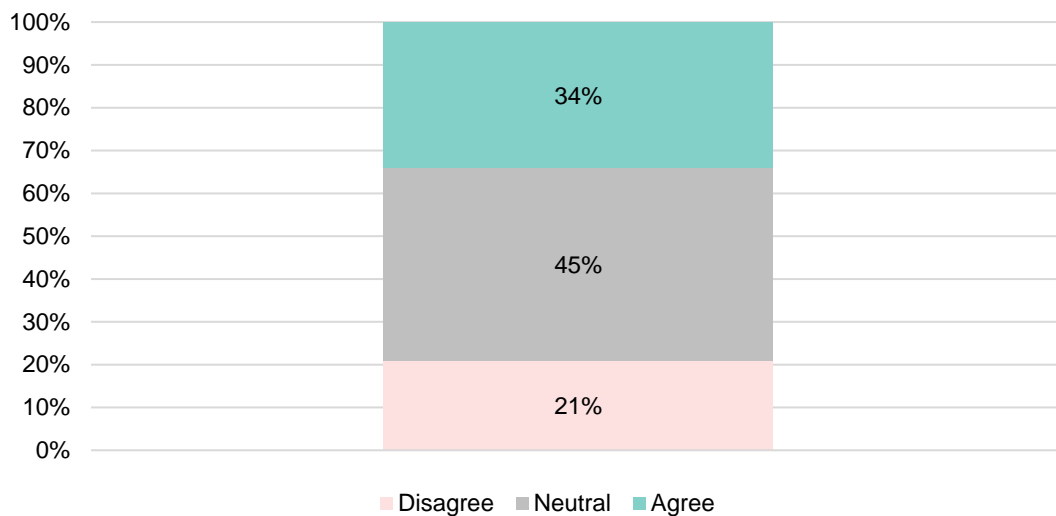
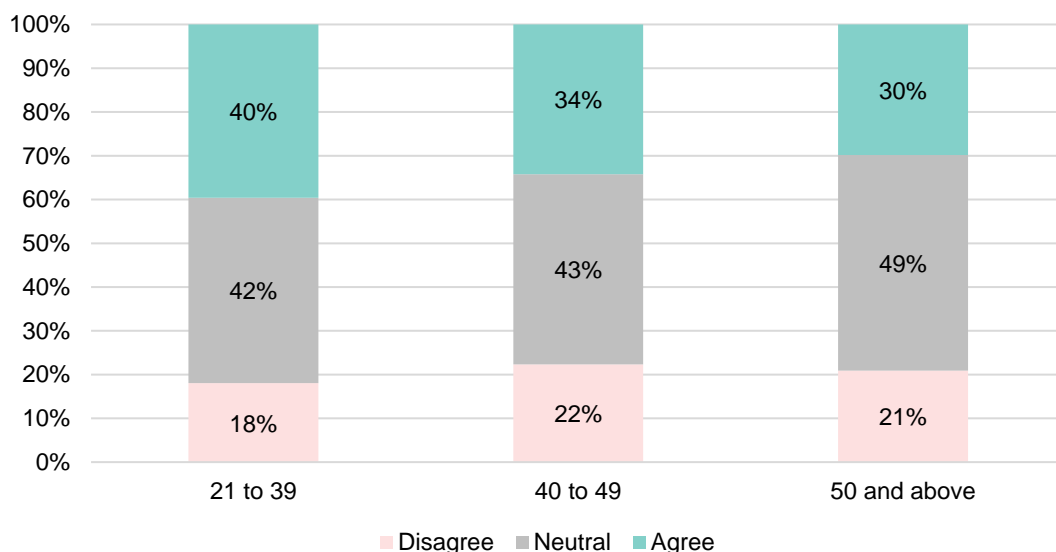


Figure 40: I view self-employed persons in the gig economy, like myself, as the future, by age (%)



When asked to compare between gig work and conventional work, close to one-third of drivers find that working a job in the gig economy is a better way to earn a living compared to having a traditional 9-to-5 job (see Figure 41). Younger and less educated drivers were more likely to think gig work could provide them with a better living compared to more traditional forms of work; 36 per cent of drivers between 21 – 39 years old and 36 per cent of drivers with secondary

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and below education reported so compared to 29 per cent of drivers aged 50 and above and 28 per cent of drivers with a university degree (see Figure 42 and 43).

Given their optimism about the future of the gig economy and how they perceive that such work provides them with a better living, younger and less educated drivers may become too caught up with gig work and become increasingly uncomfortable with more conventional forms of work. This could imply longer term implications about engaging in such platform work which reduces their interest in other jobs and careers outside the gig economy, hampering their career mobility in the long haul.

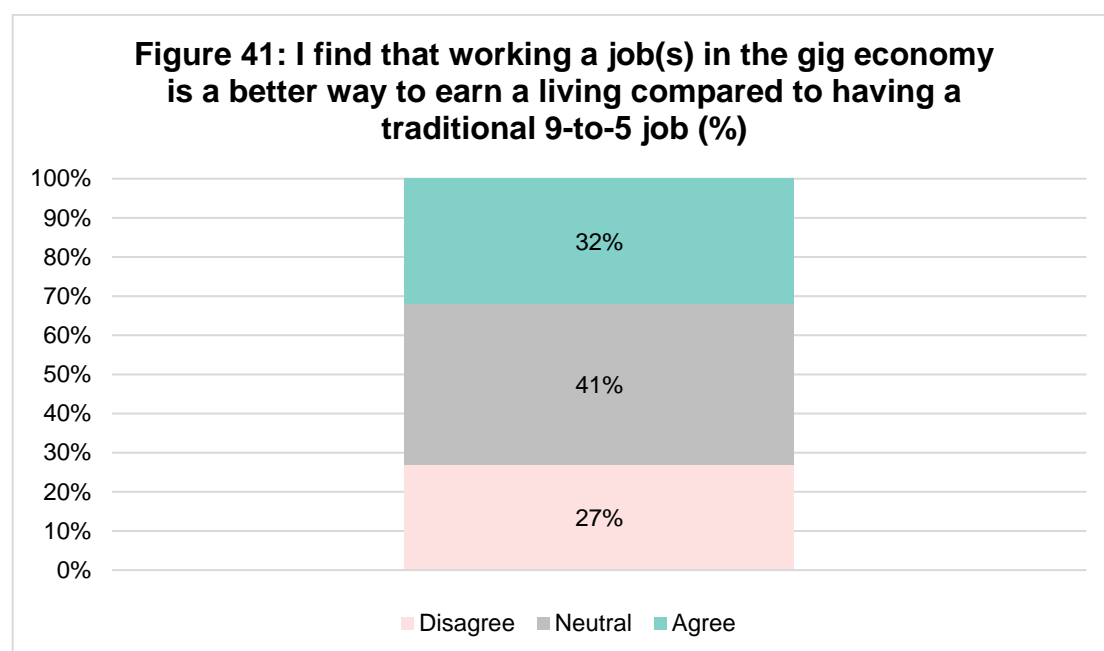


Figure 42: I find that working a job(s) in the gig economy is a better way to earn a living compared to having a traditional 9-to-5 job, by age (%)

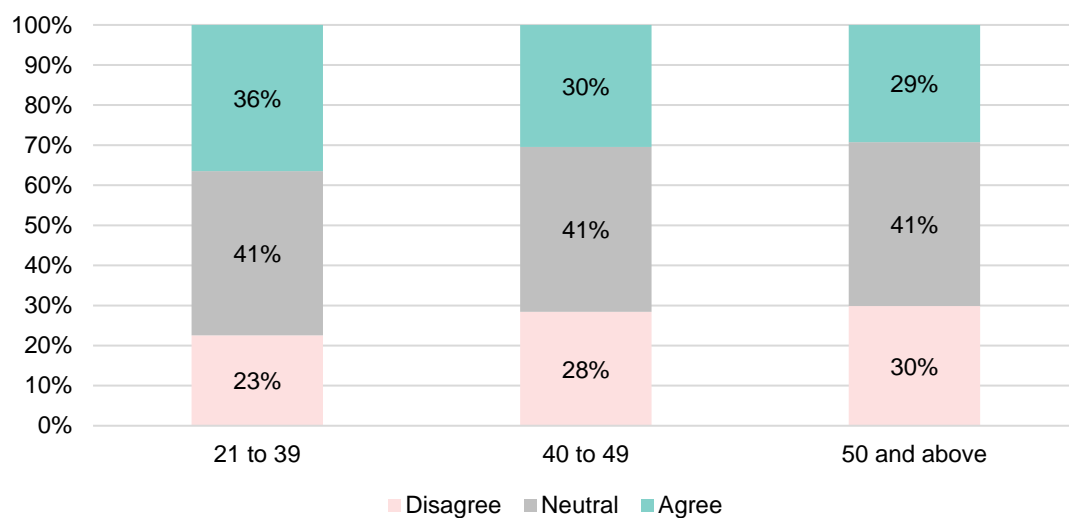
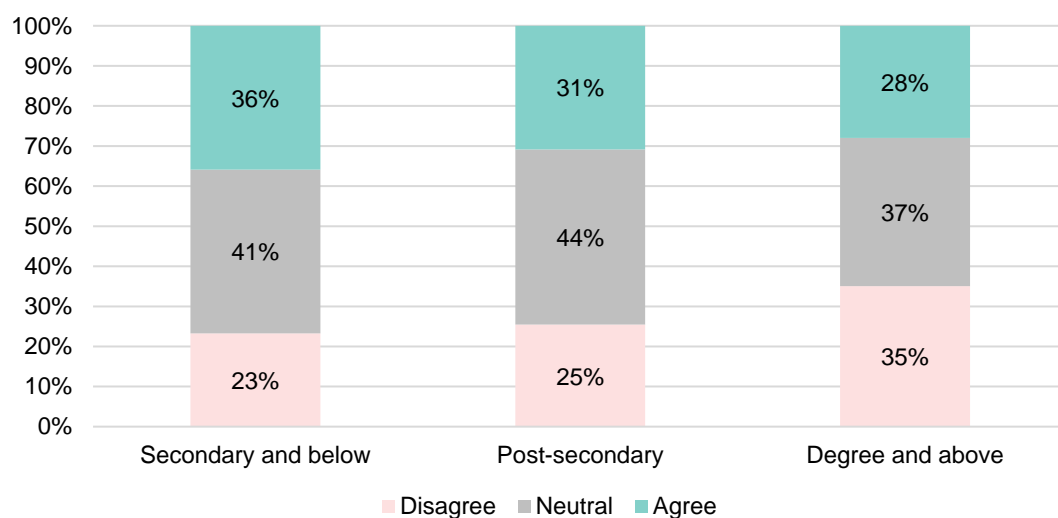


Figure 43: I find that working a job(s) in the gig economy is a better way to earn a living compared to having a traditional 9-to-5 job, by education (%)



4.5 Status frustration and discontent

There is a disjuncture between the qualifications of PHC drivers and the job they do. Simply put, more often than not, platform workers are overqualified for the job. Most of the drivers we interviewed had a diploma, while the rest had

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ITE qualifications and a few had degrees. These drivers' profile differ somewhat from what is normally known of taxi drivers who have lower educational qualifications.

Having a higher level of formal schooling than the level of job they are expected to perform might thus lead to status frustration (Standing, 2021 p, ix). According to Standing (2021) who studied people working in precarious jobs, there is a large group of workers at an international level facing this issue and it is "historically unprecedented". Hence, these group of people who are in a rather precarious position require more research to understand the long terms effects of this seemingly new phenomenon.

On status frustration, Jeremy a 34-year-old driver, provided a very interesting glimpse of how he tries to manage this in his family setting. He spoke about how he must pretend to his wife that he is working a traditional office job so as to not disappoint her.

He says,

So for my wife is I didn't really want to fall short of her expectations of me. Because I did my diploma in accounting and all these, then she thinks the stereotypical mentality lah, low skills blue-collar job, so I didn't really want to hurt her and fall short of her expectations so I didn't tell her I went into ride hailing. She still don't know. I still telling her I going office.

Many drivers are also constantly encouraged by well-meaning loved ones to get better jobs and not to let their qualification go to waste. Many know all too well that platform work might lead to lower paying jobs in the future. They believed that it would do little to help with future salary negotiations and is not perceived as relevant job experience.

4.6 Lack of savings

*I mean even if you work 10 to 12 hours a day, 5 to 6 days a week, you get \$2,000 to \$2,500. Eventually it still manage to feed you, pay your utilities, your home, and maybe buy some good meals for your rice sometimes. **It doesn't build on your savings,** doesn't build on your investments. It doesn't keep your future going.*

Hock Meng, 44, Driver

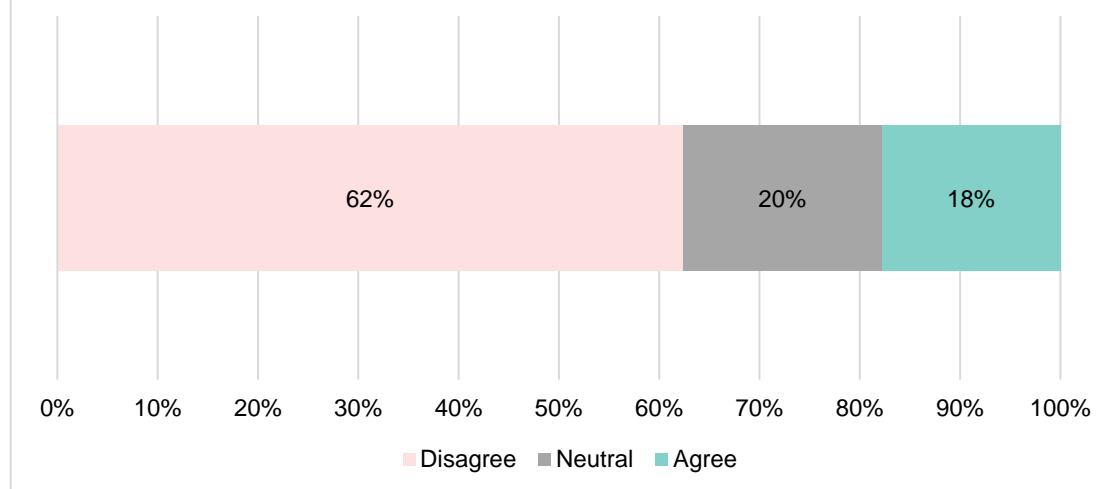
Hope I can save lah; That time (early days when incentives were high), yah can get a lot of money, but when more money also more things need to spend on

Antony, 39, M, driver

Savings is also an issue for platform workers. As Hock Meng and Antony pointed out, platform work might not necessarily build savings. Even before the pandemic where the incentives were higher, workers might have gotten used to that level of income, which Antony pointed out, also meant that their spending could have also increased.

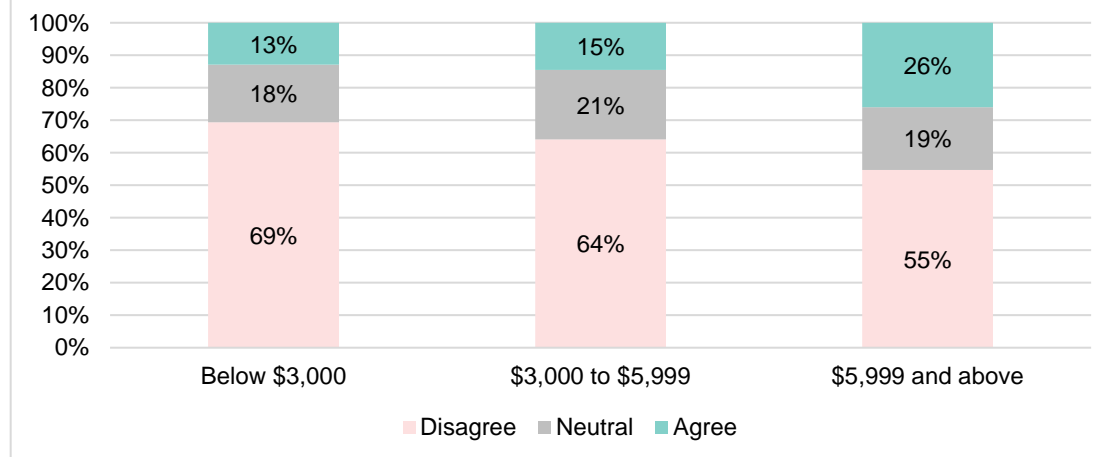
Platform workers find it difficult to save adequately and are financially stressed. More than three-fifths (62 per cent) of drivers surveyed said that they did not have enough savings to take care of their personal and/or family needs for the next three to six months if they stopped working today (see Figure 44).

Figure 44: I have enough savings to take care of my personal and family needs for the next three to six months if I stopped working today (%)



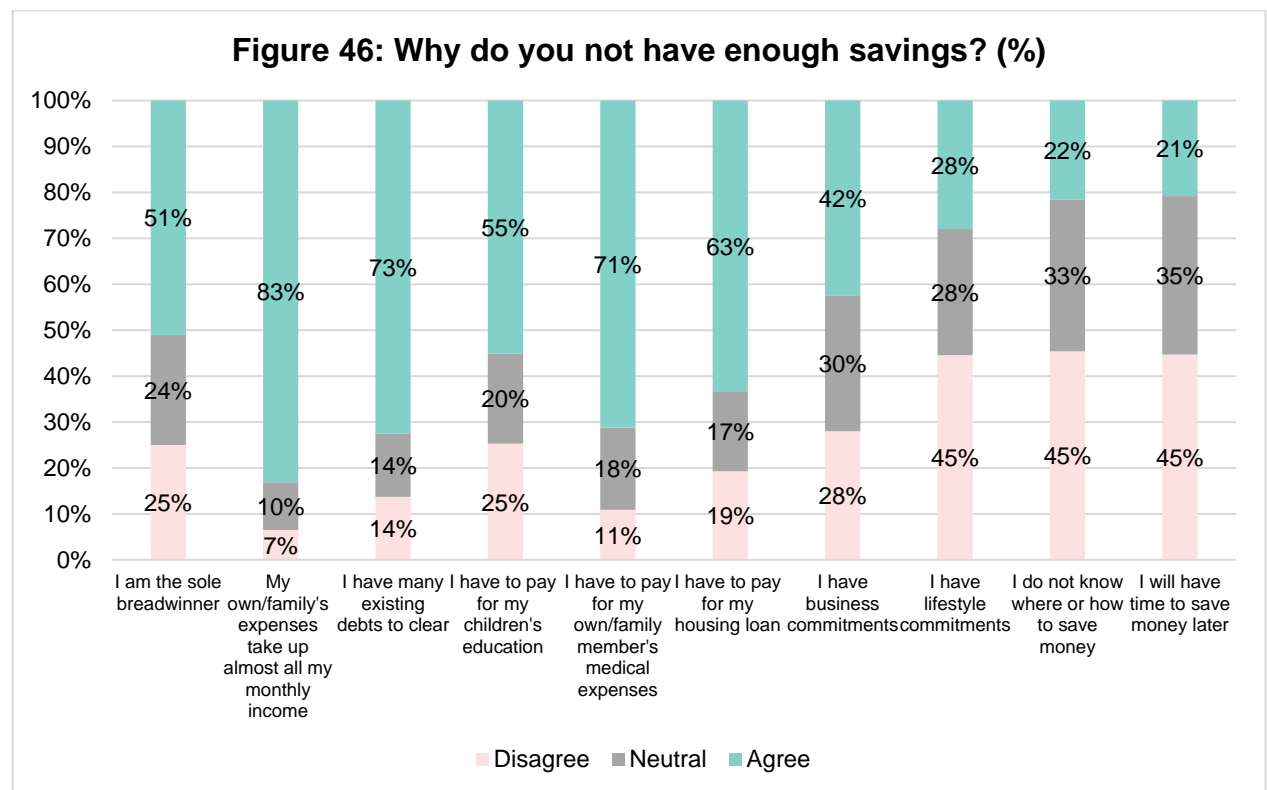
Respondents from lower household incomes were more likely to not have enough savings for the next three to six months (see Figure 45).

Figure 45: I have enough savings to take care of my personal and family needs for the next three to six months if I stopped working today, by household income (%)

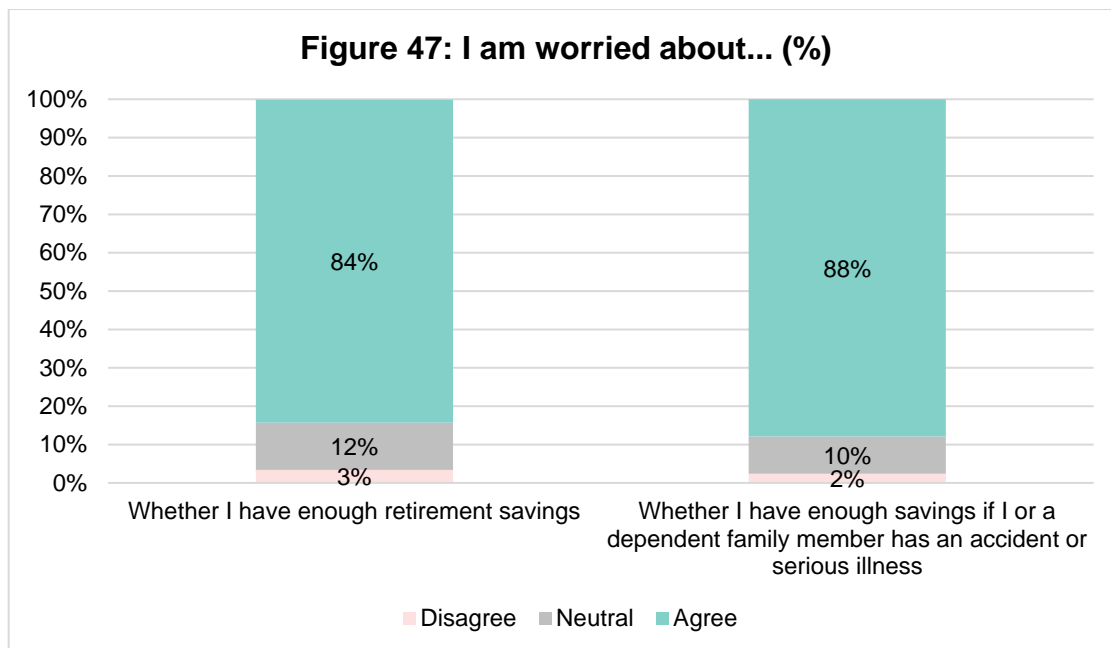


For respondents who reported that they would not have adequate savings, they were asked the reasons why they lacked savings (see Figure 46). Eight in 10 respondents said that most of their monthly income was spent on their

own/family expenses. Seven in 10 said that they either had existing debts or had to pay for medical expenses. Sixty-three per cent said they had housing loans, while roughly half the respondents said that they either were the sole breadwinner or had to pay for their children's education. Roughly one-fifth of respondents said that they did not know where or how to save money and that they will save money later in their lives.

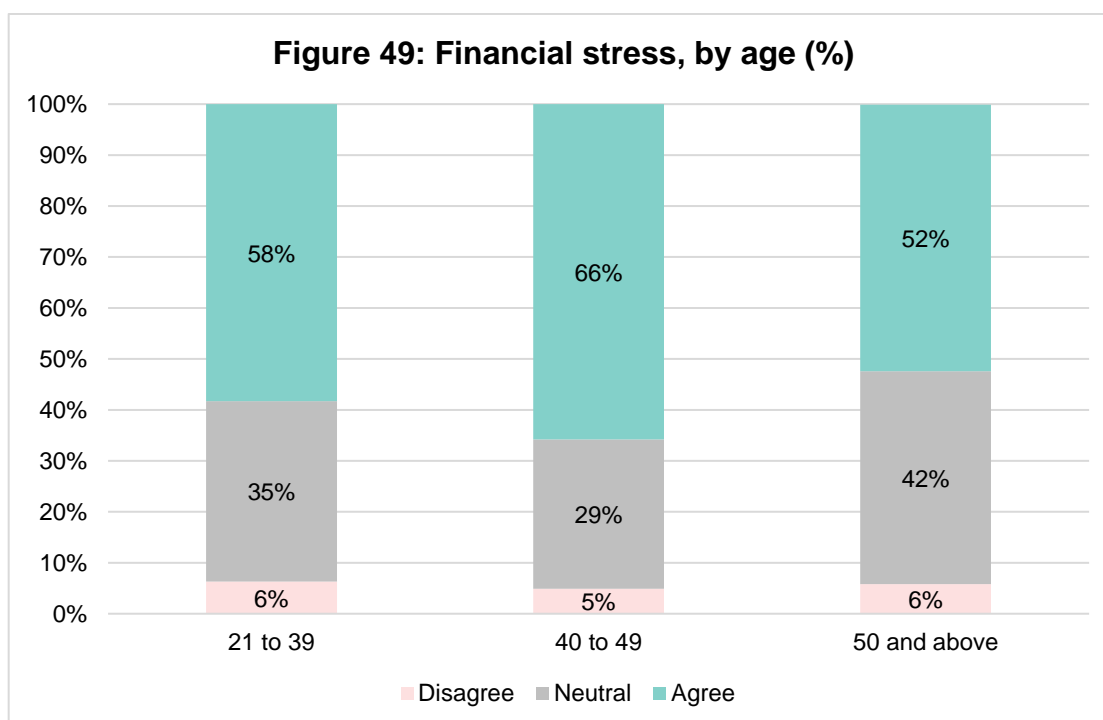
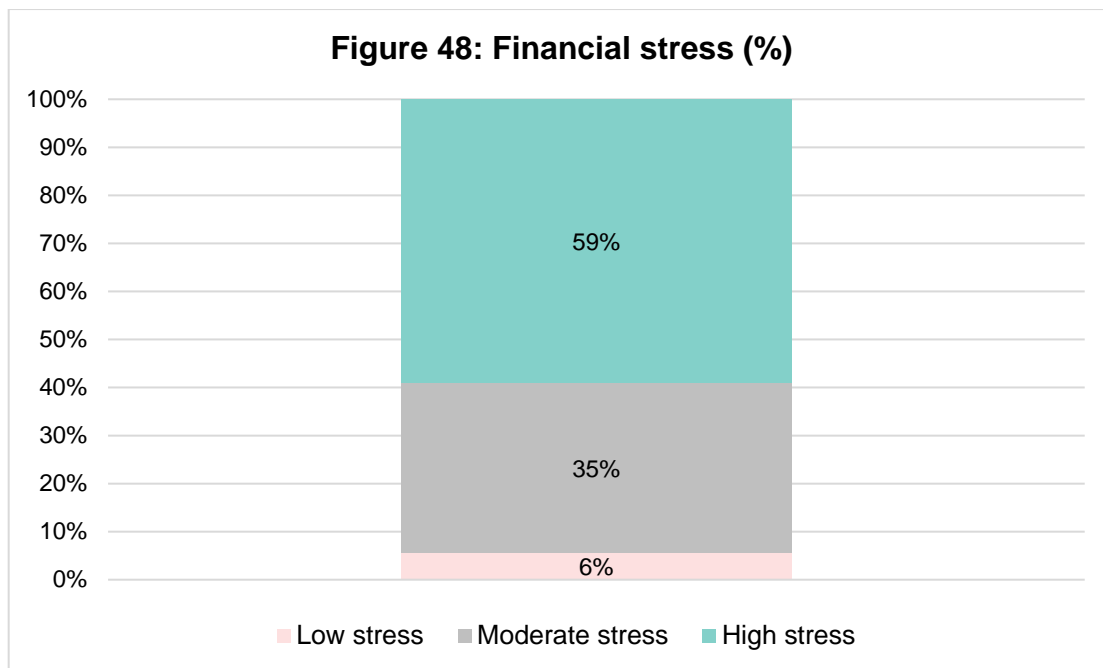


Around 84 per cent of respondents were worried about not having enough retirement savings (see Figure 47), while 88 per cent were worried about not having enough savings for a medical emergency.



4.6.1 Income security

We created a composite scale based on a set of questions (see Appendix A for list of questions) that reflect the level of financial stress a respondent is facing, with 1 representing low level of financial stress and 5 representing high level of financial stress. Close to three-fifths of respondents reported high levels of financial stress, while just 6 per cent reported low levels of financial stress (see Figure 48). Middle aged drivers between the ages of 40 to 49 were also more likely to be financially stressed as compared to other age groups (66 per cent; see Figure 49).



Regression analysis on financial stress shows that drivers who were aged between 40 – 49 years old, drivers who had a post-secondary education and drivers who fully derived their monthly income from driving were the most

financially stressed¹³. In addition, drivers with longer driving experience were more stressed than those who have joined the industry for less than six months, with the most financially stressed drivers being those who have driven for five years and above. Middle aged drivers may likely have higher financial commitments. As the income earned from working as a driver is dependent on the number of passengers, working hours a driver works and incentives, the incomes of drivers may be hard to predict and may not be sufficient to allow for an accumulation of savings, especially for drivers who have worked as a driver for more years and drivers who derived full income from driving.

4.6.2 Financial Protection

My CPF is empty already. I need to pay for my HDB. This work is also not good for my health. I'm worried about my mental and physical health. ... I'm ok now, but what happens when I get older?

Adil, 40, Rider

CPF is a central pillar in Singapore's social protection system. As an employment-based savings system, it allows access to medical and housing needs for many Singaporeans. While younger platform workers may be satisfied with their current situation, older platform workers may face difficulties as they age and enter a different life stage. This could include the fact that it is more complicated to get HDB loans¹⁴.

Adil has been a food rider for the last five years, and wants to leave the work. At 40, Adil's life priorities have shifted, and he has become increasingly

¹³ See Appendix C for full analysis on financial stress.

¹⁴ SG Young Investment. (2015, June 19). How Much Loan Can You Get For Your HDB flat? [web log]. Retrieved February 14, 2022, from <https://www.areyouready.gov.sg/YourInfoHub/Pages/Views-How-Much-Loan-Can-You-Get-For-Your-HDB-flat-SG-Young-Investment.aspx>.

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concerned about his future. This echoes the experiences of driver Hamza, 39 who is worried about house payments:

Like I said lah paying for all the things I need to pay. Macam my rumah(like my house) that time baru(new). That time I just changed to this driver, then rumah kena bayar cash(I had to pay cash for my house). Nak kena(Have to) maintain, tak boleh(can't) cock up. Nak kena bayar (need to pay). That's why. At least kalau kerja(if work) with CPF no need to worry. Dah(It'll be) settle because ada(have) CPF. Worst come to worst you work part-time (as a driver) lah after work.

While younger platform workers are able to sustain their employment currently, especially with their age and health, financial protection will become a problem as they grow older. As this is considered blue-collared work, health and age are important factors in their income. However, unlike traditional blue-collared work, they do not have financial security such as CPF, insurance, and other employment benefits.

In our survey with drivers, approximately half of respondents did not make any voluntary contributions to their CPF accounts, while around 34 per cent said they contributed less than 10 per cent of their income either monthly or yearly (see Figure 50). Only 16 per cent said they contributed 10 per cent or more. Younger drivers were less likely to make any voluntary CPF contributions as compared to older drivers (56 per cent; see Figure 51).

Figure 50: What proportion of your income do you voluntarily allocate to your CPF?

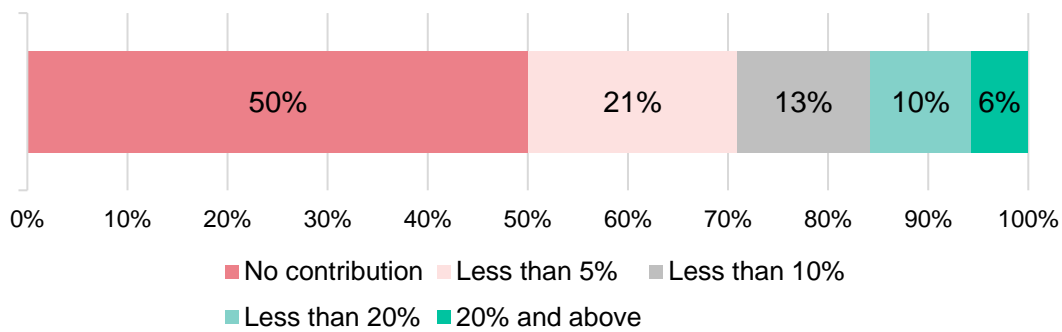
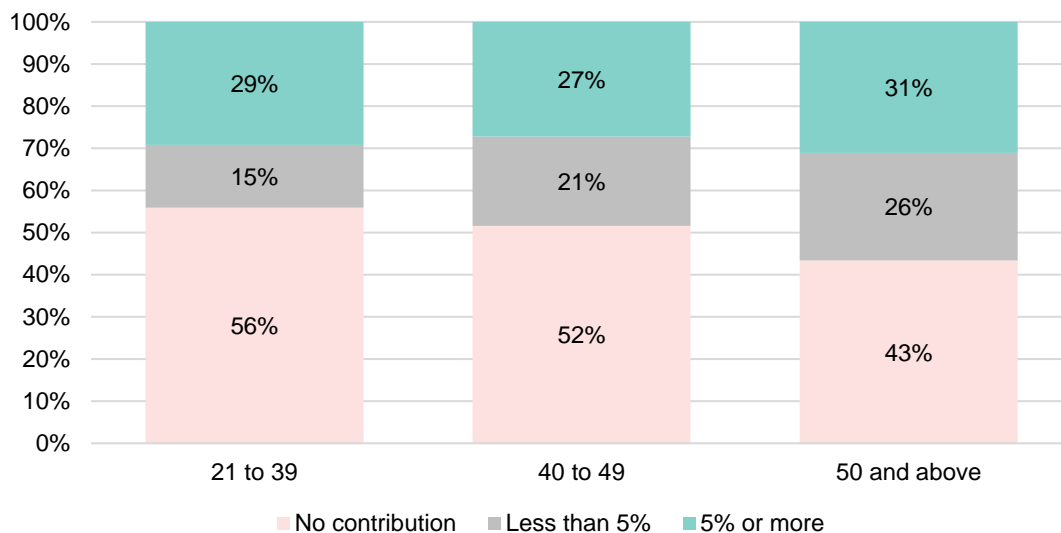
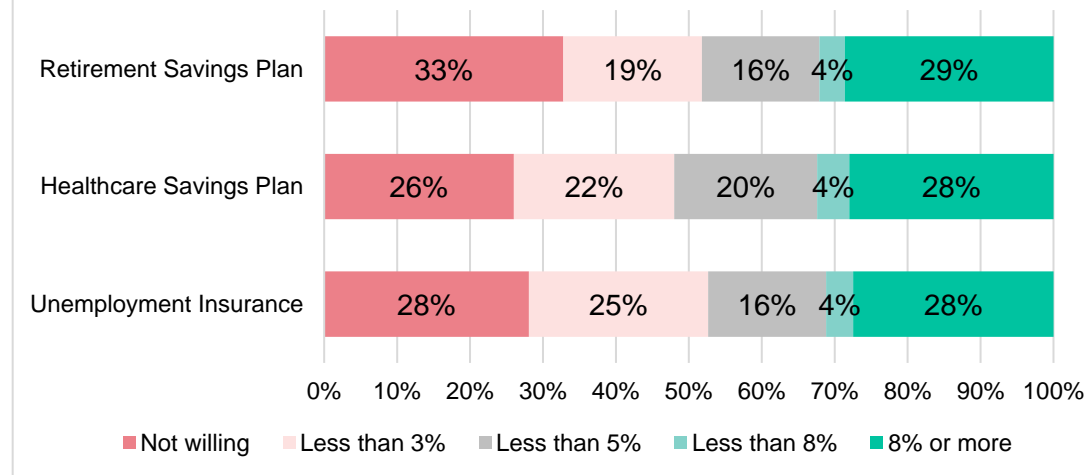


Figure 51: What proportion of your income do you voluntarily allocate to your CPF?, by age (%)



Respondents were asked if they were willing to set aside some of their yearly or monthly income for three types of insurance plans: a retirement savings plan, a healthcare savings plan and unemployment insurance (see Figure 52). At least one-third said that they were not willing to contribute anything for a retirement savings plan, while slightly more than one-quarter were not willing to set aside some funds for a healthcare savings plan or unemployment insurance.

Figure 52: What proportion of your income are you willing to set aside for a(n)... (%)



Experienced drivers (see Figure 53) and drivers who drove longer hours per week were more likely to be unwilling to save up for a retirement savings plan (see Figure 54), while drivers who were new to the job were more likely to set aside funds for a healthcare savings plan (see Figure 55). These relationships were significant at .05 levels.

Figure 53: What portion of your monthly/yearly income would you be willing to set aside for a retirement savings plan, by years worked as a PHC driver (%)

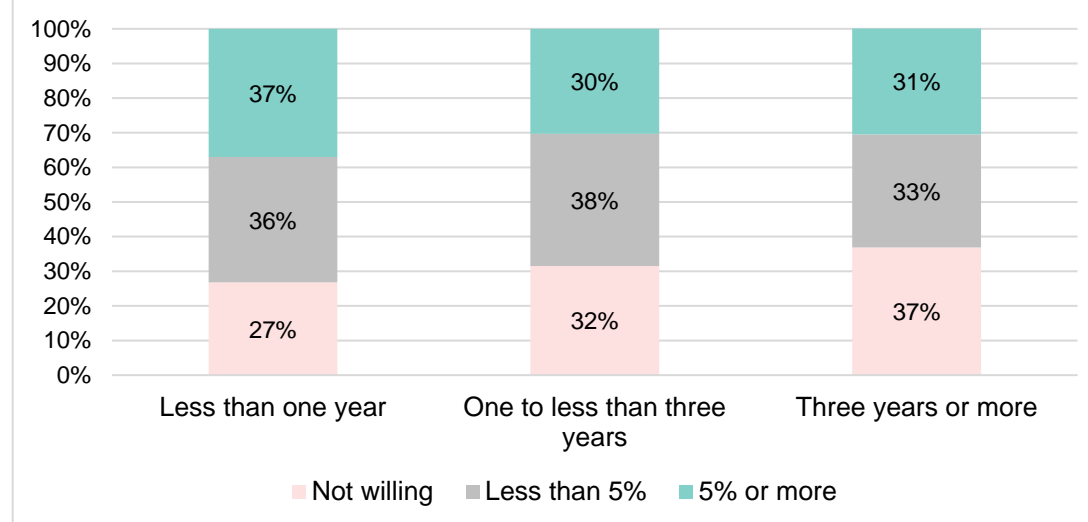


Figure 54: What portion of your monthly/yearly income would you be willing to set aside for a retirement savings plan, by hours spent driving per week (%)

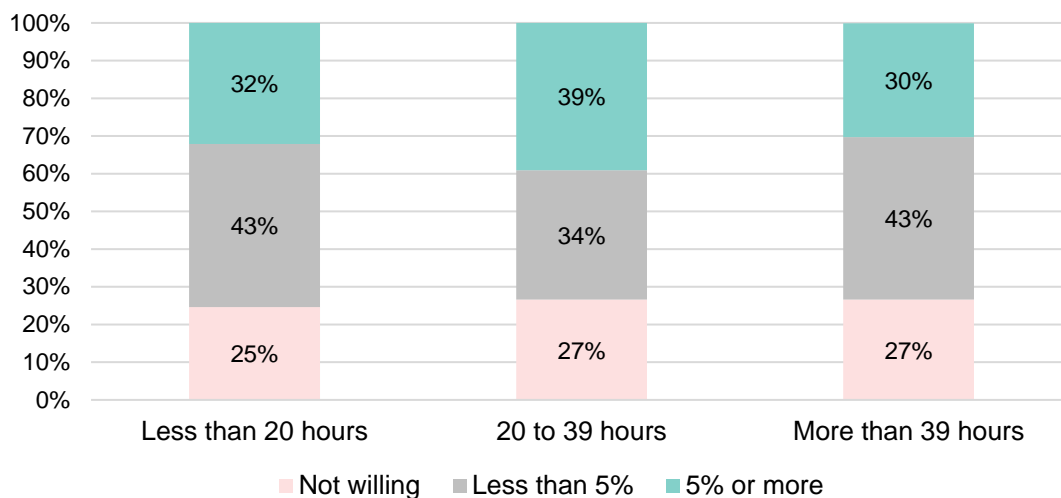
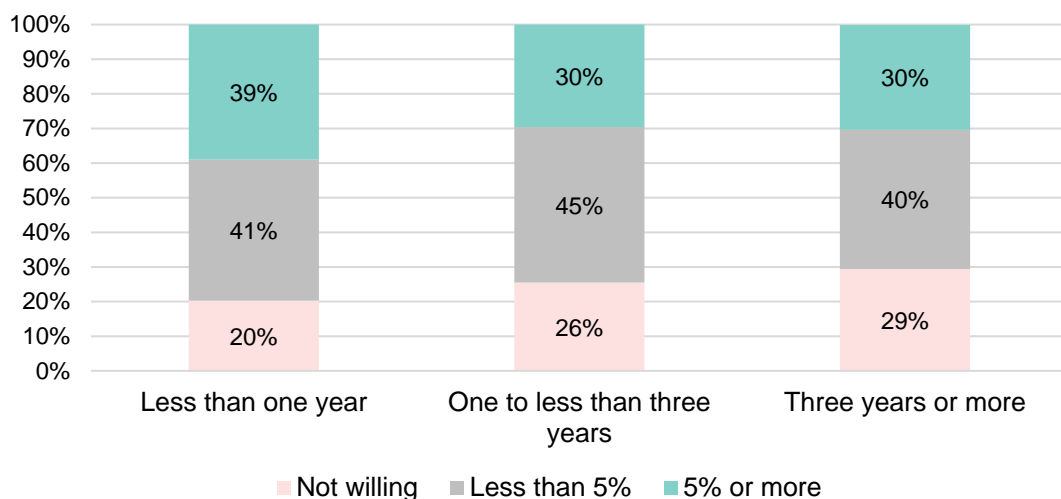


Figure 55: What portion of your monthly/yearly income would you be willing to set aside for a healthcare savings plan, by years worked as a PHC driver (%)



Further analyses were conducted to understand who were the drivers who would need more financial protection¹⁵. Drivers who were aged between 30 – 39 years old and drivers who derived full income from driving were less likely to make voluntary CPF contributions while drivers from lower income households were less willing to set aside a portion of income for insurance in general. Kee

¹⁵ See Appendix D for full analysis on financial protection.

Seng, 48, who has been rather pessimistic about his health and feels that he will not live past 70 years old, also comments on the inflexibility of CPF:

If they make me put into CPF, hopefully they let me use a bit 10-15% every year, cannot just lock it all up, need to enjoy it.

We also found that drivers who may have worries about the future – namely in retirement and ability to afford healthcare treatment – tend to be drivers who were aged between 30 - 59, drivers who derived full income from driving and drivers who have been driving for some time.

4.7 Health concerns

I drive a lot lah, meaning I drive 6 days. That time ah, my hand ah, my leg ah, can feel numb one. It won't disappear overnight one. Means the next day it will keep continue, so the numbing keep continue. So, it's not very healthy kan

Shamsul, below 40, Driver

Another issue which requires attention would be the health of platform workers. As this is essentially blue-collared work, platform workers have to exert time and energy, sometimes even sacrificing sleeping hours.

The workers' lifestyle as a result of their platform work can also affect their general health. Platform workers usually have to work through peak hours - which usually means lunch and dinner time. Their meal times are altered, and they may even skip meals if they work long hours. Some might take quick bites on the road instead of having proper meals, which may contribute negatively to their health. Jeffrey, 37, has been a consistent rider for the last two years. He treats platform work as a full-time work, and does not take a break and works straight hours:

I work 8 hours... from 12 to 8pm ... Other people's lunch and dinner time. ... I don't eat when I work.

Health concerns, whether physical or mental, is a major worry for the drivers and a real safety issue for other commuters on the road. Sherry, a 36-year-old driver and one of the few female drivers we got to interview, got into driving after being retrenched. She illustrates how stressful it can be:

They say you going to get inertia and depression (after getting retrenched). I also never go out. I never really go to any places out of my area, that's why they feel I may have depression. So she say you drive, at least be your own boss, pass your time and get some income for your daily expense. So I asked but will it be stressful, she say no lah. Wah cheat me leh, more stressful than staying at home!

Sherry, 36

Some platform workers have reported decreasing levels of health over time. There are also concerns about their safety given how the incentive structure and schemes motivate them to fulfil more orders and chase the extra trip. Drivers have to contend with driving to reach daily monetary targets so they can at least cover basic costs like petrol, rent and food. In addition, platform workers are inadequately covered for accidents and longer-term health issues.

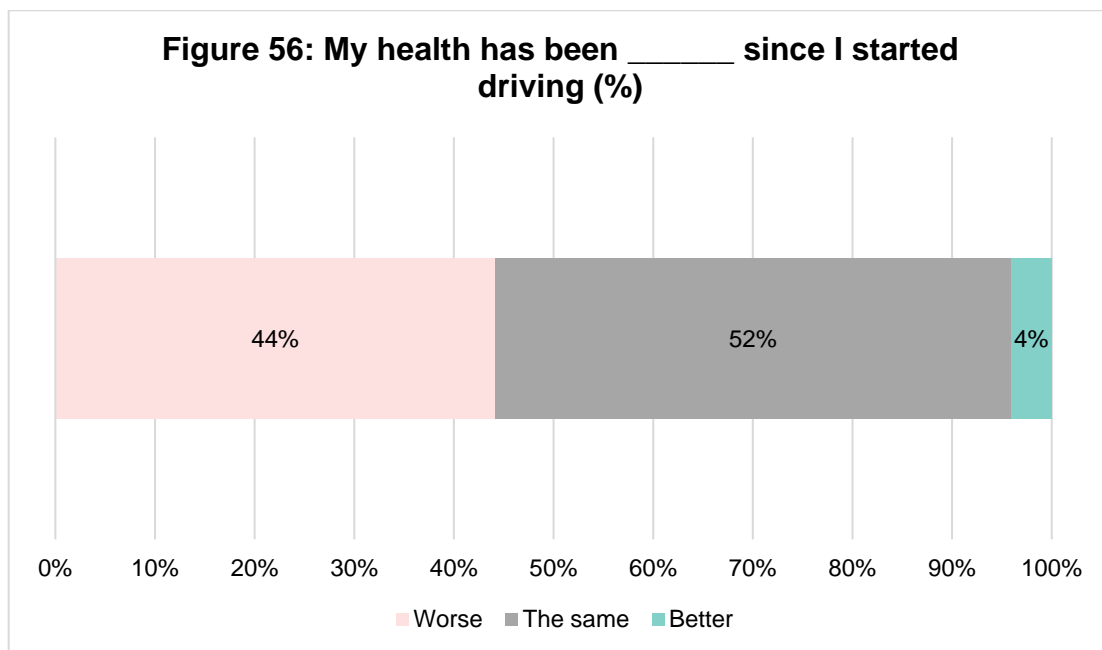
So I think... and the risks lah like I mentioned. A lot of people don't sleep, just to drive.

Ronny, 29, Driver

The survey of drivers concurred with the qualitative observations. A little more than half of the surveyed drivers (52 per cent) said that their health had been the same since they started driving (see Figure 56). Around 44 per cent reported worsening health levels, while only 4 per cent said that their health had been better since they started driving.

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Respondents who had driven for more years (see Figure 57), those who drove longer hours per week (see Figure 58), those who did not feel satisfied working as a PHC driver (see Figure 59), and those who turned to driving because they had no choice (see Figure 60) were more likely to say that their health had been worse since they started driving. These relationships were statistically significant at .05 levels.

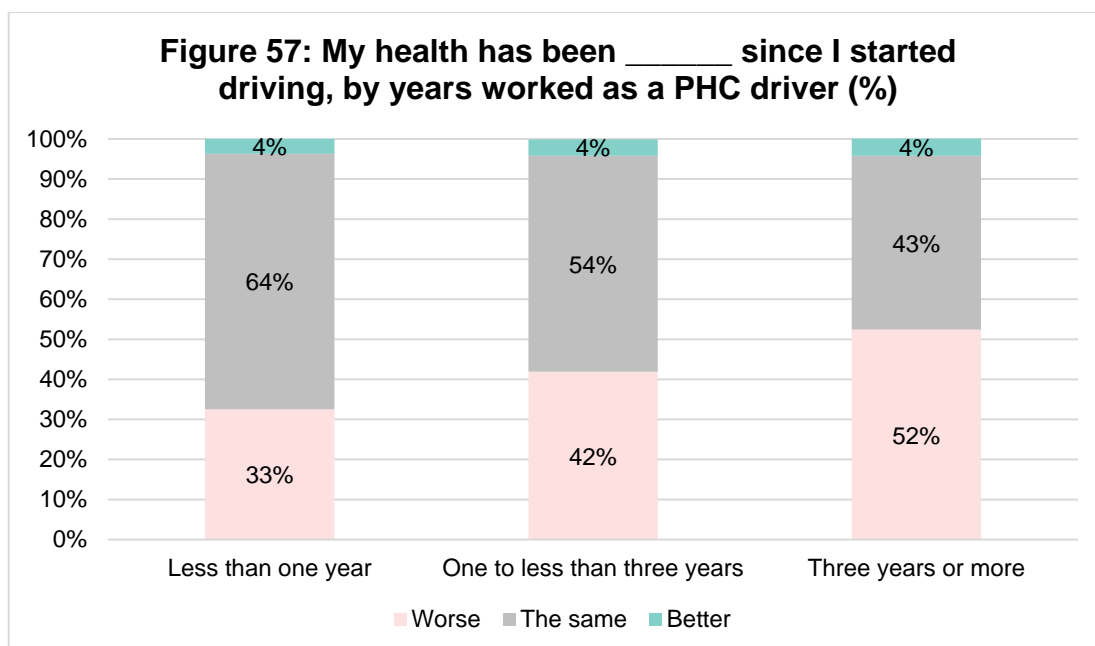


Figure 58: My health has been _____ since I started driving, by number of hours spent driving per week (%)

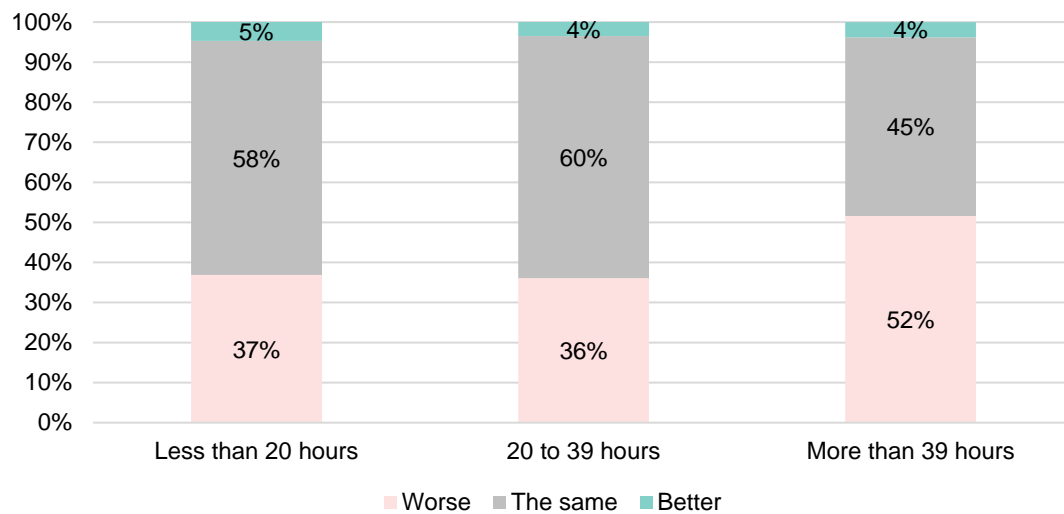
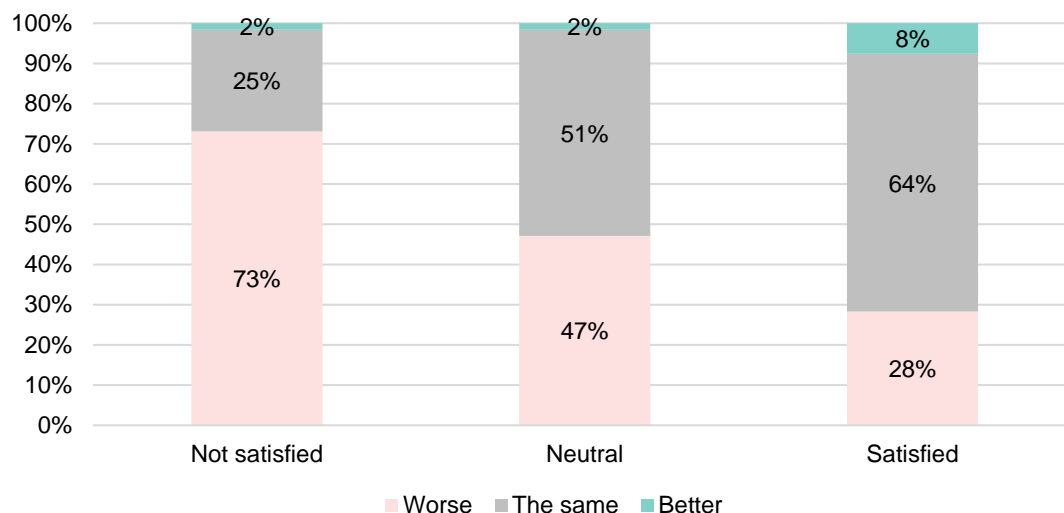
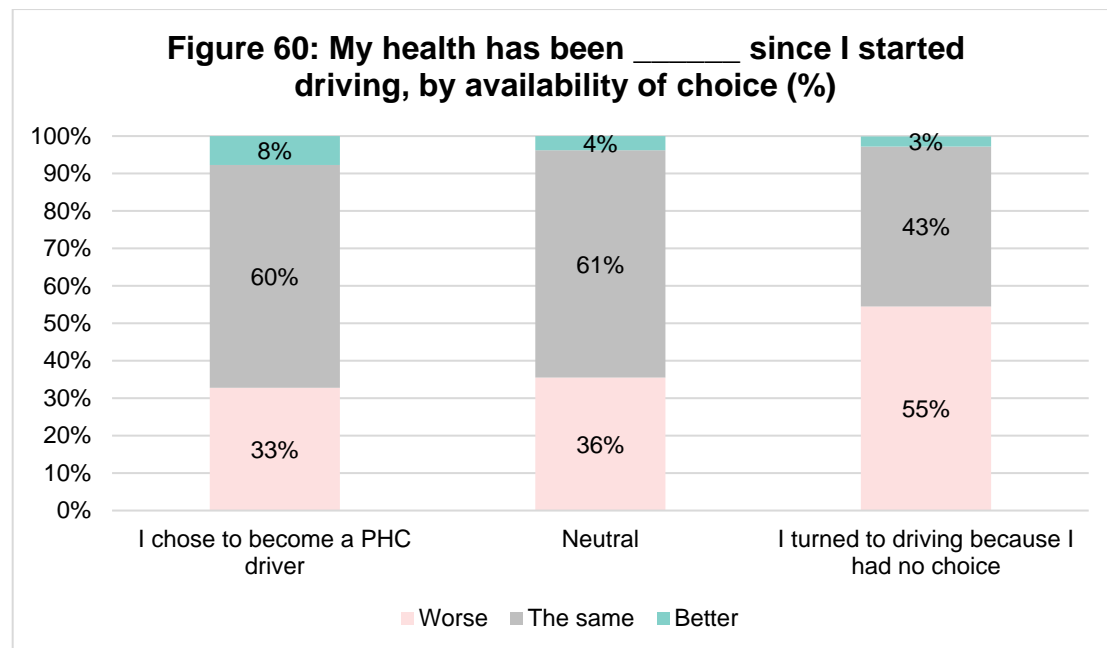
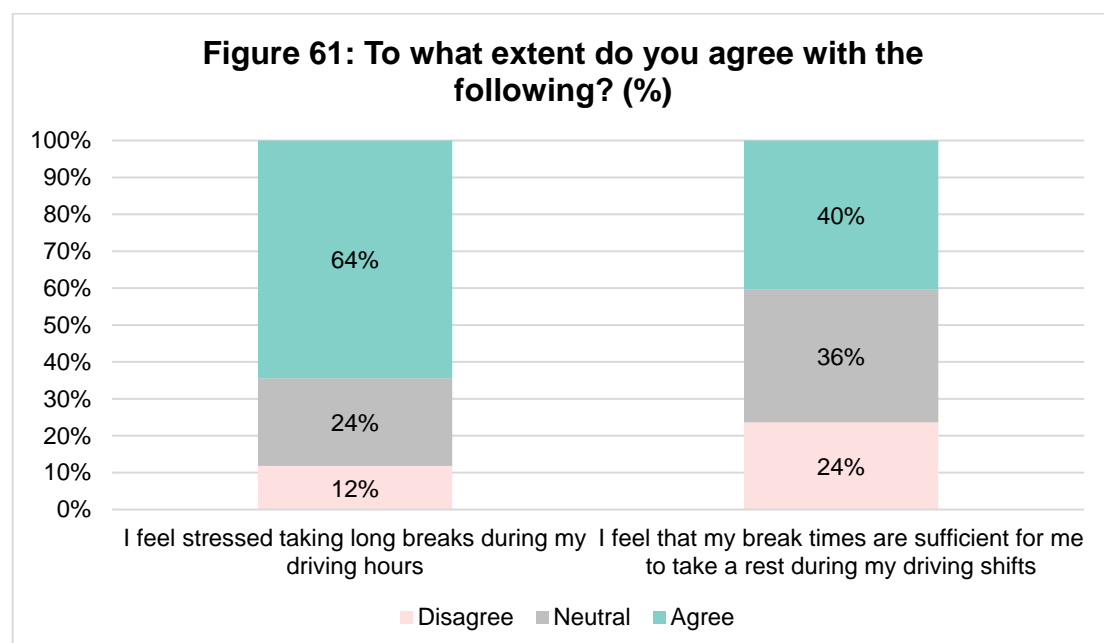


Figure 59: My health has been _____ since I started driving, by satisfaction with working as a PHC driver (%)

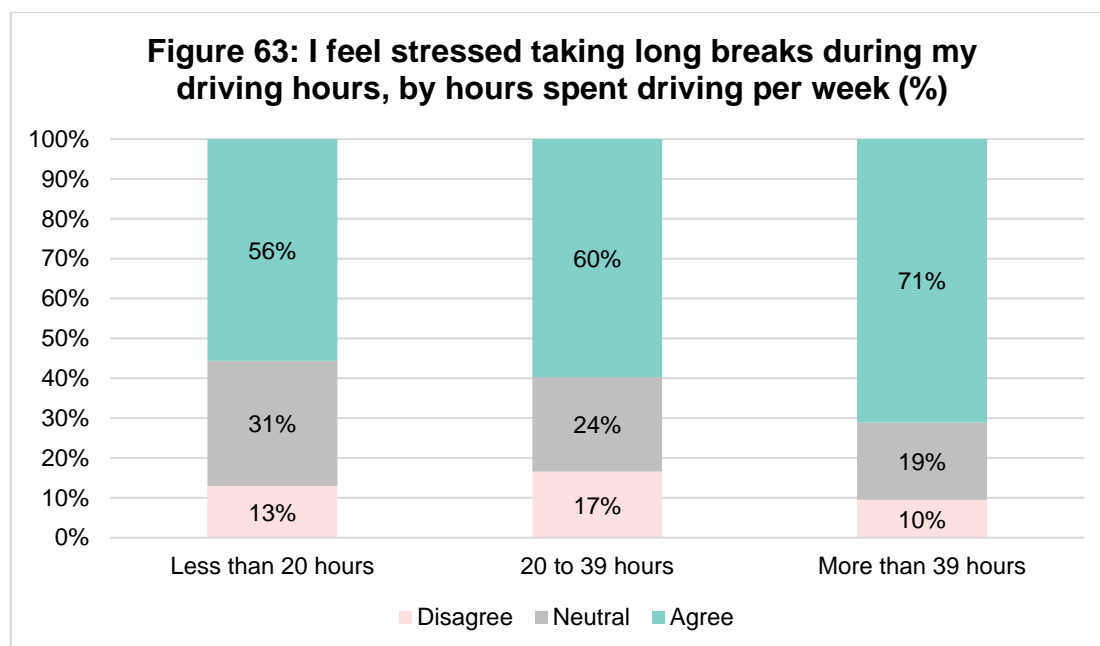
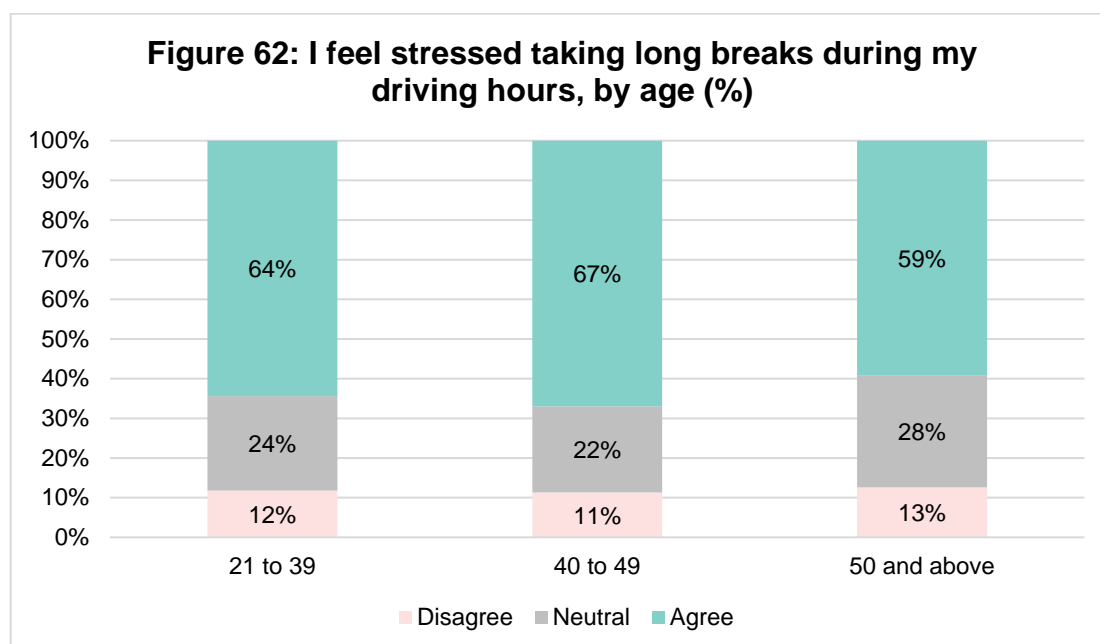




Close to two-thirds of respondents said they felt stressed about taking long breaks during their driving hours (see Figure 61). However, around 40 per cent said that their break times provided them with sufficient rest during their driving hours (see Figure 61).



Younger respondents (see Figure 62) and those who drive longer hours per week (see Figure 63) were more likely to feel stressed about taking long breaks.



4.7.1 Dangers



Image 12: Screenshot of a dashboard camera video the moment one of our participants, Hashim, got into an accident after being hit by a taxi

While the work of platform workers may seem straightforward, the work could become potentially dangerous when different elements are taken into consideration, such as the need for speed, being stressed and lethargy from driving on the roads. In addition, our roads are increasingly being populated by more platform workers, which could make driving dangerous for the driver, and also for road users and pedestrians.

One of our participants, 37-year-old driver Hashim, had gone through more than one accident while working as a PHC driver, one of which was on the very same night we had interviewed him.

Here is Hashim recounting that accident,

I was driving back one day on the highway, earlier that day you interviewed me la and this taxi swerved from the right lane and hit the back of my I spun and managed to stop at the road shoulder (see Figure 61). The taxi guy did not stop, it was a hit and run. Maybe tired or drunk. There were very few cars on the road. Luckily the car behind me stopped, offered help and said they had a video of the accident.

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According to Hashim, the accident is still under investigation. On what he thinks about protections, he explains:

There are 3 parties in this, the platform, the car rental company and myself. The platform covers up to just \$13,500 and this is provided free by my company. This is peanuts! Normally employers cover up to \$100,000. I am driving for them, they should cover me for that particular trip 100%! The insurance that pays out for vehicle accidents are paid for by me and not the company because it is a vehicle insurance and I pay for it. So essentially in a vehicle accident my company does not pay for anything.

Unfortunately, Hashim contracted Covid as well and explained to the type of medical coverage he received,

If you contract Covid, depending on your tier, I am sapphire tier driver which is the normal tier for full-time drivers, you get \$500. The doctor gave me 10 days MC and I renewed a further 3 more days. So altogether 13 days of not working. The platform's insurance pays out for prolonged medical leave from the 6th day onwards. So I got paid for 8 days. They pay you 75% of your average daily gross pay. So if you get sick you better get sick for many days if not, who will pay for those 5 days (laughs)?

As for riders, Adil, a seasoned rider of five years, had an accident while doing delivery and was hospitalised for 3 weeks. He suffered serious head injuries. As he could not work while he was recuperating, his ranking, which he worked so hard to maintain, fell dramatically. He paid for his hospitalisation via his personal insurance, and was without income. His story is not uncommon for

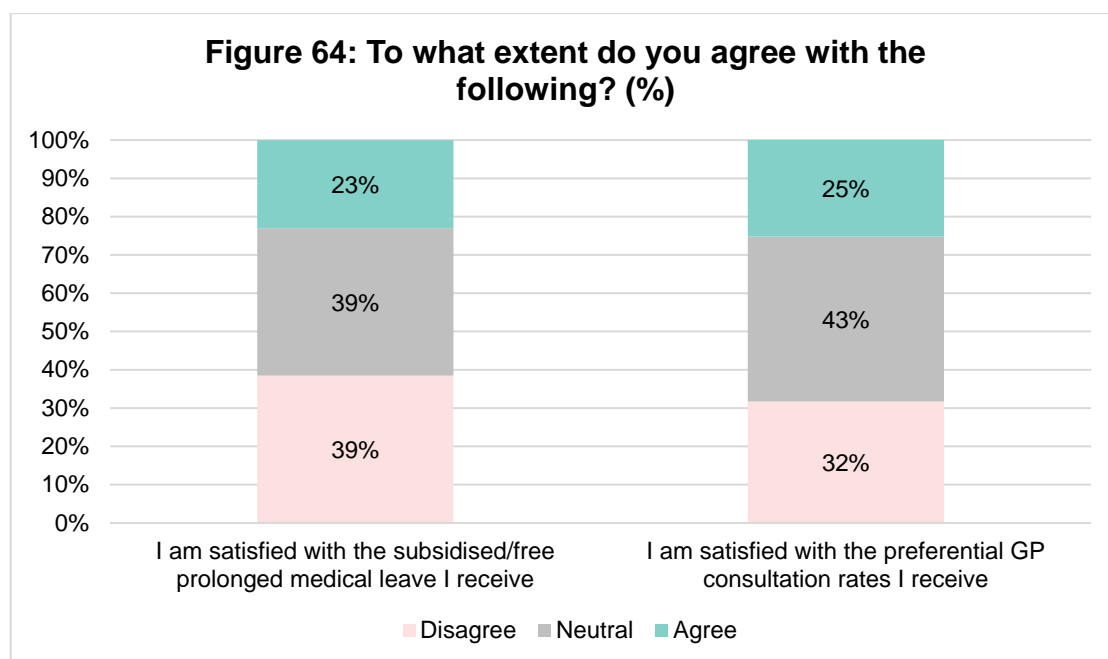
long-term riders. Another rider, Marcus, claims, “I would say on average I would have an accident once a month ... minor or major”.

Danger is constantly on the back of minds of platform workers in this line of work. The riders are responsible for themselves while out on the roads. They are expected to be accountable for their health and bodies. Accidents and uncertainties are a fact of life for the riders. Mikhail, 35, had gotten into an accident on his motorcycle in the rain, and he explains his trauma:

Ever since that accident, every time it rains, I will purposely ride slower. I don't why, but I still feel unsafe even when I ride slow. I still remember that time so clearly.

Despite that, he continues to ride in order to make a living.

In addition to the above anecdotes of the experiences of platform workers pertaining to health and accidents, 39 per cent of drivers surveyed did not feel satisfied with their subsidised/free prolonged medical leave, while 32 per cent of drivers surveyed were not satisfied with the preferential GP consultation rates that they received (see Figure 64).



Likewise, riders are generally aware of the lack of protection for their health, and do not feel satisfied with their medical benefits.

4.8 Entrench lower income individuals

There is a specific profile of riders; those who live in rental flats whose peers also do food delivery, and had experience with precarity in their employment. Participants in this profile share similar experiences and represent a group of riders deeply entrenched in the riders' ecosystem.



Image 13: A GrabFood bag along with bicycles stacked in a public rental housing corridor.

Besides a short stint as a technician, Shafik's only work experience is in food delivery. He jumped from platform to platform before settling down on one platform. Shafik admits that with an ITE certificate, it was challenging to find suitable work, and hence he decided to settle into platform work. Shafik's experiences are similar to many in the entrenched profile. They are likely to be working in platform work as a primary source of income. They have short or precarious work experiences previously and were subsequently introduced to food delivery. The people in this profile circulate within the food delivery scene.

While platform work allows the entrenched profile a 'way out' of poverty, it can also trap them. For a number of riders, their goals and aspirations often circulate around buying new equipment when changing platforms, buying a new e-bike, or upgrading their current vehicles. They become extremely invested into this world, and often find it difficult to escape. These riders then get trapped into a cycle, and the longer they get used to the 'flexible' lifestyle afforded to them by platform work, the harder it is to move out of the scene. The social network of the entrenched riders also limits their abilities to get better or more stable work. Their work biographies before platform work rarely involve upward mobility. They jump from low-paying jobs such as retail or service work to F&B jobs, most of which were introduced by their friends or family members. Shafik, for example, found a technician position through his mother's recommendation, while Saiful was able to find delivery work at a furniture company through his mother's friend. After getting into platform work, work recommendations revolve around different food platforms since their social networks circulate around platform work. As Shafik explains his work history:

After ORD, my friend recommended me to do (platform A) using PMD. At that point I found it difficult to find a job. ... My friend recommended so I go. ... a few months doing it I felt its not that bad la, its not that heavy of a workload. So from there while riding I found few friends doing (platform B) and (platform C), from there they explain how their food delivery is different from mine, so from there I decided to try all different food deliveries.

Being stuck in platform work poses an additional challenge to these individuals because the lack of CPF presents an obstacle for them to move out of rental flats. Aspirations for home ownership are thus limited unless they voluntarily contribute to their CPF, or make payments in cash. However, as discussed earlier, many platform workers did not contribute voluntarily to CPF. Hence, platform work, while providing a source of much needed income in the short-term, might not be beneficial to these riders in the long term.

4.9 Precarity

[During] Covid had a lot of orders but also a lot more riders on the road competing. But it is improving now. As we move on and the situation is improving, I am expecting, and setting a target earning of \$150 per day or \$900 per week. Which would equate out to 3.6K per month which is now I am slowly working back towards.

Hamdan, 37, Rider

Platform workers face precariousness and insecurity, not least due to the dynamic compensation structure, unstable incomes, and constant challenges in the landscape. As Hamdan explains, the COVID-19 has resulted in a shift in the market. In general, the income from platform work has been dropping since the pandemic began. Drivers are unable to find as many customers due to social restrictions, and riders are competing with an increased pool of newly unemployed or part-time riders.

During the pandemic, we saw just how precarious platform work can be and how the platform workers depended on the “generosity” of others like the government and the platform to make ends meet. This dependence on others is actually linked to the original Latin meaning of precarious which is something obtained through prayer, basically depending on others (Standing, 2021 p, x). Before (and during) the pandemic, PHC drivers depended on driving incentives from platform providers to make the job worthwhile and were aware that the ever-changing rules of “unlocking” those incentives were determined solely by the platform providers. During the pandemic, we saw how drivers are now unable to earn pre-pandemic income, much less achieve cash incentive targets, due to the drastic drop in commuter demand. Many drivers then turned to food delivery because the app changed its policy and allowed their driving partners to also do deliveries (see Images 14 and 15).

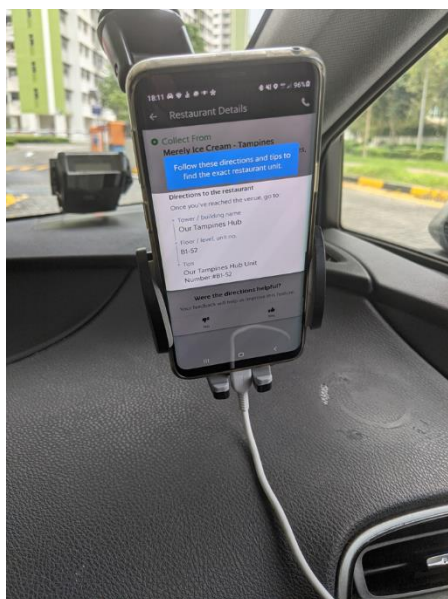


Image 14: Driver receiving

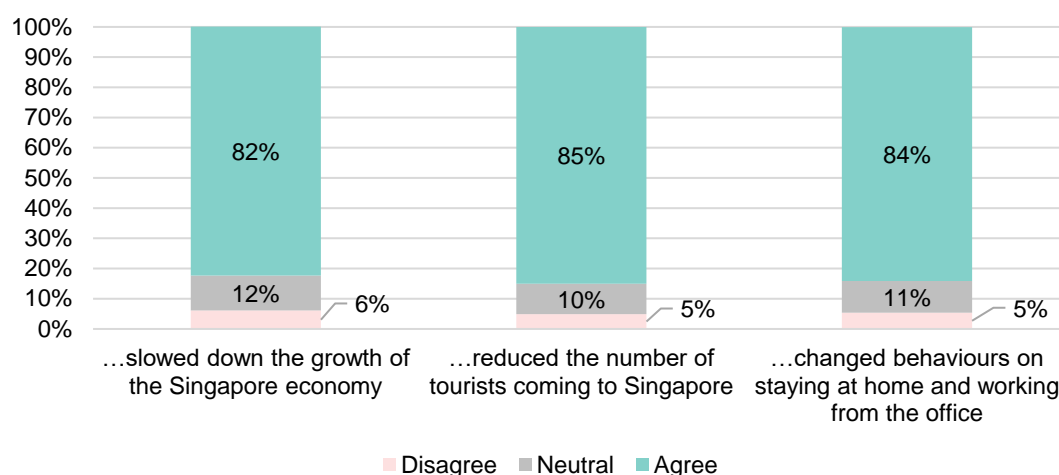


Image 15: Driver placing food items in a makeshift food compartment in the boot

Many also depended on the government for help (e.g. COVID-19 Driver Relief Fund). It is this heavy reliance on the will of others and not being real employees, therefore not having regular employment protections, which really creates a precarious working environment for many of these drivers.

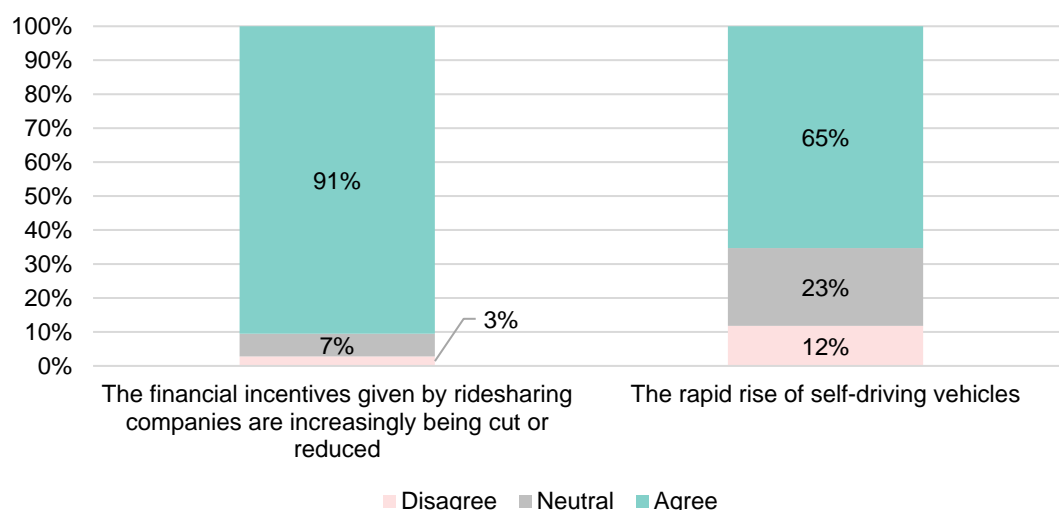
Indeed, as our survey has shown, more than eight in 10 driver respondents were worried about the significant effects of COVID-19 on the economy (82 per cent), the tourism industry (85 per cent) and working patterns (84 per cent), and how this would affect the incomes they derive from driving (see Figure 65).

Figure 65: I am worried that I will no longer be able to earn enough money as a PHC driver because COVID-19 has... (%)



Not only were drivers surveyed worried about the impact of the pandemic, a large majority (91 per cent) of drivers surveyed (see Figure 66) were also worried that the financial incentives given by companies would be cut or reduced, and around two-thirds of respondents were worried that the rapid rise of self-driving vehicles would affect their incomes.

Figure 66: I am worried that I will no longer be able to earn enough money as a PHC driver because... (%)



In addition, the government has stepped in to regulate the industry. While some of the changes are welcomed, some changes can drastically affect the income

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levels of platform workers. The most famous incident that prompted outrage amongst riders was the November 2019 legal restrictions on Personal Mobility Device (PMD) ownership and usage, commonly referred to as “the ban”. Many riders lost their mode of transport and ability to earn higher incomes with this ban. It also showed them how volatile this work can be. Many spoke about the fact that they did not have anyone to turn to.

I just watch the video again last week. You remember that guy who was shocked when the MP asked him to be a postman? I laugh every time I watch that.

The video that driver Riz, 38, was referring to was a video of a series of videos showing what we assume are unhappy PMD delivery riders voicing their discontent about the ban on PMD during events, such as meet the people sessions and even at the speaker’s corner at Hong Lim Park. That ban touched on the ideas of trust and worker representation. Workers basically felt like they have lost their livelihoods overnight and felt that no one had their best interest or listened.

“The ban” also negatively affected riders with pre-existing health issues who may have had to switch to riding on bicycles, which would be more physically demanding. Platform workers have to constantly adapt to the changes in their environment and keep up with the larger socio-political landscape. The lack of job stability can have a psychological impact on platform workers.

4.9.1 Daily reminder: Precariousness as a process

A common misconception of this form of menial and routine work is that it is flexible, less stressful than traditional forms of employment, and a way to make quick, easy money. One of our participants, Hamdan, for instance, paints food delivery work as: “Very easy, la. I just ride and deliver. Anyone can do it. Not difficult at all!”. Other participants used words like “flexible”, “chill”, “relaxed”, “not much thinking”, “straightforward”, “not stressful”, and “easy” to describe the

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nature of their job. However, as discussed earlier, platform workers have to keep up to date with new information and changes in incentive systems, local news, laws and regulations, to make a living.

Platform workers are constantly being exposed and experience precarity at arguably every stage of the delivery or ferrying worker journey (See Figures 1 and 2 for the stages). It is a daily battle with stress and reminder of their precarious position. They have to deal with the everyday stressors from the platform, merchants, customers, passers-by, and on the road while dealing with matters in their personal life, such as bills and loans to pay or finding the time and energy to find another job, which can be especially difficult in the current pandemic. To maintain their level of incomes they must reach the expectations of the platforms:

Have to call the help center to cancel our job lah. Because if you cancel, then our acceptance rate will get lower. Because it's not our fault. As for (platform A), customer is not there within 5 minutes, they will have a \$4 fee, penalty. They will deduct from this rider's side, then they reimburse us \$4.

Sam, 40, M, Driver

This leads to speculation and adds on to their stress as they have to keep guessing what the expectations of the platforms are in order to meet these expectations, and sometimes this can cause imaginary stress:

Because I heard too much rumour ah on their late payment ah. Anyhow touch driver ah, anyhow suspend driver ah, wah this type I cannot take it ah. If I drive halfway then suddenly suspend me because one rider complain, then that is shit man to me.

John (R4), 40, Driver

There is also a lack of control over earnings given they are price takers and not price setters. Platform workers have to accept what platforms offer, instead of actively influencing their earnings, and thus their level of controls over their work is limited:

lot feel they can control their earnings. But all these earnings is subjected to policies. I think it's a false consciousness if we think we can control our own earning. The mother of this is [the platform company]. They set the policies, bonuses. Price is elastic when government comes up with policies. It is very much influenced by external factors.... The only thing we can control is the location we are at, but not the prices.

Gary, 27, M, Sociology Graduate driver

In addition to handling the changes within the platform itself, they also have to deal with the precariousness in their situations. Platform workers have to deal with limited framework for protection, volatility in operating landscape, dangers on the ground, and the unsuited urban landscape and infrastructure.

Also, while PHC drivers are overwhelmingly male, some female drivers we interviewed spoke about issues they have faced while driving, such as unwelcomed comments from male passengers, as driver Sherry recounts,

Passengers will say I'm pretty then ask why I do this job. Both lady and male passenger will say that. But sometimes they may go to the extent, ask me out for drinks. I'm doing a driving job, I'm a driver. So what kind of guy you are, weird right? And how you know how someone looks, when I wearing a mask? Very stressful lah, you don't want to be too offensive to them.

Sherry, 36, Female Driver

At least one platform acknowledges this problem (see Image 16). The platform sent out reminders to drivers reminding them to behave in a professional

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manner and what would constitute as sexual harassment. It is definitely a step in the right direction towards creating a safer working environment, although it seems to mainly be concerned with protecting the passenger. More can be done to address sexual harassment towards drivers especially female drivers, and address the possibility that passengers can be verbally abusive towards drivers, regardless of gender.

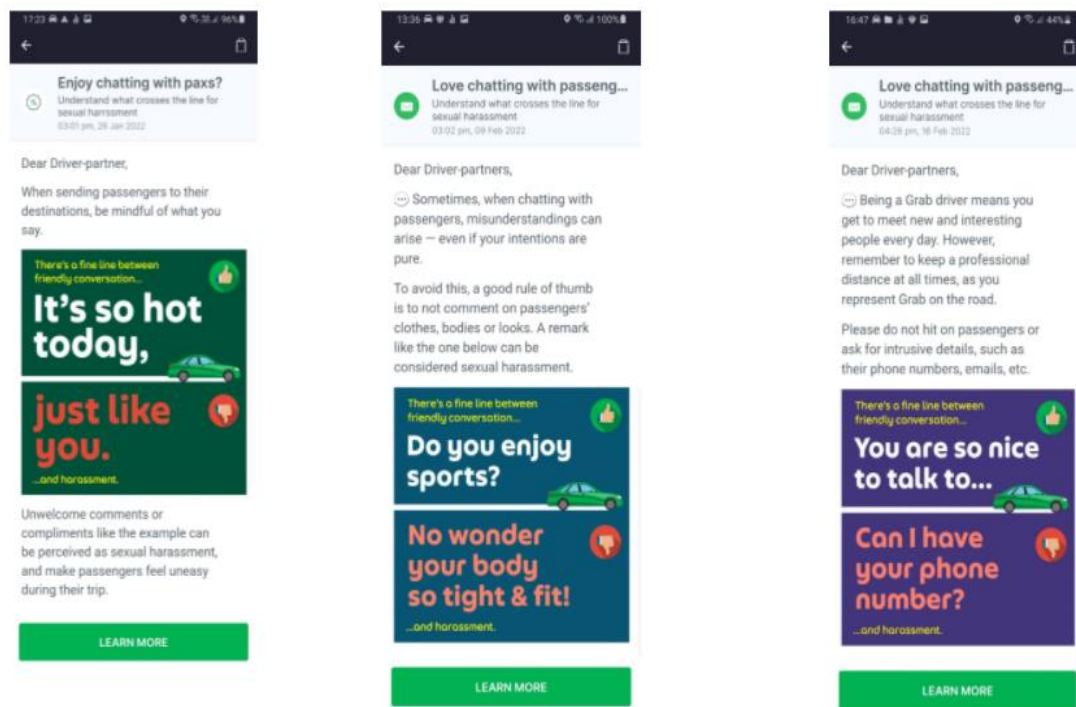


Image 16: Advisory notice sent to drivers reminding them to behave professionally and what is deemed to be sexual harassment

The long-term future and planning of platform workers are also uncertain, especially those with a family of their own, and those living in rental flats. Their retirement is not secured as their savings are limited and there is a lack of financial security. They may find it difficult to transition out of platform work, and have limited opportunities for retraining.

The array of key issues for platform workers is concerning, and we will discuss some recommendations to address some of these concerns.

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5 RECOMMENDATIONS

5.1 Interventions must consider heterogeneity of platform workers

Platform workers are a heterogeneous group of individuals, and as such, intervention designed to support them must be cognisant of this reality.

To illustrate this point, we conducted two sets of analysis to segment the different profiles of PHC drivers using the survey data. While a survey was not done with the delivery riders, our qualitative study also showed that there were different profiles of delivery riders.

5.1.1 Segmenting drivers by stressors and job motivations

Cluster analysis was carried out to profile the respondents according to their level of stressors and job motivations and determine if there are distinct groups of drivers that differ substantially from each other. The analysis was based on nine predictors, each measuring different aspects of job stress and job motivation in becoming and continuing to become a PHC driver. The list of predictors used in the cluster analysis and their definitions are explained in the following paragraph.¹⁶

The following were the predictors used for the cluster analysis:

- 1) Inclination to exit industry: This composite scale measures a respondent's inclination to exit the ridesharing industry, with 1 being lower inclination to leave the ridesharing industry (i.e. they want to stay) and 5 being higher inclination to leave the ridesharing industry (i.e. choosing to leave as soon as alternatives are available). Drivers with high inclination do not see themselves staying for long and are actively looking for alternatives, but they are still in the job because

¹⁶ See Appendix E for the full list of component questions used for each predictor.

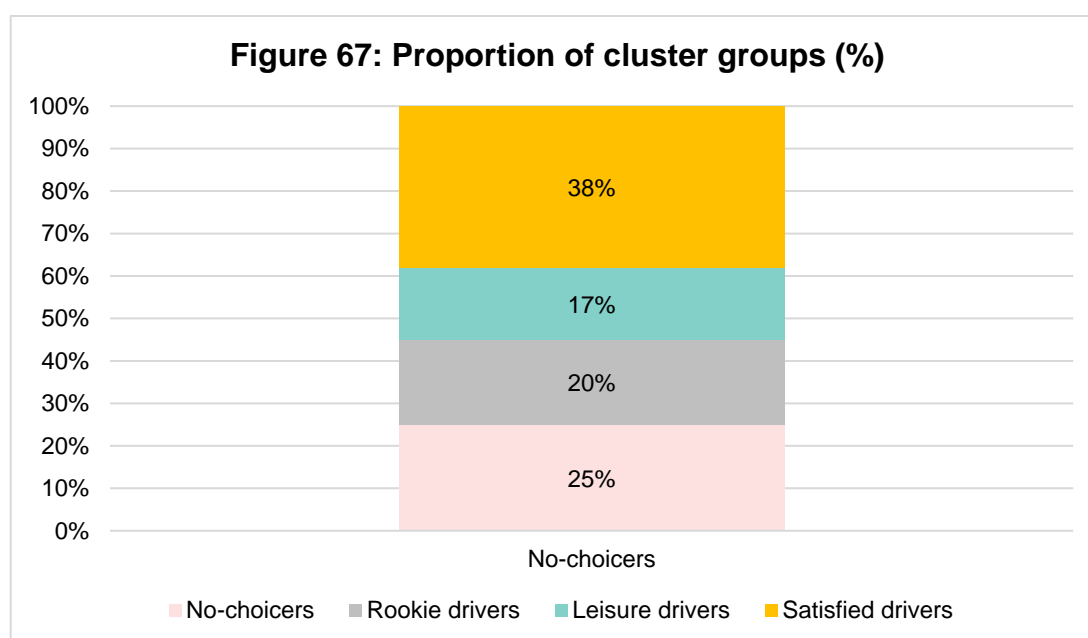
they have little to no job opportunities elsewhere and/or they face more obstacles in leaving because of individual circumstances (e.g., low qualifications, urgent need of money for financial/family responsibilities).

- 2) Work autonomy: This composite scale measures the extent to which the respondent feels that the work autonomy they have as a driver is important for them, with 1 being not important and 5 being important.
- 3) Self-improvement: This composite scale measures the extent to which the respondent feels that their work skills, such as interpersonal communication, entrepreneurial skills and handling technology, have improved in the time they worked as a driver, with 1 being no improvement at all and 5 being great improvement. Drivers with higher scores were more likely to feel that their work skills have improved while driving as a PHC driver.
- 4) Perception of ridesharing industry: This composite scale captures the respondent's perception of the ridesharing industry, with 1 being having a very negative perception about the industry and 5 being having a very positive perception about the industry.
- 5) Financial stress: This composite scale captures the level of financial stress a respondent is facing, with 1 being low level of financial stress and 5 being high level of financial stress.
- 6) Stress over health: This composite scale captures the level of stress a respondent is currently experiencing over his/her health, with 1 being low level of stress and 5 being high level of stress.
- 7) Number of platforms: Higher scores mean that the respondent is an active registered user of many ridesharing platforms; the maximum

score a respondent can achieve is 6 (i.e. s/he is an active registered user of Gojek, Grab, Ryde, Tada, Urge, Others).

- 8) Number of years worked as a PHC driver: Higher scores mean that the respondent has been driving for a longer period of time, with 1 being less than six months and 6 being five years and above.
- 9) Proportion of monthly income: Respondents either derive one-quarter, half, three-quarters or all of their income from driving. Higher scores indicate a greater percentage of their income that has been derived from driving alone.

We derived four distinct clusters amongst the drivers surveyed: 1) No Choicers, making up 24.7 per cent of the sample population; 2) Rookie Drivers, who make up at 20.3 per cent; 3) Leisure Drivers, the smallest group at 16.6 per cent; and 4) Satisfied Drivers, the largest group forming 38.4 per cent of the sample population (see Figure 67).



5.1.1.1 No Choicers

No Choicers are seasoned full-time drivers who experience high levels of stress and desire to exit the industry if they can. They are no stranger to the job or the industry, having worked as a PHC driver for a number of years. Taking this on as their full-time job, they drive long hours and derive all of their income from this job. This group is also characterized by high levels of stress, reflected in their anxiety over their finances and health. The autonomy of PHC driving and the skills acquired from the job are unimportant to them, and they do not view the job nor the industry in a positive light. These drivers wish to leave the job and the industry as soon as possible, but they are currently staying on as a PHC driver because they have no good alternative.

5.1.1.2 Rookie Drivers

Rookie Drivers are inexperienced full-time drivers who have only just entered the industry. They spend long hours on the road and derive most of their income from this job. They experience some degree of stress over their finances and health, but they still see some value in the flexibility of the job and the skills they can gain. These drivers also view the PHC driving industry more positively as compared to the No Choicers.

5.1.1.3 Leisure Drivers

Leisure Drivers are young and inexperienced part-time drivers. They drive only a few hours every week and derive only part of their income from driving, making them less dependent on this job as compared to the No Choicers and the Rookie Drivers. Leisure Drivers experience lower levels of stress concerning their finances and health and have a positive view of the job and the industry. These drivers also value the flexibility that the job offers and the skills they can pick up, but they are still ambivalent about the prospects of staying in this job in the long-run and are open to leaving when better opportunities arise.

5.1.1.4 Satisfied Drivers

Lastly, Satisfied Drivers, the largest cluster in our analysis, are older and experienced part-time drivers who enjoy the work. They have worked as a PHC driver for a few years, do not spend a lot of time on the road per week, and only derive part of their income from driving. Compared to the No-Choicers who have also worked as a PHC driver for a substantial period of time, Satisfied Drivers experience lower levels of stress, are able to have a positive perception of the industry and enjoy the autonomy and self-improvement opportunities that the job brings. They are also the least likely among all the clusters to quit or leave the industry, suggesting their contentment with the job.

The scores of the cluster on each predictor is listed in the table below.

Table 2: Cluster analysis of drivers

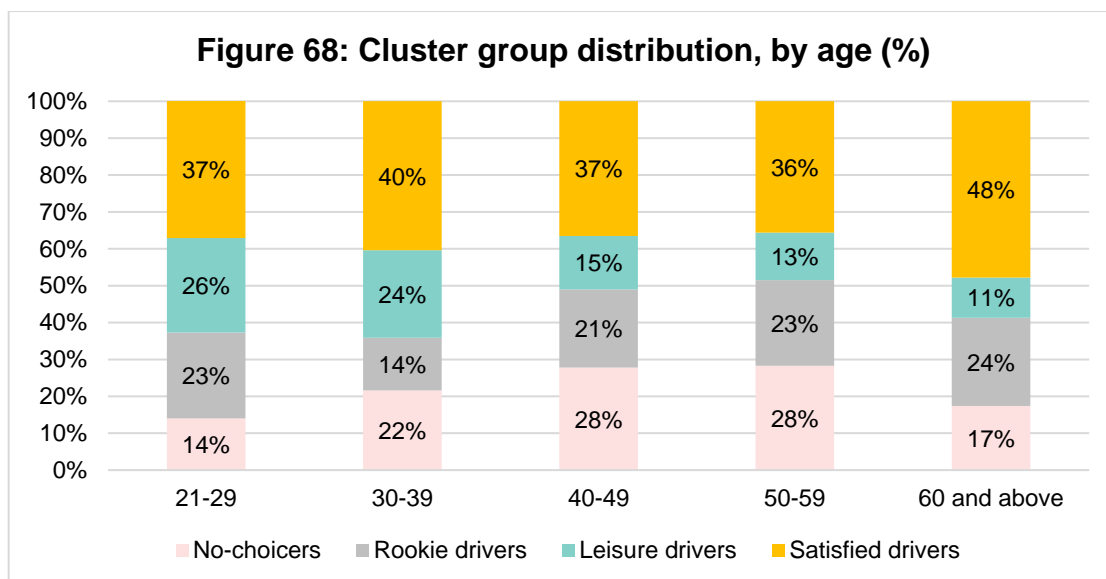
Driver Attitudes	No-choicers (n = 237)	Rookie drivers (n = 194)	Leisure drivers (n = 159)	Satisfied drivers (n = 368)
Inclination to exit industry	3.74 / 5	3.34 / 5	3.08 / 5	2.79 / 5
Financial stress	4.49 / 5	4.13 / 5	3.94 / 5	4.11 / 5
Health-related worries	3.87 / 5	3.33 / 5	3.10 / 5	3.05 / 5
Positive perception of ridesharing industry	2.34 / 5	3.10 / 5	3.21 / 5	3.35 / 5
Importance of work autonomy	2.91 / 5	3.43 / 5	3.56 / 5	3.80 / 5
Self-improvement opportunities	2.22 / 5	3.01 / 5	3.22 / 5	3.37 / 5
Number of platforms active	2.14 / 6	1.92 / 6	1.97 / 6	2.10 / 6

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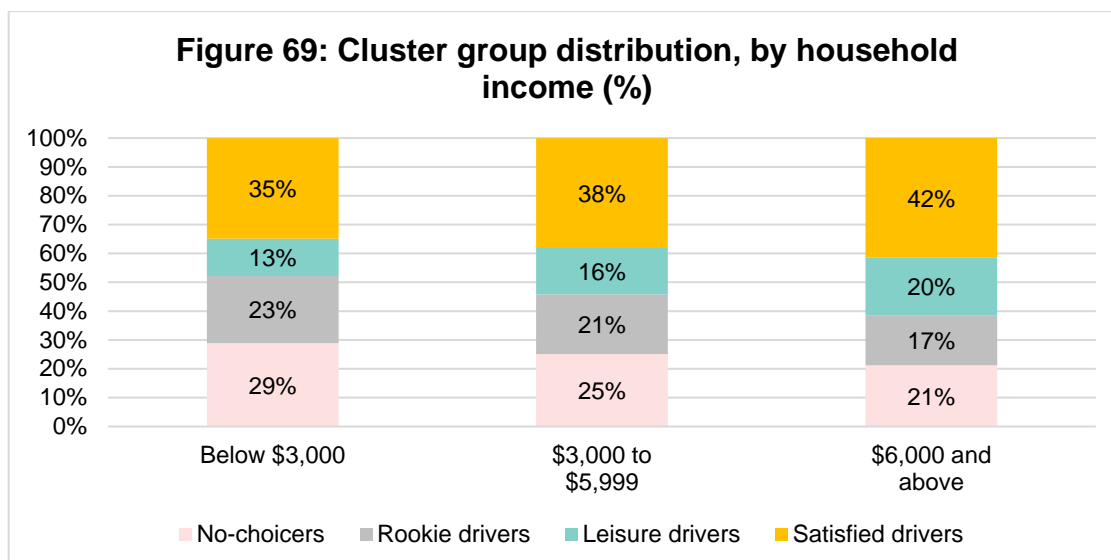
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Number of years worked as PHC driver	Three to less than five years	Six months to less than a year	Six months to less than a year	Three to less than five years
Proportion of monthly income derived from driving	Fully derive income from driving	Fully derive income from driving	Derive $\frac{1}{4}$ of income from driving	Derive $\frac{3}{4}$ of income from driving

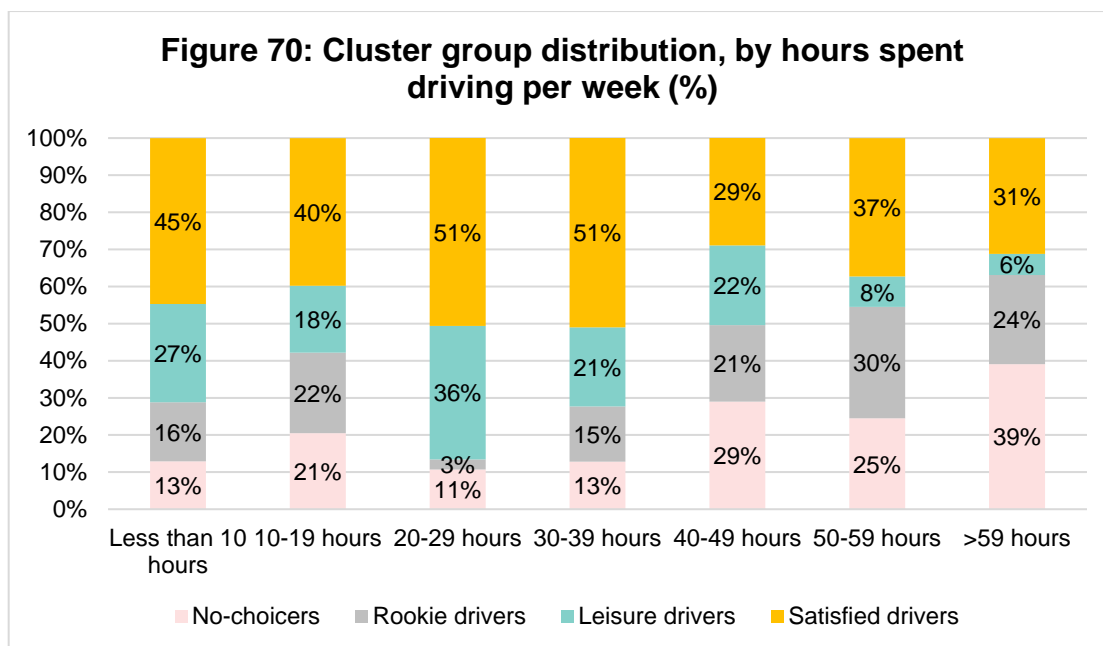
We looked at the composition of drivers across the different age groups to identify any salient demographic differences (see Figure 68). We find that among drivers who are in their 40s and 50s, there is a higher proportion of No Choicers as compared to the other age groups and a lower proportion of Leisure Drivers as compared to the 21-29 and 30-39 age groups. On the other hand, only a small percentage of drivers aged 21 – 29 belong to the No Choicers cluster, suggesting that younger drivers are less likely to be jaded about their PHC driving job and the ride-sharing industry as compared to their middle-aged counterparts. Lastly, almost half of the drivers aged 60 and above are Satisfied Drivers, implying that a sizable number of older drivers are taking on this job because they enjoy it and are content with what it offers.



When we look at drivers whose household income is \$3,000 or below, we see that there is a higher proportion of No Choicers and a lower proportion of Leisure Drivers and Satisfied Drivers as compared to the other income groups (see Figure 69). Their relatively low household income may have contributed to their stress levels and pessimism about the job and the industry. For drivers with a household income of \$6,000 and above, there is a higher proportion of Satisfied and Leisure Drivers. Their relatively comfortable financial status could have positively affected their outlook towards the job and the industry since they do not need to depend on PHC driving for a living. They drive because they like the autonomy and flexibility as well as the soft skills that they can pick up from the job.



Lastly, we look at the composition of drivers by the number of hours they drive per week. We see that there is a higher proportion of No Choicers in the group that drives more than 59 hours a week as compared to the other groups who drive fewer hours (see Figure 70). This finding is consistent with what we know about drivers in this cluster, in that they derive all their income from driving and thus would tend to drive more to earn greater income. In contrast, for drivers that spend less than 40 hours on the road, a sizeable proportion of them are Satisfied Drivers. In particular, half of the drivers who drive 20 - 29 hours and 30 - 39 hours per week are Satisfied Drivers. These drivers like the job enough to spend a good number of hours on the road each week but they do not intend to devote all their time to it.



5.1.2 Segmenting drivers by age and employment status

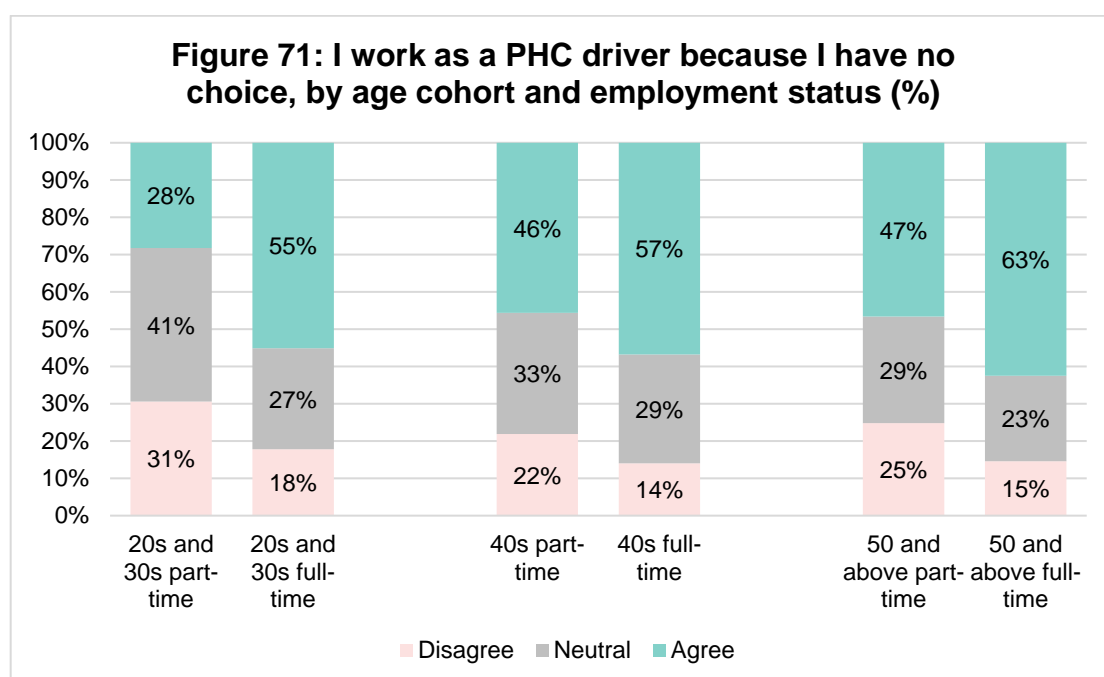
Based on the cluster analysis, we noticed that the profiles differed at least in part by age and employment status (proportion of income derived from PHC driving being a proxy). As such we separated drivers into three age cohorts: aged 20 years old to 39 years old (20s and 30s), aged 40 to 49 (40s), and aged 50 years old and above.¹⁷ Their employment status is determined by the proportion of income derived from PHC driving; full-timers derive all of their income from driving while part-timers driver only part (one-quarter, half, or three-quarters) of their income from driving.¹⁸ We discuss below how age and employment status have allowed us another way to segment drivers.

¹⁷ This allows each age cohort, as well as each age cohort with each employment status, to have a similar number of drivers in each group

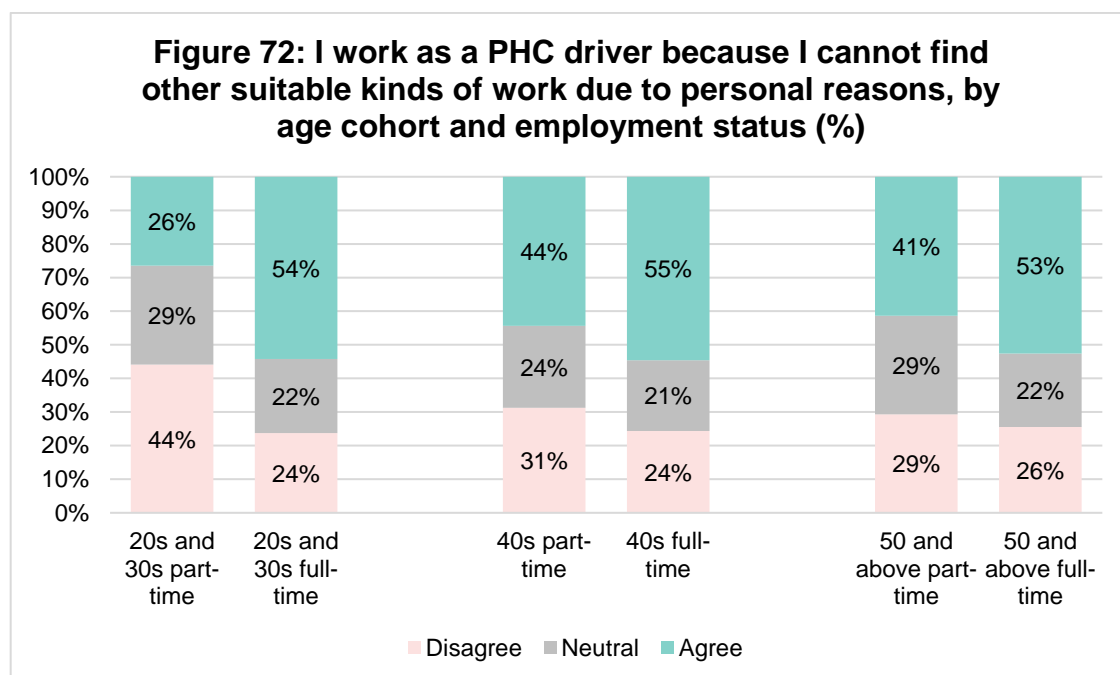
¹⁸ Findings remained similar even after removing those who also drove as taxi drivers from the cluster analysis

5.1.2.1 Livelihoods

In terms of taking up driving as their livelihood, full-time PHC drivers were more likely to report that they work as a PHC driver because they have no choice, and older full-time drivers were likelier to indicate so as compared to younger full-time drivers (see Figure 71). In particular, 47 per cent of part-time drivers and 63 per cent of full-time drivers in their 50s and above drive because they have no choice compared to 28 per cent of part-time drivers and 55 per cent of full-time drivers in their 20s and 30s.

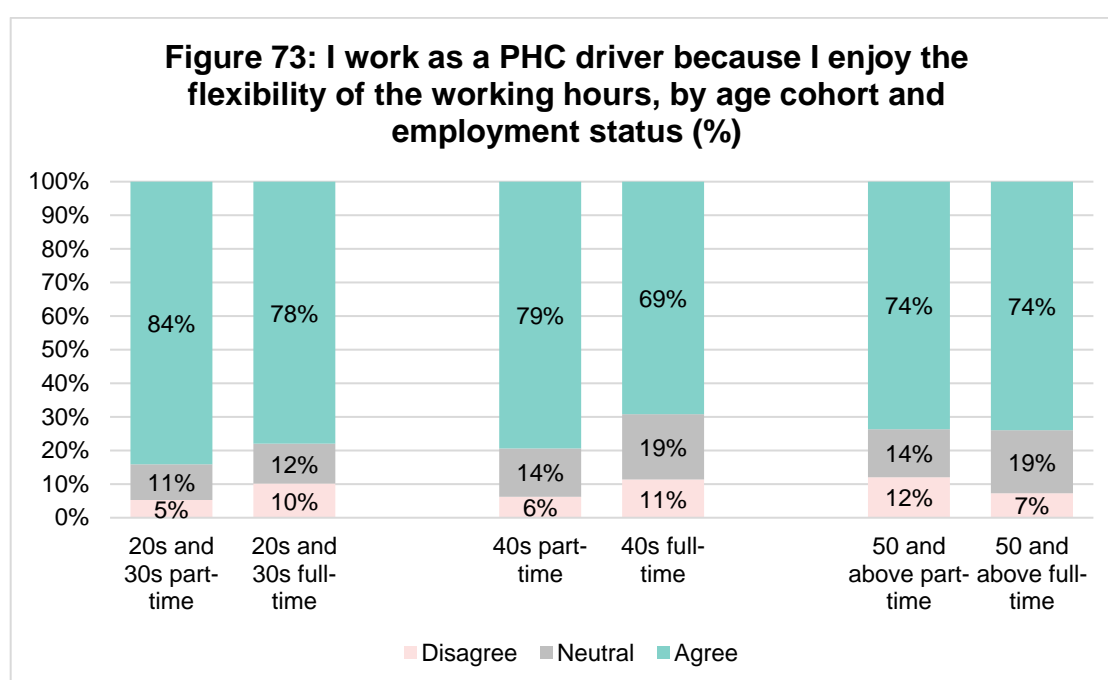


Full-time PHC drivers were also more likely to report that they work as a PHC driver because they cannot find other suitable kinds of work due to personal reasons (see Figure 72). While more than half of full-time drivers across all age cohorts indicated that they drive because they cannot find alternatives, 26 per cent, 44 per cent, and 41 per cent of respondents who drive part-time in their 20s and 30s, 40s, and 50s and above indicated likewise respectively.



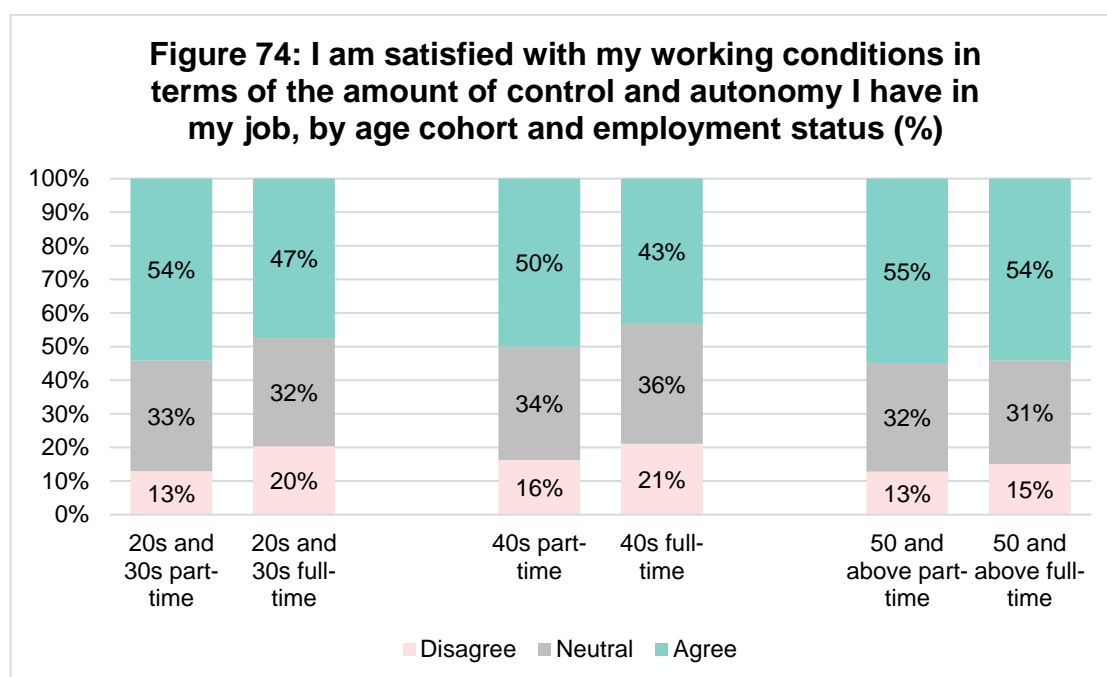
5.1.2.2 Flexibility and autonomy

The flexibility of the working hours was enticing to many drivers, though part-time drivers were more likely to be attracted to PHC driving due to this flexibility compared to full-time drivers (see Figure 73). Younger drivers also valued flexibility more compared to their older counterparts. Compared to 84 per cent and 79 per cent of part-time drivers in their 20s and 30s as well as 40s respectively, 78 per cent and 69 per cent of full-time drivers in the same age cohorts reported that they work as a PHC driver because they enjoy the flexibility of the working hours. There was no substantive difference between full-time and part-time drivers in the oldest age cohort in terms of the value they place on the flexibility of the working hours as a motivation to be a PHC driver; 74 per cent of both part-time and full-time drivers aged 50 and above indicated agreement.

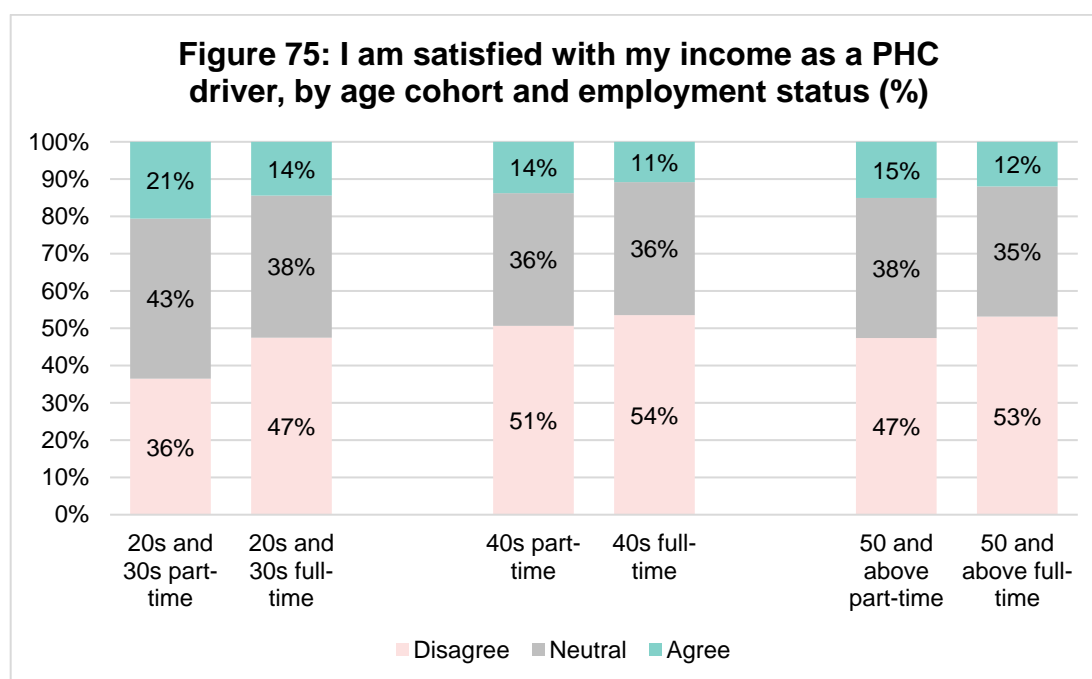


5.1.2.3 Work satisfaction

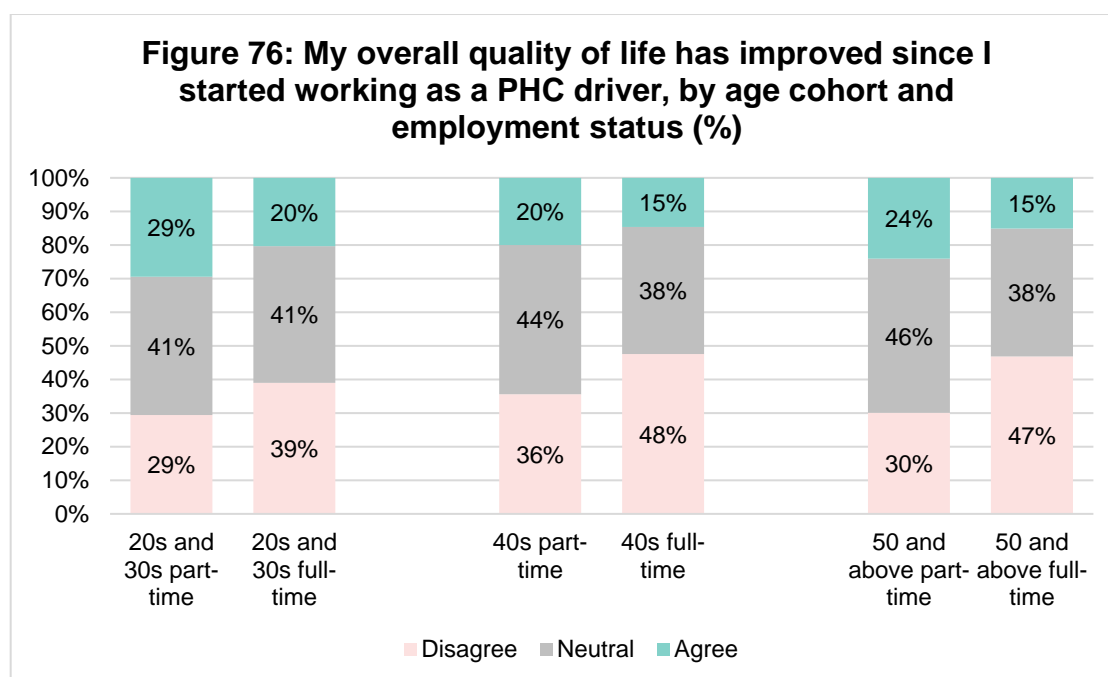
Similarly, part-time PHC drivers were more likely to report that they are satisfied with their working conditions in terms of the amount of control and autonomy they have in their job (see Figure 74). While 54 per cent of part-time drivers in their 20s and 30s and half of them who drive part-time in their 40s indicated satisfaction with the degree of control and autonomy that driving provides, 47 per cent and 43 per cent of full-time drivers in the corresponding age cohorts indicated likewise. There was again no substantive difference between full-time and part-time drivers in the oldest age cohort.



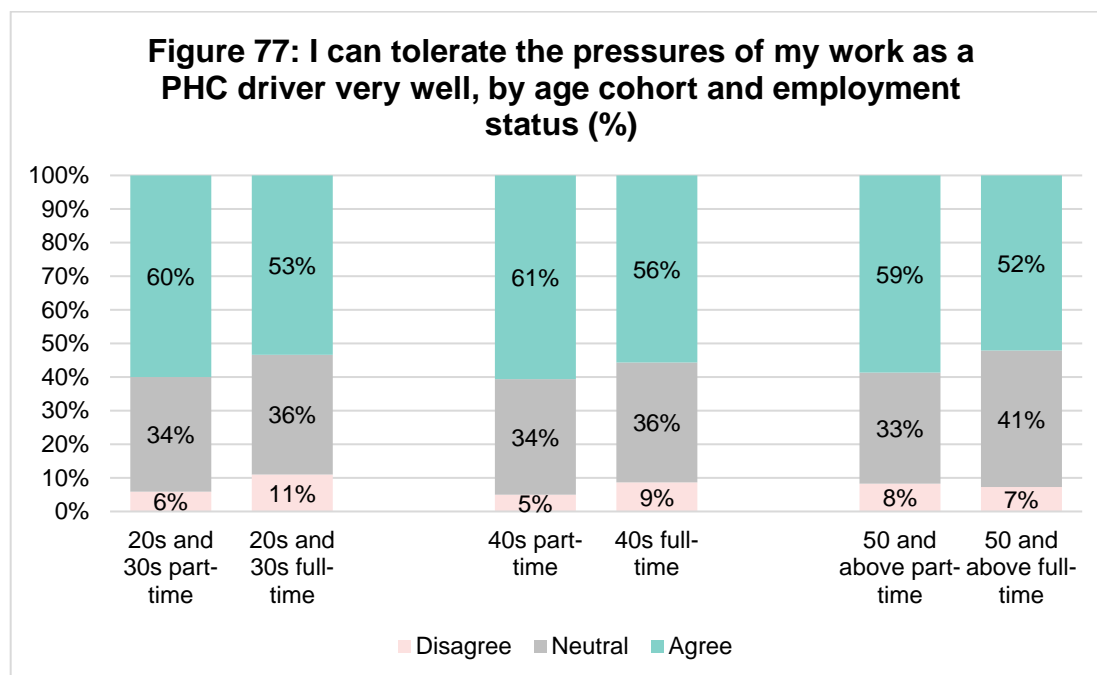
While platform work can provide both full-time and part-time drivers across all ages with income, full-time drivers were less likely to report satisfaction with their income derived from the job. While 47 per cent, 54 per cent, and 53 per cent of full-time drivers from the youngest to oldest age cohorts reported dissatisfaction with their income as a PHC driver, 36 per cent, 51 per cent, and 47 per cent of part-time drivers from the youngest to oldest age cohorts indicated likewise (see Figure 75).



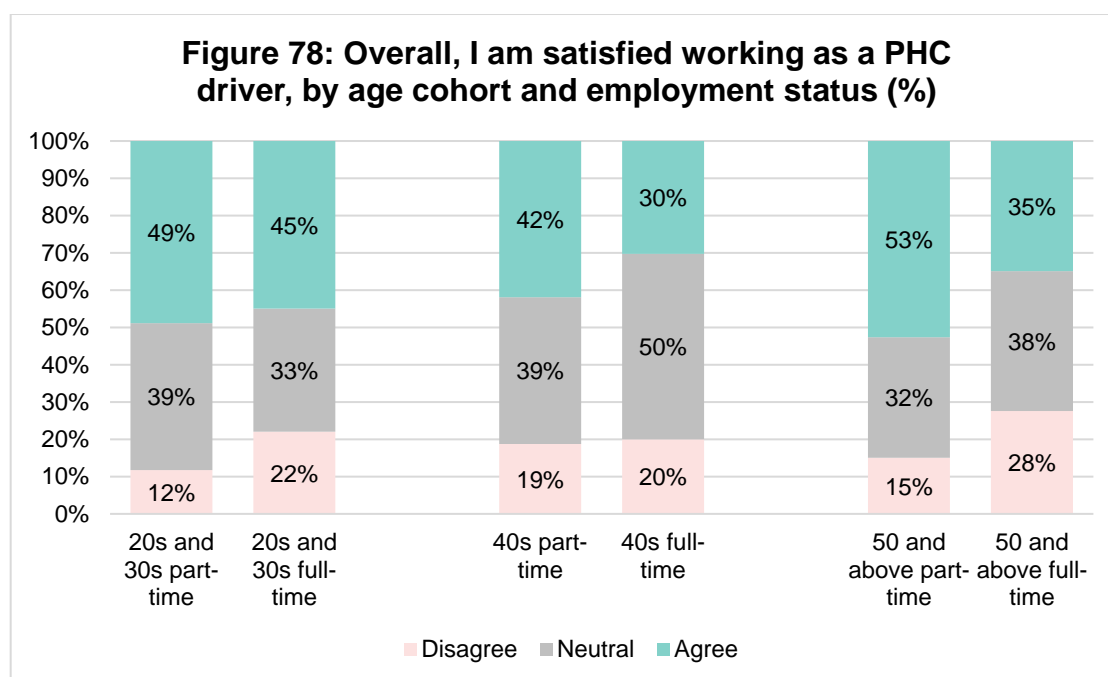
Full-time drivers were also less likely to indicate that their overall quality of life has improved since they started working as a PHC driver, and older full-time drivers were less likely to do so compared to their younger counterparts. Close to two-fifths of full-time drivers in their 20s and 30s (39 per cent) and close to half of full-time drivers in their 40s (48 per cent) and 50s and above (47 per cent) reported disagreement that their overall quality of life has improved since they started driving (see Figure 76). In comparison, approximately one-third of part-time drivers across all age cohorts stated the same.



Full-time drivers were less likely to report that they can tolerate the pressures of their work as a PHC driver very well as compared to part-time drivers. While 53 per cent, 56 per cent, and 52 per cent of full-time drivers from the youngest to oldest age cohort indicated that they could tolerate the pressures very well, around 60 per cent of part-time drivers across all age cohorts indicated the same (see Figure 77).

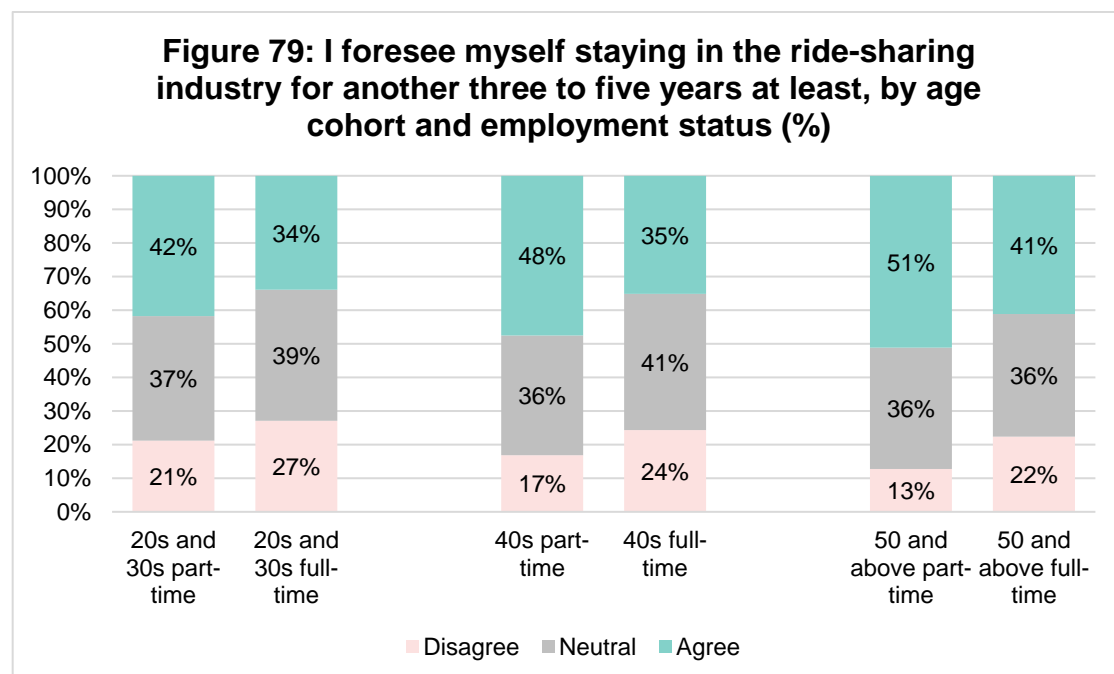


Full-time drivers were also less likely to report overall satisfaction with working as a PHC driver, and the difference in responses by employment status was more evident for older age cohorts. While 49 per cent and 45 per cent of part-time and full-time drivers in the youngest age cohort (20s and 30s) indicated that they are overall satisfied working as a PHC driver respectively, 42 per cent and 30 per cent of part-time and full-time drivers in their 40s as well as 53 per cent and 35 per cent of part-time and full-time drivers aged 50 and above reported the same (see Figure 78).

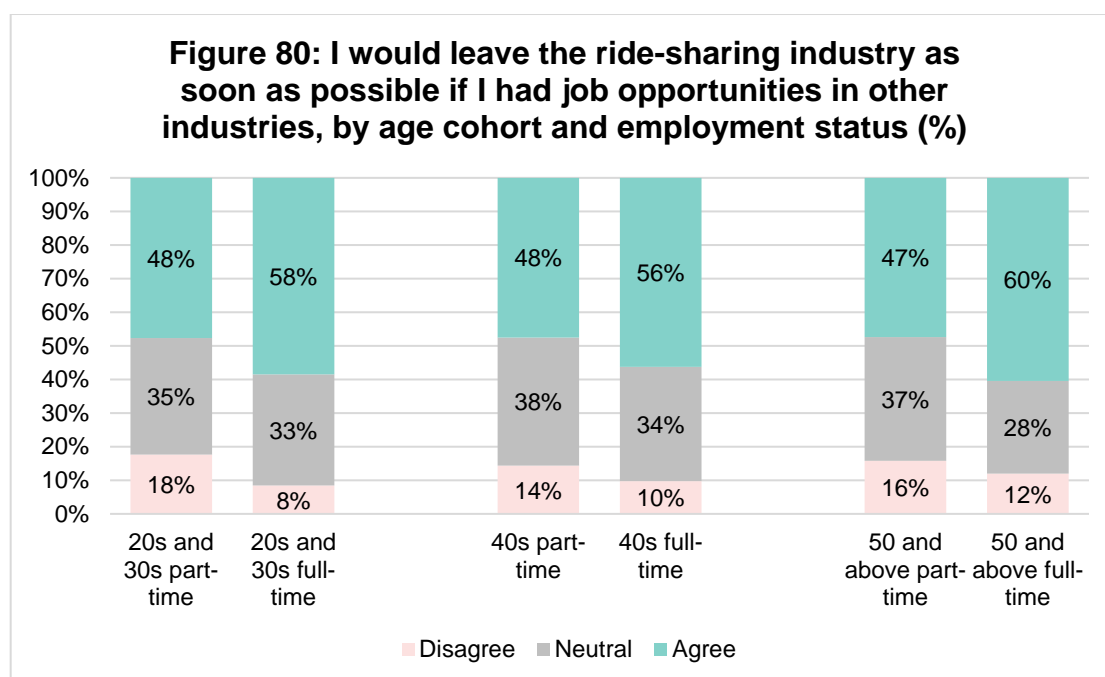


5.1.2.3 Career mobility

Full-time drivers were less likely to see themselves staying in the ride-sharing industry for another three to five years at least, and younger full-time drivers were less likely than older full-time drivers to foresee themselves staying. While 34 per cent, 35 per cent, and 41 per cent of full-time drivers from the youngest to oldest age cohort reported that they see themselves staying in the ride-sharing industry for the next few years, 42 per cent, 48 per cent, and 51 per cent of part-time drivers from the youngest to oldest age cohort indicated likewise (see Figure 79).

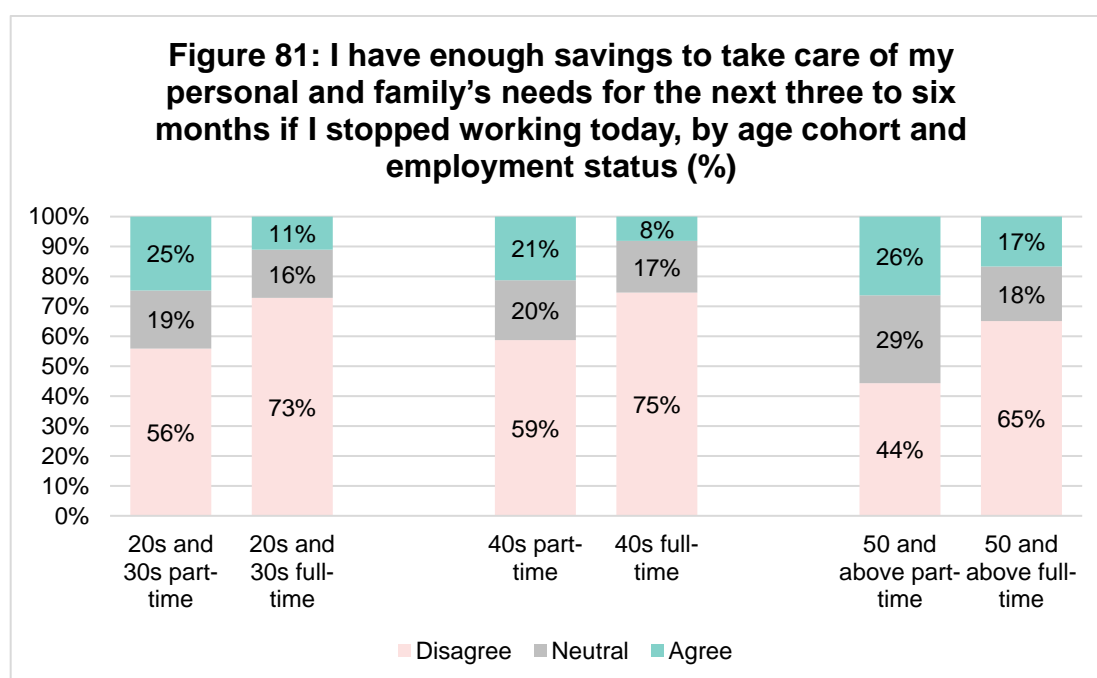


Full-time drivers across all age cohorts were also more likely to report that they would leave the ride-sharing industry as soon as possible if they had job opportunities in other industries (see Figure 80). Around three-fifths of full-time drivers from the youngest to oldest age cohort indicated that they would leave the industry as soon as possible once they have other job opportunities. Close to half of part-timers across all age cohorts were ready to leave the industry if better opportunities were available elsewhere.

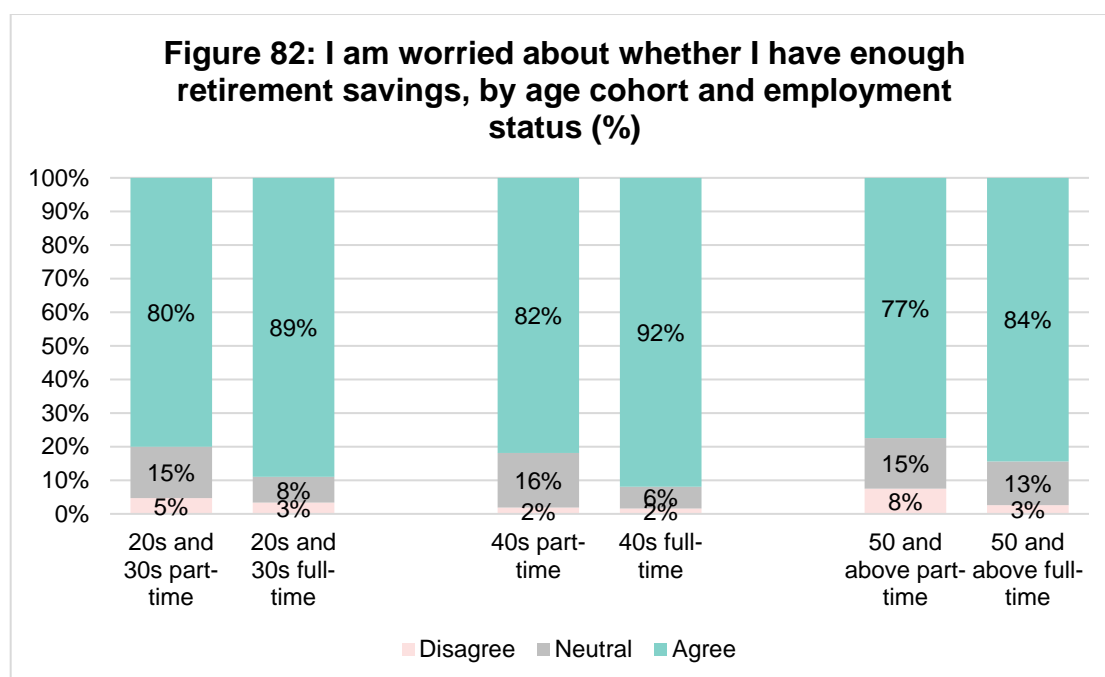


5.1.2.4 Financial stress and insurance coverage

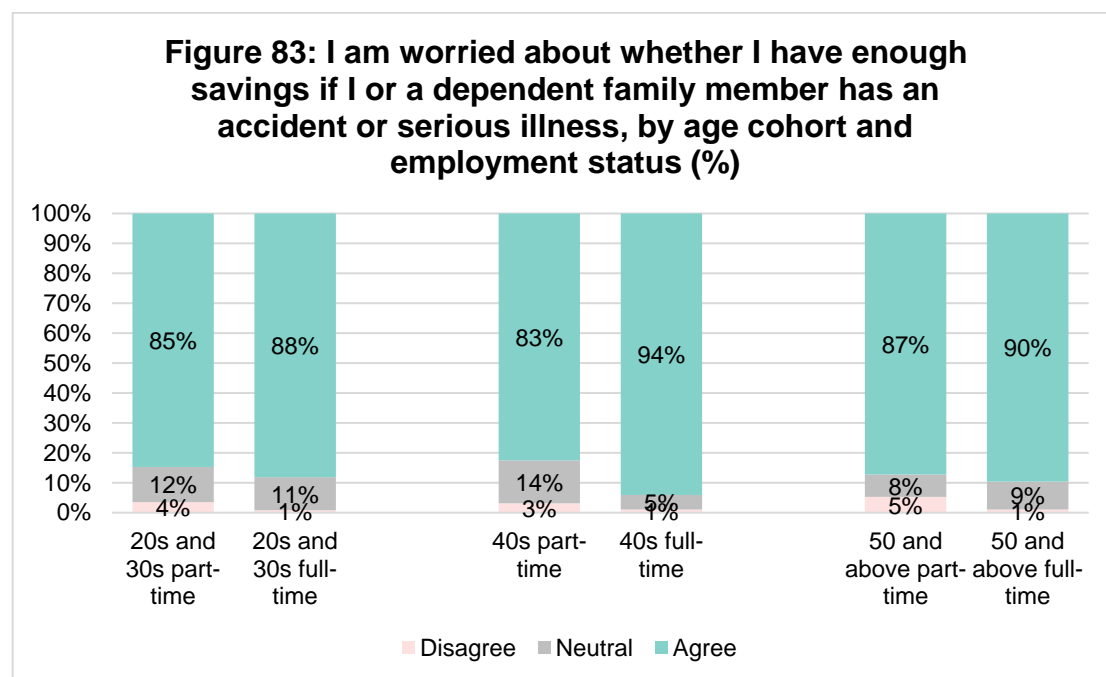
Full-time drivers were less likely to have enough savings to take care of their personal and family's needs for the next three to six months if they stopped working today, and younger drivers were more likely to report so as compared to older drivers. Approximately three-quarters of full-time drivers in their 20s, 30s, and 40s and 65 per cent of full-time drivers in their 50s and above lacked sufficient savings to take care of their personal and family's needs for the next few months compared to 56 per cent, 59 per cent, and 44 per cent of part-time drivers from the youngest to oldest age cohort (see Figure 81).



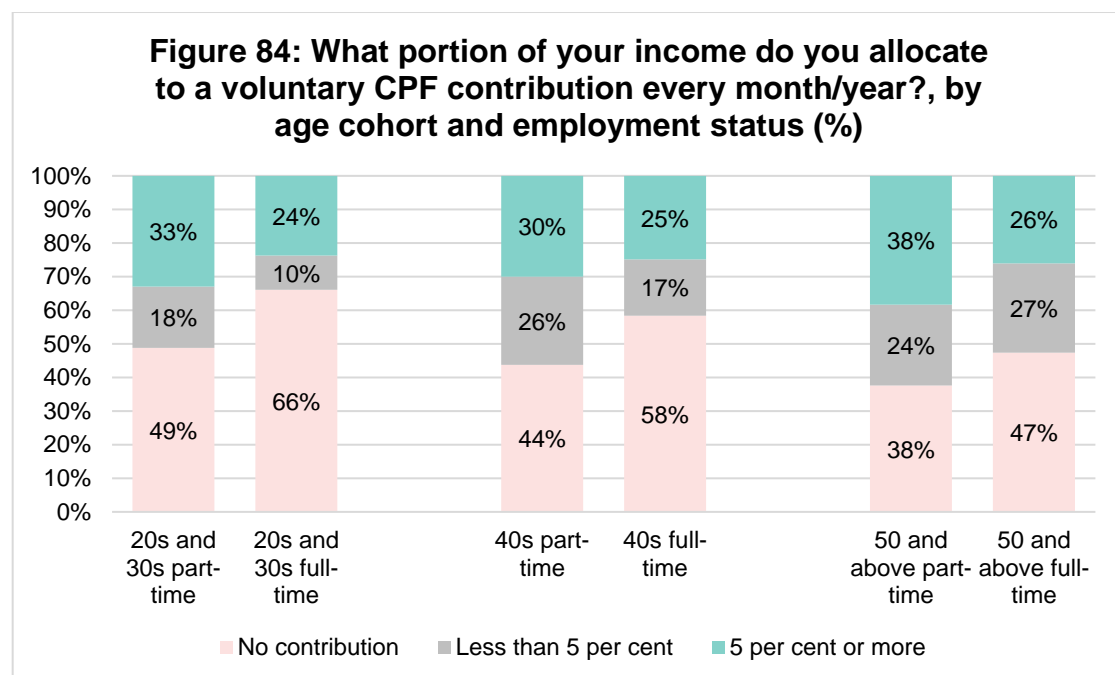
While a large majority of drivers were worried about whether they had enough retirement savings, full-timers were more likely to report that they are worried compared to part-timers. Younger full-time PHC drivers were also more likely to report that they are worried compared to older full-time drivers. In particular, 80 per cent and 89 per cent of part-time and full-time drivers in the youngest age cohort (20s and 30s) indicated that they are worried about whether they have enough retirement savings respectively (see Figure 82). In contrast, 77 per cent and 84 per cent of part-time and full-time drivers in the oldest age cohort indicated likewise.



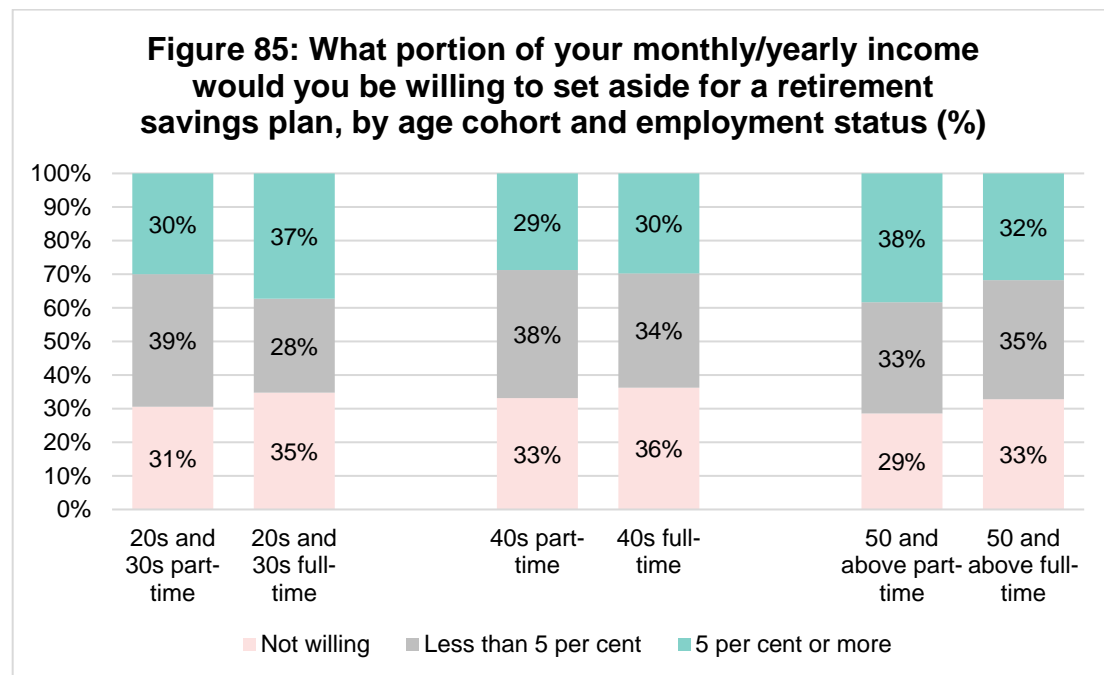
A large majority of drivers were also worried about whether they have enough savings if they or their dependent family member has an accident or serious illness, but full-time drivers were more likely to be worried compared to the part-time drivers. While around 85 per cent of part-time drivers across all age cohorts reported that they were worried about their lack of savings for contingencies, 88 per cent, 94 per cent, and 90 per cent of full-time drivers from the youngest to oldest age cohort indicated likewise (see Figure 83).



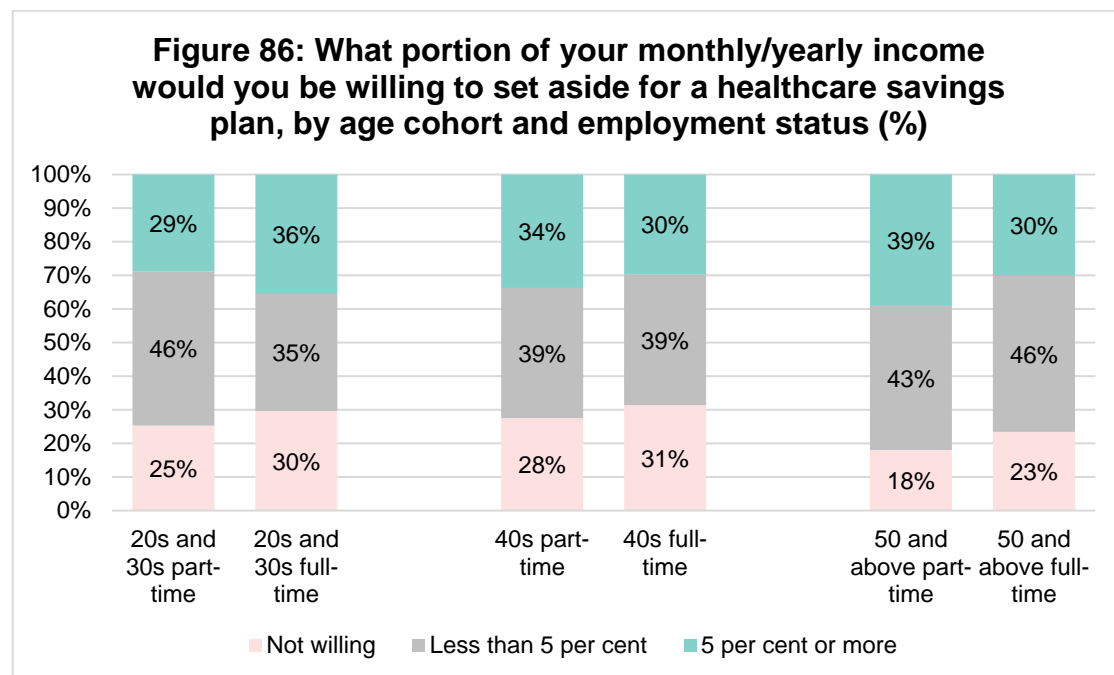
Full-time drivers were less likely to voluntarily contribute to their CPF, and younger full-time drivers were less likely to make voluntary contributions compared to their older counterparts. While close to half of part-time drivers and two-thirds of full-time drivers in their 20s and 30s did not voluntarily contribute to their CPF, 44 per cent and 58 per cent of part-time and full-time drivers in their 40s, as well as 38 per cent and 47 per cent of part-time and full-time drivers aged 50 years old and above, did not voluntarily contribute to their CPF as well (see Figure 84).



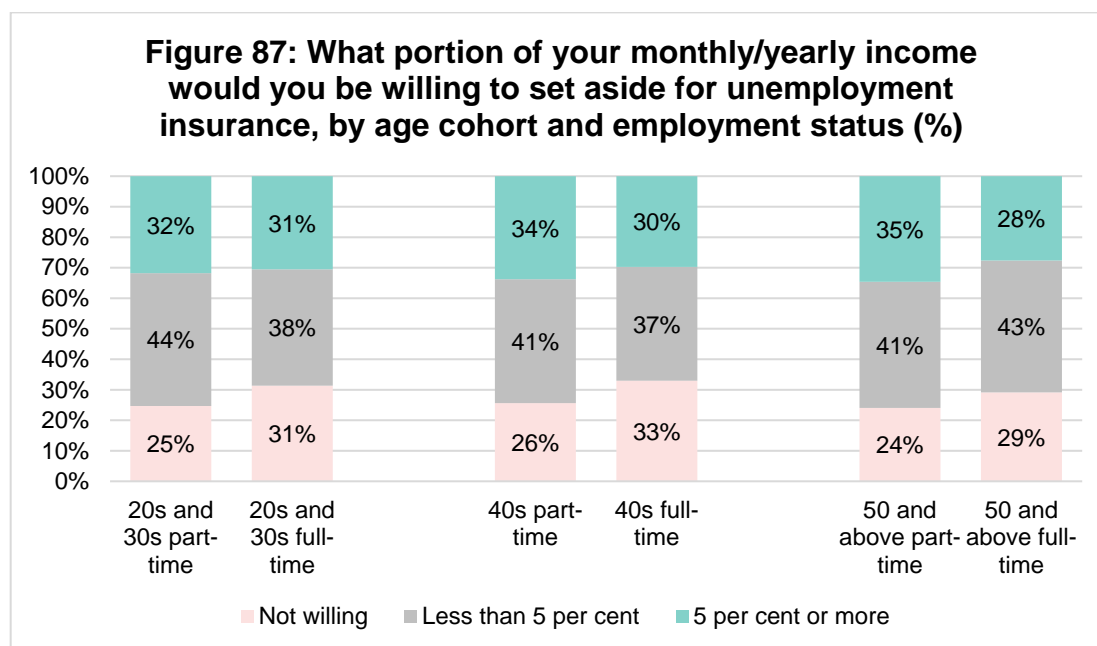
Full-time drivers were also less willing to set aside their income for a retirement savings plan in addition to their voluntary contributions to CPF. While 35 per cent, 36 per cent, and 33 per cent of full-time drivers from the youngest to oldest age cohort were not willing to set aside income for a retirement savings plan, 31 per cent, 33 per cent, and 29 per cent of part-time drivers from the youngest to oldest age cohort were likewise unwilling to do so (see Figure 85).



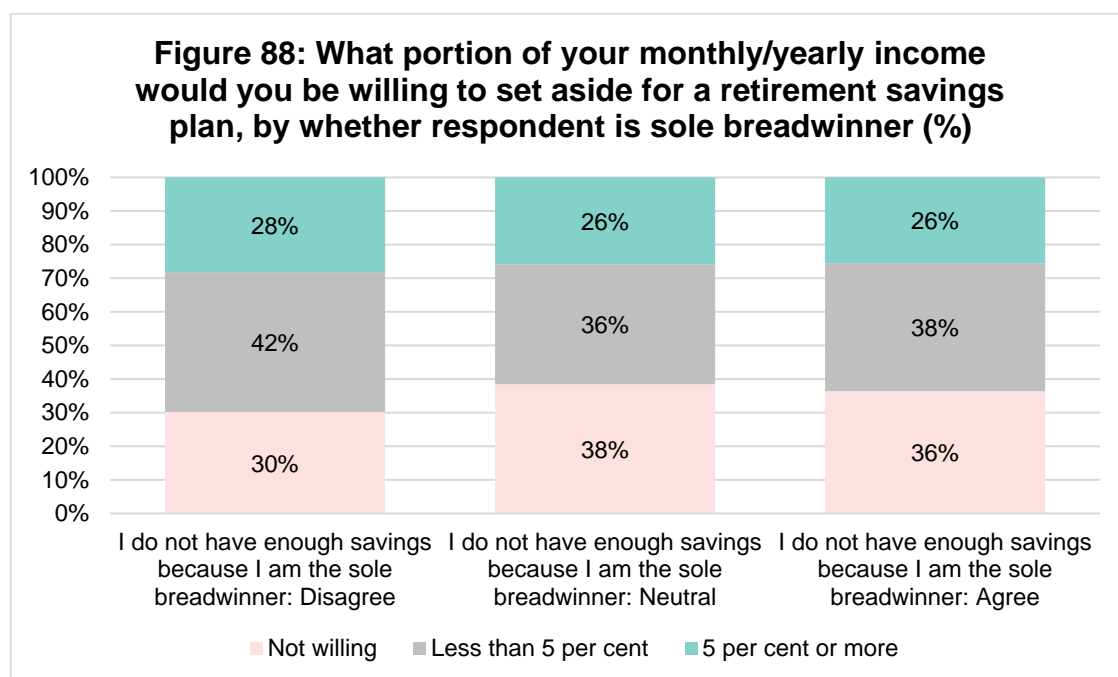
We observe a similar trend when respondents were asked about setting aside income for a healthcare savings plan, where full-timers were less willing to do so compared with part-timers. Younger full-time PHC drivers were also less likely to demonstrate a willingness to contribute to a healthcare savings plan compared to older full-time drivers. While approximately 30 per cent of full-time drivers in their 20s, 30s, and 40s were unwilling to set aside income for a healthcare savings plan, 23 per cent of full-time drivers in their 50s and above were similarly unwilling to do so (see Figure 86). On the other hand, around one-quarter of part-time drivers in their 20s, 30s, and 40s were unwilling to set aside income for a healthcare savings plan and 18 per cent of part-time drivers aged 50 and above reported the same.



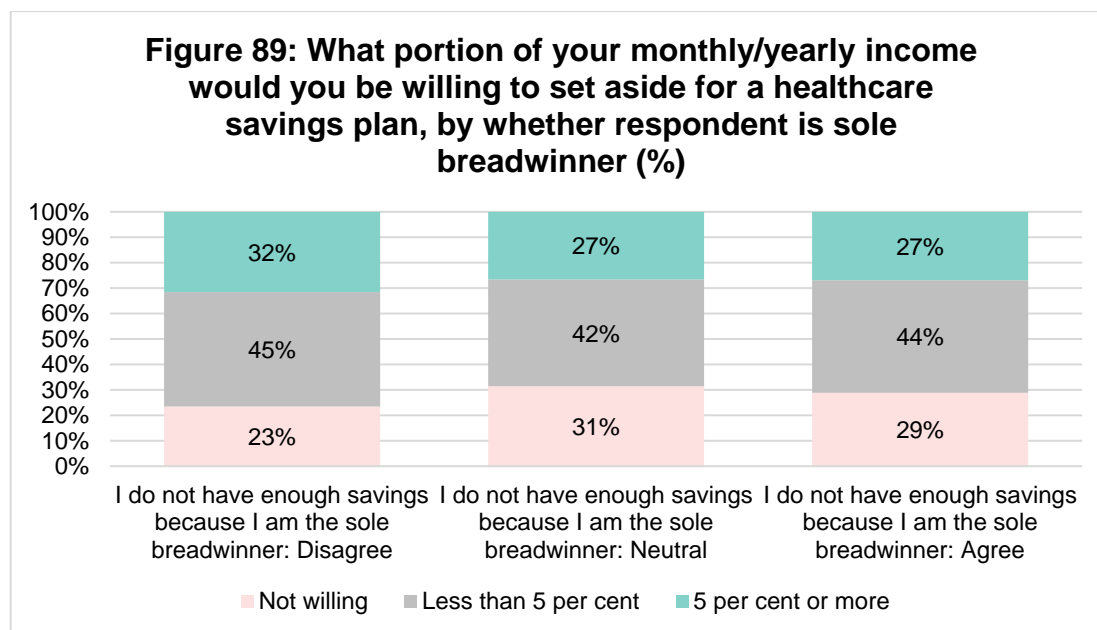
Full-time drivers were also less likely to set aside income for unemployment insurance compared with part-time drivers. While around one-quarter of part-timers across all age cohorts indicated that they were not willing to set aside income for unemployment insurance, 31 per cent, 33 per cent, and 29 per cent of full-timers stated the same (see Figure 87).



Pressures of being a sole breadwinner also affect the willingness of PHC drivers to set aside income for a retirement savings plan and healthcare savings plan. While 36 per cent of drivers who reported that they do not have enough savings because they are the sole breadwinner were unwilling to set aside a portion of their income for a retirement savings plan, 30 per cent of drivers who indicated otherwise were unwilling to do so as well (see Figure 88).

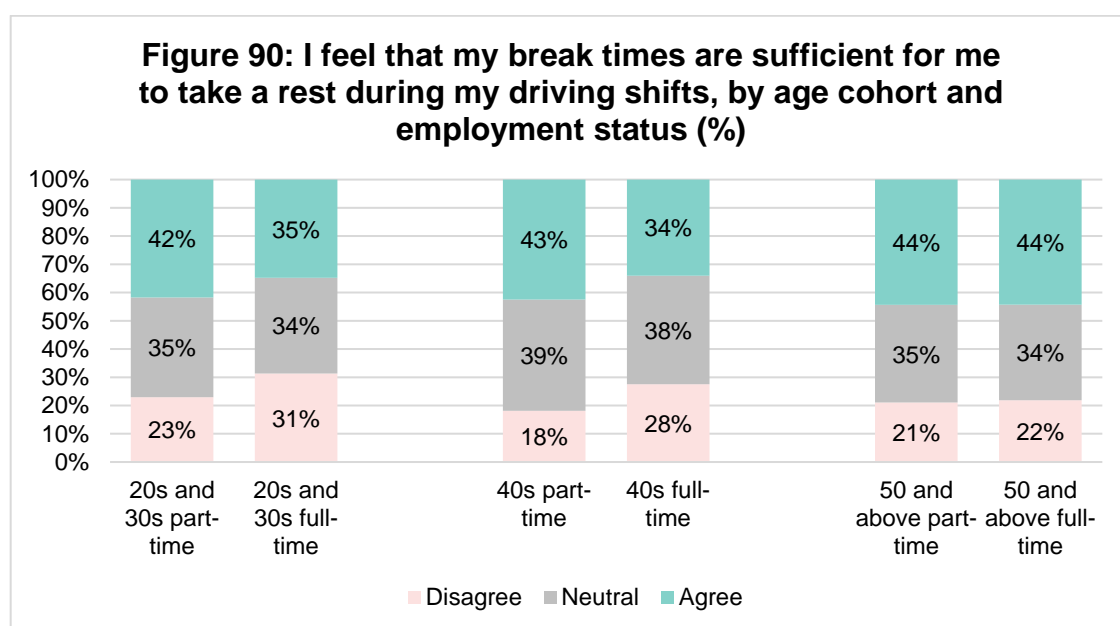


In terms of allocating a portion of their income for a healthcare savings plan, 29 per cent of drivers who reported that they do not have enough savings because they are the sole breadwinner were unwilling to set aside a portion of their income for a healthcare savings plan (see Figure 89). In contrast, 23 per cent of drivers who indicated otherwise were unwilling to do so too.

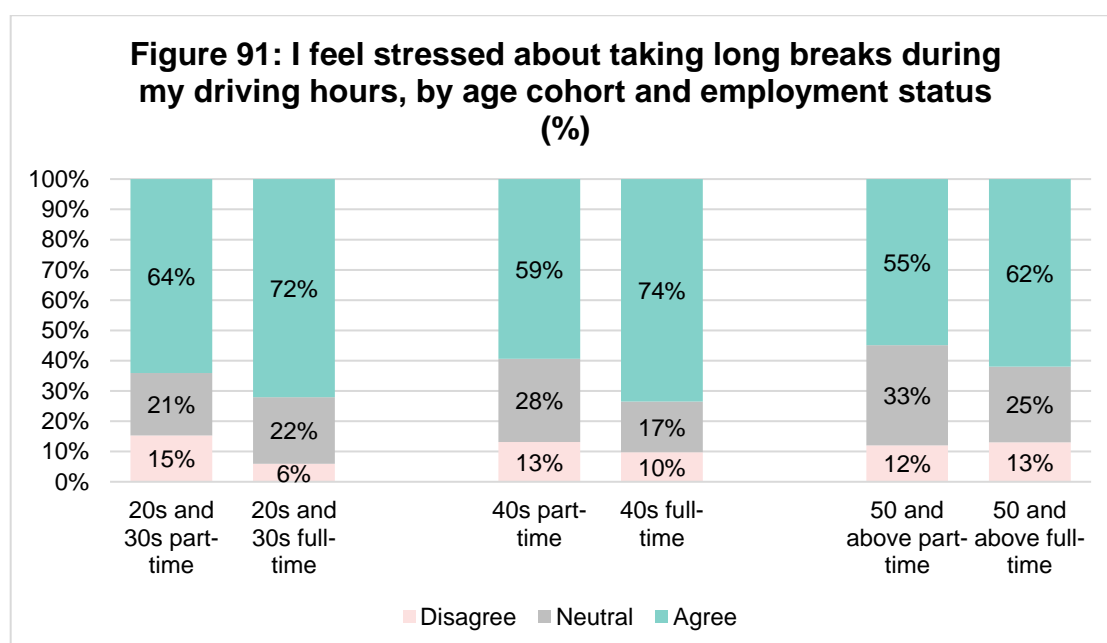


5.1.2.5 Health concerns

Full-time PHC drivers were less likely to feel that their break times are sufficient for them to take a rest during their driving shifts, and younger full-time drivers were less likely to report that their break times are sufficient compared to their older counterparts. While about one-fifth of part-time drivers across all age cohorts reported that they do not feel that their break times are sufficient to take a rest, 31 per cent, 28 per cent, and 22 per cent of full-time drivers in their 20s and 30s, 40s, and 50s and above reported so respectively (see Figure 90).

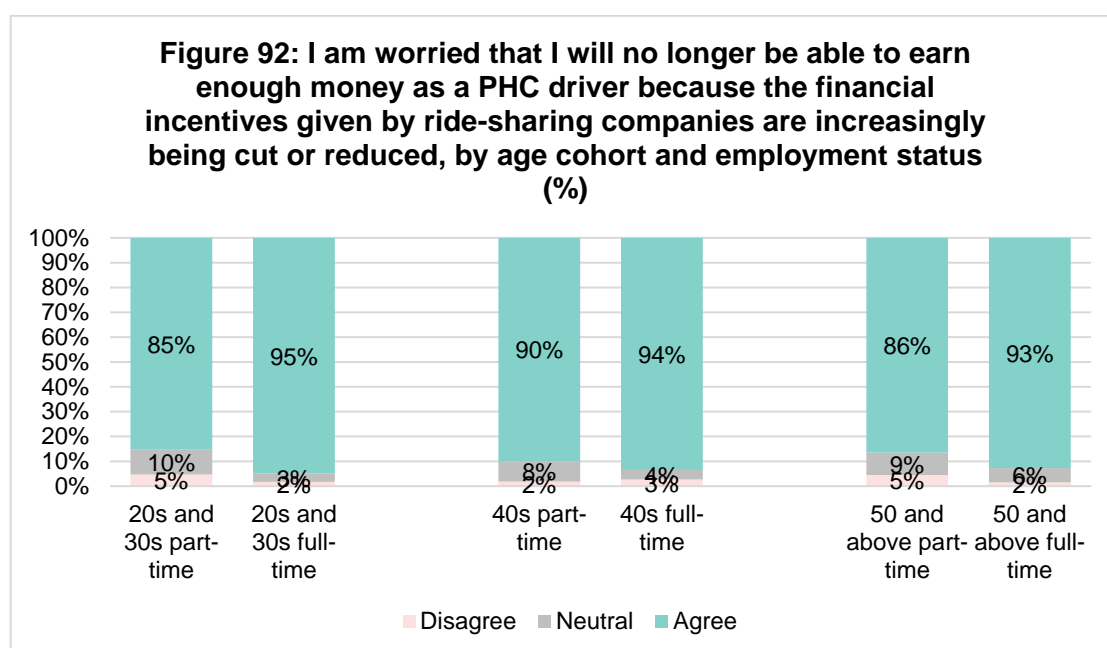


Full-time PHC drivers were also more likely to feel stressed about taking long breaks during their driving hours, with younger drivers more likely to feel stressed compared to the older drivers. While close to three-quarters of full-time drivers in their 20s, 30s, and 40s indicated that they feel stressed about taking long breaks during their driving hours, slightly more than three-fifths of full-time drivers in their 50s and above reported the same (see Figure 91). On the other hand, 64 per cent, 59 per cent, and 55 per cent of part-time drivers from the youngest to older age cohort indicated that they feel stressed taking long breaks.

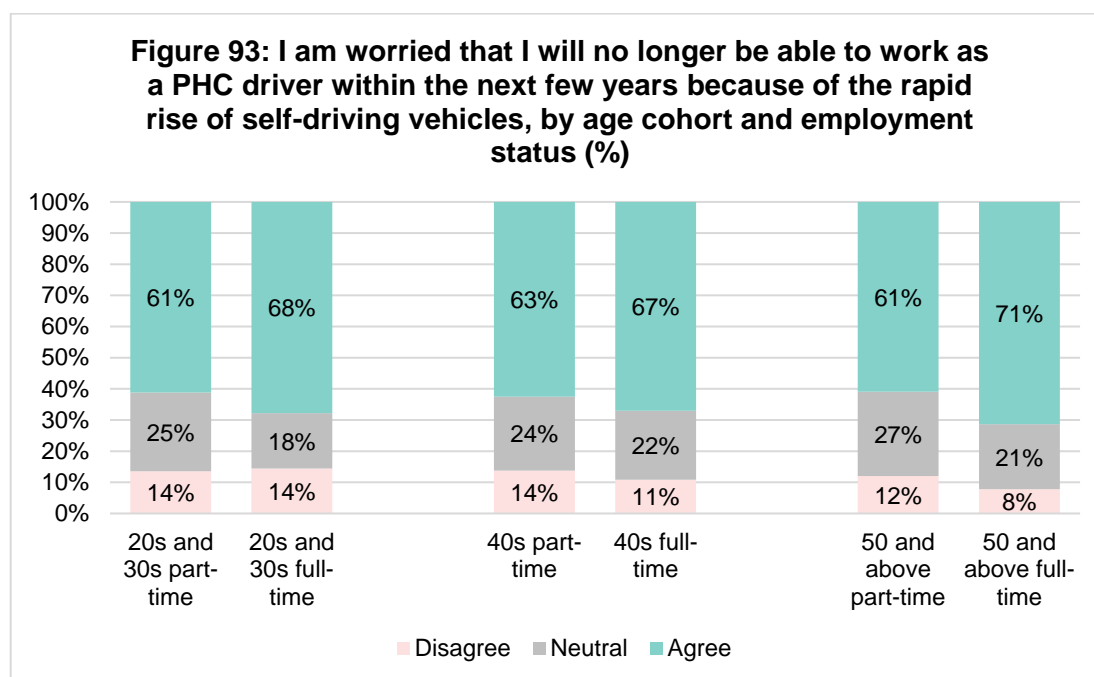


5.1.2.6 Precarity

The risk of reduced financial incentives given by ride-sharing companies was a worry for all drivers, though more so for full-time drivers since they derive all their income from the job. While more than nine-tenths of full-time PHC drivers across all age cohorts were worried that they will no longer be able to earn enough money because the financial incentives given by ride-sharing companies are increasingly being cut or reduced, 85 per cent, 90 per cent, and 86 per cent of part-time drivers from the youngest to oldest age cohort reported likewise (see Figure 92).



Full-time PHC drivers were also more likely to be worried that they will no longer be able to work within the next few years because of the rapid rise of self-driving vehicles. While 68 per cent, 67 per cent, and 71 per cent of full-time drivers from the youngest to oldest age cohort reported that they were worried, 61 per cent, 63 per cent, and 61 per cent of part-time drivers in the corresponding age cohorts indicated likewise (see Figure 93).

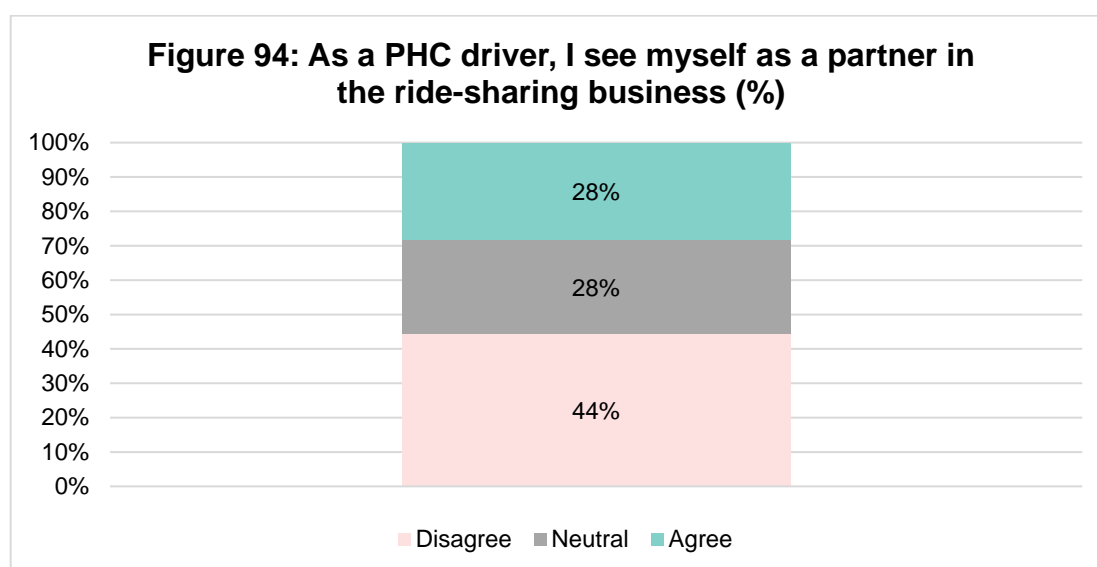


5.2 Greater clarity in responsibility and representation

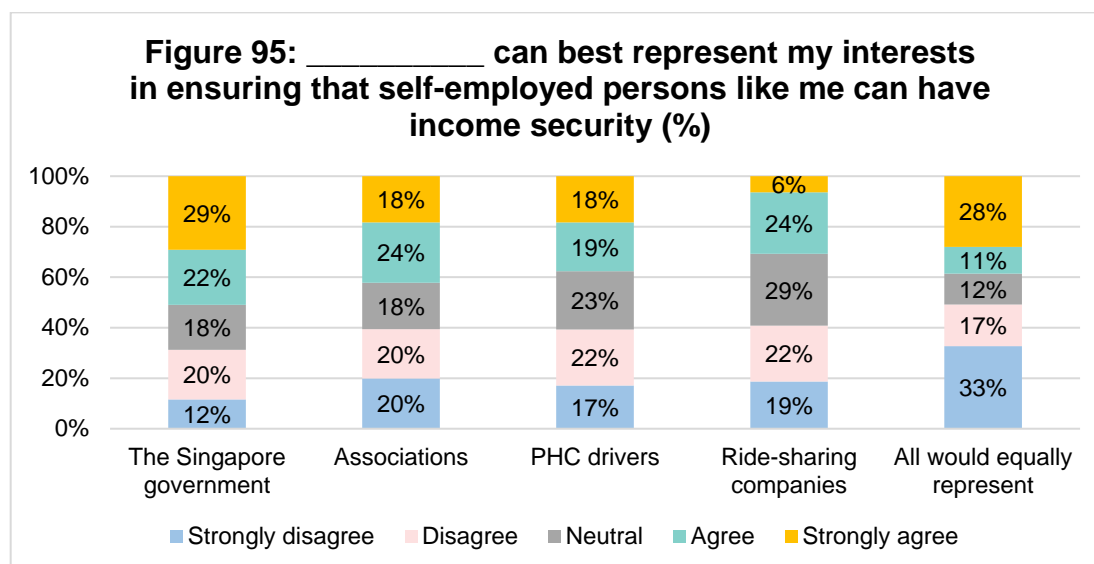
We recommend that there could be greater clarity in the responsibility and representation of platform workers. For platform workers, the relationship with their platform company seems unclear. While platform workers usually see themselves as self-employed, they realise that they have less freedom as their options and income are within the boundaries of the app and its rewards. Some view themselves as app users who do not have much control over how much they earn. As Aaron, a 37-year-old driver says,

Just a slave lor. Ya, really feel like a slave lah. Hard to face it lah but you still have to face the facts lah you see. Because for us ah, like why I face it that we are slave today because ah we work hard for money. But who determine our income? They lor. Grab and Gojek lor. It's not that, I mean its business lah, you see. Some people supply the channel for us to earn money. Then we are the one who supply the service, you see.

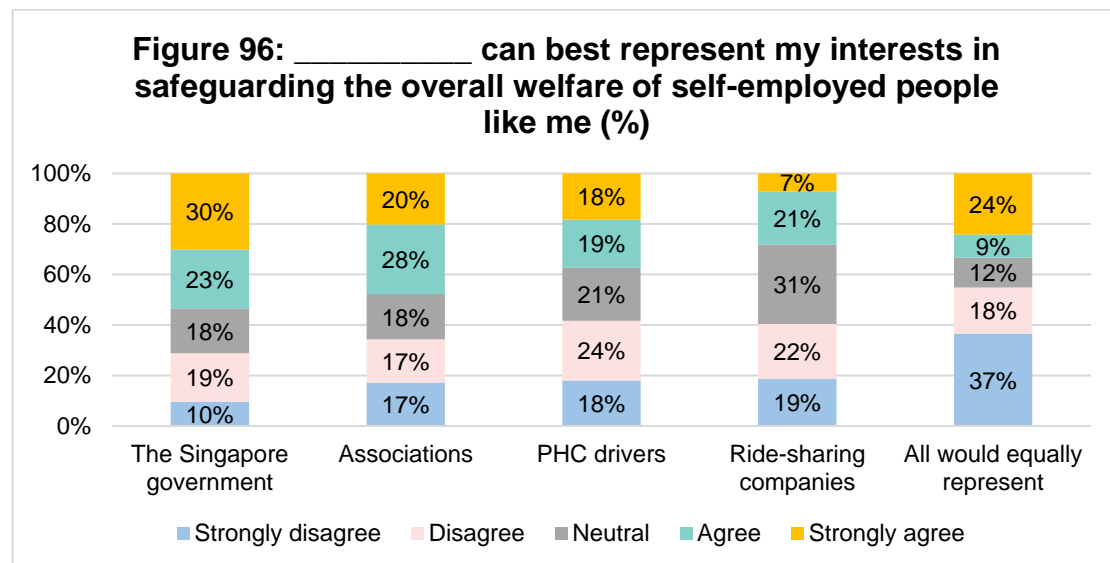
While platform workers, like the drivers we surveyed, are officially referred to as partners, when asked if they saw themselves as a partner in the ride-sharing business, around 44 per cent of surveyed drivers did not see themselves as partners in the ridesharing business (see Figure 94).



When asked who can best represent their interests in ensuring that self-employed persons like them can have income security, drivers surveyed had faith that the Singapore government would best represent them compared to associations, fellow PHC drivers, and ride-sharing companies (see Figure 95).



A similar trend is observed when we asked respondents on who can best represent their interests in safeguarding the overall welfare of self-employed people like them. A larger proportion of respondents had faith that the Singapore government would best represent them in protecting their general welfare compared to associations, fellow PHC drivers, and ride-sharing companies (see Figure 96).



5.3 Suggested Interventions

Based on our studies on platform workers, we also considered various interventions that are worker-centric and feasible. Bearing in mind that different groups of platform workers have different needs, we propose the following recommendations:

5.3.1 Rest period policy

Target Group: All Drivers

Our survey found that a large majority of drivers drive long hours on the road. This might cause fatigue or sleepiness in the driver, endangering both the driver and the passenger, and also other road commuters as well. Part of the reason for driving long hours include the need to qualify for incentives or the desire to collect more earnings for the day.

Hence, we suggest having a rest period policy for drivers, in order to nudge drivers to rest after driving for a pre-determined time period. Platform apps can include a feature which will put the driver off-duty (i.e. stop receiving jobs) for a period of time to allow them to have a rest and encourage even safer driving and better health habits. Uber has reportedly implemented this nationwide in US (6 hours rest for every 12 hours work). A local agency, rather than platform companies should determine the number of hours that would be generally regarded as safe for most drivers.

Such a policy would force drivers to take a rest since they are unable to chase jobs and incentives. Nonetheless, we recognise that drivers who are on multiple platforms would be able to switch to a different app to continue working. Hence, without a mechanism to control drivers' usage across platforms, drivers can work around this loophole.

While this intervention may help signal the importance of balancing the pursuit of income with safety and health, it does cap the drivers' ability to make the earnings they want, resulting in an income ceiling. This is not palatable for some drivers as it takes the few available legal and highly accessible avenues for them within Singapore society to, achieve a substantially high salary.

5.3.2 Saving up for retirement/health issues

Target Group: All Drivers and Riders

Platform workers may not have enough savings and may need help to start saving for retirement/healthcare. Hence, we suggest extending CPF contributions for all PHC drivers and riders. Drivers and riders, especially those who work full-time, should be persuaded to make CPF contributions with platforms possibly making matching contributions. Riders/drivers also need better healthcare/accident protection plans.

Platform companies can urge drivers and riders to make contributions to a retirement savings plan by providing incentives or top-ups to drivers'/riders' retirement savings plan similar to how cash bonuses are offered to drivers/riders who meet certain criteria each cycle i.e., number of driving/riding hours, number of customers/orders picked up per week/month or customer ratings. These would enable platform workers to get more insurance coverage for retirement and healthcare. There is more flexibility compared to mandatory savings plans with more restrictions.

However, we recognise that for platform workers who have difficulties meeting their daily needs, planning for the future may not resonate with them. Such measures could become financially burdensome for these workers. More needs to be done to ensure that the earnings of platform workers not only provide a sustainable income but also allows them to save for the future.

5.3.3 Assistance to pivot to new careers

Target Group: Career Drivers and Riders

Platform workers may have difficulty in finding a job. Some may want to switch industries, but feel ill-equipped with the knowledge and skills to do so and may not know where to seek help even with the existing training assistance available.

Hence, we suggest providing more assistance for career drivers and riders to pivot to new careers. Platform companies can facilitate the exit of drivers/riders to explore options outside, especially since quite a few feel they are entrenched in this job because they have no choice and would take up other career options if they were suitable. It is probably in the interest of platform companies to facilitate such drivers/riders to make this transition and possibly tap onto their services as “part-timers”. While there are existing schemes nationally to help this community find jobs, more awareness of such initiatives is necessary. The platform app that they use is arguably the most effective channel to regularly disseminate information related to career options. Such information could include seminars which provide career coaching, especially perspectives that may help drivers/riders feel empowered to make transitions into full time work; information about suitable career options and the availability of training programmes.

More personalised career consultants and new training programmes can also be made available to drivers/riders through this initiative, perhaps undertaken by associations linked to NTUC. This may be helpful for younger drivers/riders who might need to tap on networks to find job opportunities and to older drivers/riders who may not be as resourceful to search for such schemes online.

This assistance will help platform workers have easy access to information which may help in their career transition into a new industry. It may also nudge platform workers to consider changing careers especially if they are unsettled

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with relying on platform work in the longer term. However, such outreach does not take into account the time constraints of workers who are heavily reliant on platform work to make a living. Taking time off work to pursue a career transition would have immediate implications in the form of less income earned and perhaps difficulty in covering their vehicle rentals. Some support platform workers may not be willing to take time off work to go for these programmes.

5.3.4 “Know your journey!”, an awareness campaign on PHC driving and riding

Target Group: Career Drivers and Riders

Platform workers face considerable stress and sometimes unrealistic expectations of what being a platform worker entails.

An awareness campaign on PHC driving and delivery riding, will be useful especially for those looking to be career drivers and riders but also for those who are currently engaged in such work. The campaign can be facilitated by work unions like the National Trades Union Congress (NTUC). The main purpose of such a campaign would be to educate potential drivers/riders about the realities of driving/riding. This may increase awareness among this population of what they are actually getting into by debunking myths about easy earnings . It can also be an avenue to remind current platform workers about safety/ health considerations and the need to ensure that they have sufficient protection. A public campaign can also be an opportunity for the general public to better understand how they can positively support the work of platform workers While the measure would help individuals who have a rosy perception of platform work to reconsider their decision to make a switch to platform work especially if they already have stable jobs, it would not deter those who have no choice but to take on platform work.

5.3.5 Urban infrastructure landscape

Target Group: All Riders

Delivery riders face difficulty in navigating urban infrastructure. This calls for greater thinking of the urban infrastructure landscape so that it can be more friendly to the needs of riders, especially since delivery services are a ubiquitous part of our city. There could be better rest stops and waiting spaces for food delivery workers. The integration of more drop off and pick up points would also make for a smoother delivery journey. In addition, there could be better options for parking and more convenient spaces for bicycle racks for riders. There could also be better wayfinding solutions in making better integrated pedestrians and cycling pathways. This would create a safer environment for both riders and pedestrians.

6 CONCLUSION

This research, possibly the first of its kind locally to comprehensively, through a survey, interviews and ethnography, sought to provide greater insights into the benefits and downsides of platform work. Platform workers are able to earn substantial income from platform work, and earn quick cash to meet their important expenses. The flexibility and autonomy platform work provides has also been a draw for individuals to enter this work.

Yet, as we have highlighted in the report, there are downsides to platform work which would have long-term implications for platform workers. While platform companies have been successful in providing people with jobs, especially with their low barriers to entry and some individuals are satisfied with the conditions of platform work, there are areas of significant concern which deserve more attention.

In the course of our report we have questioned the benefits of platform work for some groups, given the precarity of this job. We have also critiqued the notion of flexibility in platform work given how platforms rely on algorithmic management to maintain control over their platform workers.

Our data details the downsides of platform work. Workers who expect to do reasonably well in this work have to “grind” to earn more. They do not amass sufficient savings and most do not contribute voluntarily to CPF to build up a financial egg-nest. There are health concerns that platform workers report, though unlikely to be only derived from their involvement with platforms. Despite their health concerns, they may not have sufficient health protection. For the many platform workers who hope to transit to other careers, there are difficulties to such transition especially after relying for significant periods of time on platform work. Chasing incentives to keep up sufficient earnings preoccupies a good number of platform workers; it also does not leave much time for the worker to make a transition to other employment. There is also the entrenchment of lower income individuals into platform work which may not be

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sustainable in the long run. We also pointed out that there is a possible trend if those who are younger with lesser education view platform work as ideal and more of them begin to shun conventional work.

Our report does not provide insights into other types of similar work. Arguably the conditions for them may be as or more difficult. Nonetheless, the precarity that some of our respondents feel forebodes possible work conditions as more technology is developed to facilitate how people work. It is important at this juncture to consider the type of social protections that are necessary.

One issue that may need to be addressed relates to the level of intervention required to safeguard the wellbeing of platform workers. On the one hand, there is this need to ensure and figure out a reasonable and baseline level of protection for these essential workers. On the other hand, there is a need to provide flexibility to choose the level of protection and how much partners should contribute. Flexibility is after all a core part of the attraction related to being a platform worker. With regards to the latter, platforms already provide some form of "free" insurance and coverage but coverage differs between platforms and the tier of the driver-delivery rider partner. Some platforms also allow for an upgrade on level of coverage should the partner wish to top up. Basically, there is really no uniform level of coverage between the platforms.

It is also hard to discount that some segments of workers, though completely aware of their need for better protection may not readily step into this willingly.

We are of the opinion that a basic level of protection be made mandatory. It may also allow for a level playing field for platforms so they do not have to compromise on worker welfare to take care of profit margins.

On determining the level of protection for partners, this should be open for further discussion between government, drivers, association and the platforms.

In considering interventions for platform workers, it is crucial to recognise that they are a heterogeneous group of individuals. Interventions must take into account the different archetypes of platform workers in order to be successful. We also call for more clarity in responsibility and representation to provide more support for platform workers.

Based on the insights we have gleaned from the study, we have proposed possible interventions. These include implementing a rest period policy for private-hire car drivers, helping platform workers to save up for retirement/health issues through CPF contributions, providing greater assistance for platform workers to pivot to new careers, having an awareness campaign to provide a more realistic picture of such work, and improving the urban infrastructure landscape for all riders.

While platforms clearly offer much benefit for society at large, it is important at this juncture to also carefully consider the needs of platform workers. To address their needs, it is crucial that there are not only government interventions through augmenting social protection schemes but also solutions from platform companies and associations of drivers and riders. Such co-created and collaborative solutions provide the best way forward to ensure the well-being of a significant portion of individuals and their families.

Appendix A: Financial Stress Scale

Financial stress: This composite scale captures the level of financial stress a respondent is facing, with 1 being low level of financial stress and 5 being high level of financial stress.

- “I have enough savings to take care of my personal and family’s needs for the next three to six months if I stopped working today” (Five-point scale, strongly disagree to strongly agree; recoded for consistency)
- “I am worried about whether I have enough retirement savings” (Five-point scale, strongly disagree to strongly agree)
- “I am worried about whether I have enough savings if I or a dependent family member has an accident or serious illness” (Five-point scale, strongly disagree to strongly agree)
- “I am worried that I will no longer be able to earn enough money as a private-hire car (PHC) driver because the COVID-19 pandemic has reduced the number of tourists coming to Singapore” (Five-point scale, strongly disagree to strongly agree)
- “I am worried that I will no longer be able to earn enough money as a private-hire car (PHC) driver because the COVID-19 pandemic has changed behaviours toward people staying and working from home more” (Five-point scale, strongly disagree to strongly agree)
- “I am worried that I will no longer be able to earn enough money as a private-hire car (PHC) driver because the financial incentives given by ride-sharing companies are increasingly being cut or reduced” (Five-point scale, strongly disagree to strongly agree)
- “I am worried that I will no longer be able to work as a private-hire car (PHC) driver within the next few years because of the rapid rise of self-driving vehicles” (Five-point scale, strongly disagree to strongly agree)

Appendix B: Regressions on skills mobility and career mobility

Skills mobility

We sought to determine the characteristics of drivers who felt (1) no improvement in their confidence in handling digital technology, (2) no improvement in soft skills, and (3) no improvement in entrepreneurial skills.

First, we performed logistic regression to find out who were the drivers who did not feel that working as a PHC driver has helped in increasing their confidence in handling digital technology. Responses to the question “working as a private-hire car (PHC) driver has helped me to increase my confidence in handling/interacting with digital technology” was recoded to reflect binary outcomes: agree and did not agree.

Drivers who were aged between 30 – 49 years old, had a bachelor’s degree and above, and wholly derived their incomes from driving felt that working as a PHC driver did not help in increasing confidence in using digital technology. Specifically, drivers who were aged 30 – 49 years old were about 2.6 – 2.9 times more likely than those aged 60 and above to find that driving did not help increase confidence in using digital technology. Drivers who had a university education and above were about 1.8 times as likely than those without to feel that driving did not help increase confidence in handling digital technology. Drivers who wholly derived their incomes from driving were 1.6 – 1.9 times more likely than those who partially derived their incomes from driving to feel that way.

Table B1: Drivers who do not feel that working as a PHC driver has helped in increasing confidence in handling digital technology

Predictors	Odds Ratio
Age	
21 – 29	2.358*
30 – 39	2.856***

IPS Working Paper No. 44 (February 2022):

Precarity in Platform Work: A Study of Private-hire Car Drivers and Food Delivery Riders
by Mathew, M., Zainuddin, S., Thian, W.L, Phoa, F. & Lee, C.

40 - 49	2.634***
50 - 59	2.027**
Reference group: 60 and above	
Education	
Secondary and below	.532**
Post-secondary	.561**
Reference group: Bachelors and above	
Marital status	
Married	1.388
Divorced/separated/widowed	1.756
Reference group: Single	
Household income	
Below \$3,000	1.018
\$3,000 - \$5,999	1.149
Reference group: \$6,000 and above	
Proportion of monthly income derived from driving	
One-quarter	.555**
Half	.561**
Three-quarters	.636*
Reference group: Wholly derived from driving	
Driving experience	
Five years and above	1.348
Three to less than five years	1.706
Two to less than three years	1.415
One to less than two years	1.560
Six months to less than a year	1.660
Reference group: Less than six months	
Hours spent driving per week	
More than 59 hours	1.223
50-59 hours	1.321

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40-49 hours	1.634
30-39 hours	1.677
20-29 hours	1.698
10-19 hours	1.024
Reference group: Less than 10 hours	
Constant	.783

To illustrate how the significant predictors mentioned above relate to drivers' lack of improvement in confidence in handling digital technology, we report bivariate relationships below:

- **Age**
 - Around 32.5 per cent to 34.3 per cent of drivers aged 30 – 49 disagreed that working as a driver has increased their confidence in handling digital technology, as compared to 18.5 per cent of those aged 60 and above (see Table B2).

Table B2: Working as a private-hire car (PHC) driver has helped me to increase my confidence in handling/interacting with digital technology, by age group (%)

% of respondents n=958	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
21-29	27.9%		34.9%	37.2%	
	9.3%	18.6%		32.6%	4.7%
30-39	34.3%		36.3%	29.4%	
	13.5%	20.8%		22.9%	6.5%
40-49	32.5%		39.7%	27.8%	
	16.8%	15.7%		25.5%	2.3%
50-59	30.9%		36.1%	33.0%	
	12.0%	18.9%		29.6%	3.4%
	18.5%		34.8%	46.7%	

60 and above	3.3%	15.2%		43.5%	3.3%
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- **Education**

- Around 35.4 per cent of those with a Bachelor's degree and above disagreed that working as a driver has helped to increase their confidence in handling digital technology, as compared to 27.4 per cent of those with secondary and below education (see Table B3).

Table B3: Working as a private-hire car (PHC) driver has helped me to increase my confidence in handling/interacting with digital technology, by education (%)

% of respondents n=953	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Secondary and below	27.4%		37.0%	35.6%	
	11.0%	16.4%		32.1%	3.6%
Post-secondary	31.1%		35.3%	33.5%	
	11.7%	19.5%		29.9%	3.6%
Bachelors and above	35.4%		40.6%	24.0%	
	18.1%	17.3%		19.3%	4.7%

- **Proportion of income derived from driving**

- Around 34.5 per cent of those who fully derived their income from driving disagreed that working as a driver has increased their confidence in handling digital technology, as compared to 25.0 per cent to 29.8 per cent of drivers who derived partially derived their incomes from driving (see Table B4).

Table B4: Working as a private-hire car (PHC) driver has helped me to increase my confidence in handling/interacting with digital technology, by proportion of income derived from driving (%)

% of respondents n=958	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
One-quarter	29.8%		33.2%	37.0%	
	13.0%	16.8%		33.7%	3.4%
Half	25.0%		38.2%	36.8%	
	8.8%	16.2%		30.1%	6.6%
Three-quarters	25.2%		37.8%	37.0%	
	10.9%	14.3%		31.9%	5.0%
Wholly derived from driving	34.5%		38.6%	26.9%	
	14.9%	19.6%		23.8%	3.0%

Second, we likewise performed a logistic regression to find out who were the drivers who did not feel that driving has helped to improve their soft skills. The variable “Working as a private-hire car (PHC) driver has helped me to improve my soft skills, like interpersonal communication, customer service and problem-solving” was recoded to reflect binary outcomes: agree and did not agree. Drivers who were aged 30 – 49 and drivers who fully derived their incomes from driving did not feel that driving has improved their soft skills. Drivers aged 30 – 49 were more than twice as likely than drivers aged 60 and above to feel that driving has not improved their soft skills. Drivers who derived their full income from driving were about 1.7 times more likely than drivers who derived either half or three-quarters of their incomes from driving to feel that driving has not improved their soft skills.

Table B5: Drivers who did not feel that working as a PHC driver has improved their soft skills

Predictors	Odds Ratio
Age	
21 – 29	1.278
30 – 39	2.555**
40 - 49	2.026**
50 - 59	1.858*
Reference group: 60 and above	
Education	
Secondary and below	.805
Post-secondary	.695
Reference group: Bachelors and above	
Marital status	
Married	1.075
Divorced/separated/widowed	1.677
Reference group: Single	
Household income	
Below \$3,000	1.092
\$3,000 - \$5,999	1.067
Reference group: \$6,000 and above	
Proportion of monthly income derived from driving	
One-quarter	.716
Half	.595*
Three-quarters	.593*
Reference group: Wholly derived from driving	
Number of years worked as a PHC driver	
Five years and above	1.704
Three to less than five years	1.770
Two to less than three years	1.564

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One to less than two years	1.641
Six months to less than a year	1.436
Reference group: Less than six months	
Hours spent driving per week	
More than 59 hours	1.061
50-59 hours	1.272
40-49 hours	1.351
30-39 hours	1.311
20-29 hours	1.214
10-19 hours	.987
Reference group: Less than 10 hours	
Constant	.526

To illustrate how the significant predictors mentioned above relate to drivers' lack of improvement in soft skills, we report bivariate relationships below:

- **Age**
 - Around 26.1 per cent to 28.4 per cent of drivers aged 30 – 49 disagreed that working as a driver has improved their soft skills, as compared to 16.3 per cent of drivers aged 60 and above (see Table B6).

Table B6: Working as a private-hire car (PHC) driver has helped me to improve my soft skills, like interpersonal communication, customer service and problem-solving, by age group (%)

% of respondents n=958	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
21-29	14.0%		27.9%	58.1%	
	0.0%	14.0%		46.5%	11.6%
30-39	26.1%		34.7%	39.2%	

	9.0%	17.1%		31.0%	8.2%
40-49	28.4%		30.7%	40.9%	
	11.0%	17.4%		37.7%	3.2%
50-59	25.3%		31.3%	43.3%	
	10.7%	14.6%		37.8%	5.6%
60 and above	16.3%		28.3%	55.4%	
	3.3%	13.0%		50.0%	5.4%

- **Proportion of income derived from driving**
 - Around 30.5 per cent of drivers who derived full income from driving disagreed that driving has improved their soft skills, as compared to 15.4 per cent of those who derived half their incomes from driving (see Table B7).

Table B7: Working as a private-hire car (PHC) driver has helped me to improve my soft skills, like interpersonal communication, customer service and problem-solving, by proportion of income derived from driving (%)

% of respondents n=958	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
One-quarter	23.6%		29.8%	46.6%	
	8.2%	15.4%		39.4%	7.2%
Half	15.4%		35.3%	49.3%	
	5.1%	10.3%		41.2%	8.1%
Three-quarters	17.6%		31.1%	51.3%	
	8.4%	9.2%		42.0%	9.2%
Wholly derived from driving	30.5%		31.3%	38.2%	
	10.9%	19.6%		34.7%	3.4%

Third, we also performed logistic regression to find out who were the drivers who did not feel that driving has helped to improve their entrepreneurial skills such as managing finances, strategic planning and time management. The results show that drivers who have a bachelor's degree were most likely to feel that working as a driver has not improved their entrepreneurial skills. Specifically, drivers with a bachelor's degree and above were about 1.5 – 1.8 times more likely than those without to feel that driving has not improved their entrepreneurial skills.

Table B8: Drivers who did not feel that working as a driver has improved their entrepreneurial skills

Predictors	Odds Ratio
Age	
21 – 29	.703
30 – 39	.999
40 – 49	1.233
50 – 59	1.605
Reference group: 60 and above	
Education	
Secondary and below	.652*
Post-secondary	.557**
Reference group: Bachelors and above	
Marital status	
Married	1.025
Divorced/separated/widowed	1.059
Reference group: Single	
Household income	
Below \$3,000	1.165
\$3,000 - \$5,999	1.081
Reference group: \$6,000 and above	
Proportion of monthly income	

derived from driving	
One-quarter	.784
Half	.617
Three-quarters	.674
Reference group: Wholly derived from driving	
Driving experience	
Five years and above	1.431
Three to less than five years	1.577
Two to less than three years	1.403
One to less than two years	1.922
Six months to less than a year	1.149
Reference group: Less than six months	
Hours spent driving per week	
More than 59 hours	.718
50-59 hours	.894
40-49 hours	1.171
30-39 hours	.865
20-29 hours	.976
10-19 hours	.798
Reference group: Less than 10 hours	
Constant	2.075

To illustrate how the significant predictors mentioned above relate to drivers' lack of improvement in entrepreneurial skills, we report a bivariate relationship below:

- **Education**

- Around 37.4 per cent of drivers with a Bachelor's degree and above felt that there was no improvement in their entrepreneurial skills, as compared to 25.8 per cent of drivers with an education level of secondary and below (see Table B9).

Table B9: Working as a private-hire car (PHC) driver has helped me improve my entrepreneurial skills, like managing my finances, strategic planning and time management, by education (%)

% of respondents n=953	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Secondary and below	25.8%		39.2%	35.1%	
	10.4%	15.3%		32.9%	2.2%
Post-secondary	27.8%		32.0%	40.1%	
	8.7%	19.2%		34.1%	6.0%
Bachelors and above	37.4%		34.6%	28.0%	
	18.1%	19.3%		23.2%	4.7%

Career mobility

We also looked into the characteristics of drivers who had difficulty in finding another job similar to their previous role and/or related to their education and training. We performed ordinal regression to find out who were the drivers who would face difficulty in finding another job. The variable “If needed, I can easily get a job similar to my previous role and/or related to my education/training” was recoded to reflect three outcomes: had difficulty, neutral, had no difficulty.

Drivers who were aged 50 and above and drivers who derived their full incomes from driving were likely to face difficulty in finding another job. Specifically, drivers who were aged 50 – 59 and aged 60 and above were 3.9 – 4.5 times more likely than drivers aged 21 – 29 to find it difficult to find another job. Drivers who derived their full incomes from driving were around twice as likely than drivers who derived either one-quarter or half of their incomes from driving to feel that it was difficult to find another job related to their previous role or training. Given their old age, drivers aged 50 and above may find it difficult to find another job. Those who derived full incomes from driving may not have time to develop other skillsets which are more transferable to another job, build

on their skills from their previous role or develop networks, which would help in finding another job.

Table B10: Drivers who felt that it was difficult to find another job similar to their previous role and/or related to their education/training

Predictors	Odds Ratio
Age	
60 and above	3.932*
50 – 59	4.511***
40 – 49	2.945**
30 – 39	2.108*
Reference group: 21 – 29	
Education	
Secondary and below	.741
Post-secondary	.847
Reference group: Bachelors and above	
Marital status	
Married	1.112
Divorced/separated/widowed	1.142
Reference group: Single	
Household income	
Below \$3,000	1.449
\$3,000 - \$5,999	1.254
Reference group: \$6,000 and above	
Proportion of monthly income derived from driving	
One-quarter	.541**
Half	.448***
Three-quarters	.795
Reference group: Wholly derived from driving	
Number of years worked as a PHC driver	

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Five years and above	1.408
Three to less than five years	1.074
Two to less than three years	.749
One to less than two years	.981
Six months to less than a year	1.185
Reference group: Less than six months	
Hours spent driving per week	
More than 59 hours	1.319
50-59 hours	.862
40-49 hours	.999
30-39 hours	1.166
20-29 hours	.613
10-19 hours	.727
Reference group: Less than 10 hours	

To illustrate how the significant predictors mentioned above relate to drivers' difficulty in finding another job similar to their previous role and/or related to their education/training, we report bivariate relationships below:

- **Age**
 - Around 45.9 per cent of drivers aged 50 – 59 disagreed that they could easily find another job, as compared to 14.0 per cent of drivers aged 21 – 29 (see Table B11).

Table B11: Ease in getting a job similar to their previous role and/or related to their education/training, by age group (%)

% of respondents n=958	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
21-29	14.0%		23.3%	62.8%	
	4.7%	9.3%		53.5%	9.3%
30-39	28.2%		30.6%	41.2%	

	10.6%	17.6%		32.7%	8.6%
40-49	35.9%		34.5%	29.6%	
	12.5%	23.5%		26.4%	3.2%
50-59	45.9%		33.0%	21.0%	
	18.0%	27.9%		16.3%	4.7%
60 and above	43.5%		33.7%	22.8%	
	13.0%	30.4%		22.8%	0.0%

- **Proportion of income derived from driving**

- Around 44.2 per cent of drivers who wholly derived their income from driving disagreed that they could easily find another job, as compared to 22.6 per cent to 24.3 per cent of drivers who derived one-quarter or half of their incomes from driving (see Table B12).

Table B12: Ease in getting a job similar to their previous role and/or related to their education/training, by proportion of income derived from driving (%)

% of respondents n=958	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
One-quarter	22.6%		34.1%	43.3%	
	8.2%	14.4%		35.1%	8.2%
Half	24.3%		32.4%	43.4%	
	8.1%	16.2%		35.3%	8.1%
Three-quarters	39.5%		30.3%	30.3%	
	10.1%	29.4%		26.1%	4.2%
Wholly derived from driving	44.2%		32.5%	23.2%	
	17.2%	27.1%		20.4%	2.8%

Appendix C: Regression on income security

We conducted ordinal regression to find out which PHC drivers were the most financially stressed and may thus require income security. Financial stress¹⁹ was used as the outcome variable, which was recoded into three groups: not financially stressed, moderately stressed, most financially stressed.

The result from this regression analysis shows that PHC drivers who were aged between 40 – 49 years old, had a post-secondary education and fully derived their monthly income from driving were the most financially stressed. In addition, drivers with longer driving experience were more stressed than those who have joined the industry for less than six months, with the most financially stressed drivers being those who have driven for five years and above. Middle aged drivers may likely have higher financial commitments. As the income earned from working as a PHC driver is dependent on the number of passengers and working hours a driver works, the incomes of drivers may be hard to predict and may not be sufficient to allow for an accumulation of savings, especially for drivers who have worked as a driver for more years and derived full income from driving.

Specifically, drivers who were aged between 30 – 49 years old were more than twice as likely as those aged 60 and above to feel financially stressed. Drivers with a post-secondary education were around 1.7 times more likely than those with at least a bachelor's degree to be financially stressed. Drivers who derived their full income from driving were about 1.7 - 2.1 times as likely as those who derived either one-quarter or half of the income from driving to be financially stressed. Lastly, drivers who have driven for five years and above were 2.8 times more likely to be stressed than those who have just joined the industry for less than six months.

¹⁹ See Appendix A for the variables used to construct the financial stress scale.

Table C1: Drivers who were very financially stressed

Predictors	Odds Ratio
Age	
21 – 29	1.738
30 – 39	2.221**
40 – 49	2.532***
50 – 59	1.660*
Reference group: 60 and above	
Education	
Secondary and below	1.300
Post-secondary	1.728**
Reference group: Bachelors and above	
Marital status	
Married	1.183
Divorced/separated/widowed	.805
Reference group: Single	
Household income	
Below \$3,000	1.377
\$3,000 - \$5,999	1.448
Reference group: \$6,000 and above	
Proportion of monthly income derived from driving	
One-quarter	.482***
Half	.605*
Three-quarters	.700
Reference group: Wholly derived from driving	
Number of years worked as a PHC driver	
Five years and above	2.790***
Three to less than five years	2.056***
Two to less than three years	1.799*

One to less than two years	1.516
Six months to less than a year	2.489**
Reference group: Less than six months	
Hours spent driving per week	
More than 59 hours	1.606
50-59 hours	1.461
40-49 hours	1.195
30-39 hours	.919
20-29 hours	1.273
10-19 hours	1.336
Reference group: Less than 10 hours	

To illustrate how the significant predictors mentioned above relate to financial stress, we report some bivariate relationships using a constituent question from the “Financial stress” scale:

- **Age**
 - Around 42.9 per cent of drivers aged between 40 – 49 strongly felt that they did not have enough savings to take care of their personal and family’s needs for the next three to six months if they stopped working today, as compared to 17.4 per cent of drivers aged 60 and above (see Table C2).

Table C2: Driver has enough savings to take care of their personal and family's needs for the next three to six months if they stopped working today, by age group (%)

% of respondents n=958	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
21-29	60.5%		16.3%	23.3%	
	37.2%	23.3%		18.6%	4.7%
30-39	63.3%		18.4%	18.4%	
	40.8%	22.4%		13.5%	4.9%
40-49	67.2%		18.6%	14.2%	
	42.9%	24.3%		11.0%	3.2%
50-59	60.9%		18.9%	20.2%	
	36.1%	24.9%		15.0%	5.2%
60 and above	45.7%		32.6%	21.7%	
	17.4%	28.3%		20.7%	1.1%

- **Education**

- Around 55.4 per cent of drivers with a post-secondary education were very worried that they will no longer be able to earn enough money as a private-hire car (PHC) driver because the COVID-19 pandemic has reduced the number of tourists coming to Singapore, as compared to 44.9 per cent of drivers with a university education (see Table C3).

Table C3: Worry over being unable to earn enough money as a PHC driver because the COVID-19 pandemic has reduced the number of tourists coming to Singapore, by education (%)

% of respondents n=953	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Secondary and below	3.8%		10.1%	86.0%	
	1.4%	2.5%		37.8%	48.2%
Post-secondary	4.5%		7.8%	87.7%	
	2.1%	2.4%		32.3%	55.4%
Bachelors and above	7.1%		12.6%	80.3%	
	0.8%	6.3%		35.4%	44.9%

- **Proportion of monthly income derived from driving**
 - Around 45.7 per cent of drivers who wholly derived their incomes from driving strongly disagreed that they have enough savings to take care of their personal and family's needs for the next three to six months if they stopped working today, as compared to around 27.9 per cent of those who derived a quarter of their incomes from driving (see Table C4).

Table C4: Driver has enough savings to take care of their personal and family's needs for the next three to six months if they stopped working today, by proportion of monthly income derived from driving (%)

% of respondents n=958	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
One-quarter	50.5%		24.5%	25.0%	
	27.9%	22.6%		17.8%	7.2%
Half	50.0%		23.5%	26.5%	
	33.1%	16.9%		22.1%	4.4%
Three-quarters	63.0%		17.6%	19.3%	
	29.4%	33.6%		16.0%	3.4%
Wholly derived from driving	70.5%		17.4%	12.1%	
	45.7%	24.8%		9.5%	2.6%

- **Number of years worked as a PHC driver**
 - Around 48.9 per cent of drivers with driving experience of five years and more strongly disagreed that they have enough savings, as compared to 25.3 per cent of those who have worked as a driver for less than six months (see Table C5).

Table C5: Driver has enough savings to take care of their personal and family's needs for the next three to six months if they stopped working today, by number of years worked as a PHC driver (%)

% of respondents n=958	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Less than six months	52.6%		22.1%	25.3%	
	25.3%	27.4%		17.4%	7.9%
Six months to less than a year	69.6%		12.5%	17.9%	
	48.2%	21.4%		16.1%	1.8%

One to less than two years	61.3%		19.4%	19.4%	
	29.0%	32.3%		16.9%	2.4%
Two to less than three years	61.5%		22.4%	16.1%	
	39.2%	22.4%		14.0%	2.1%
Three to less than five years	65.9%		18.7%	15.4%	
	41.2%	24.7%		11.6%	3.7%
Five years and above	66.3%		19.7%	14.0%	
	48.9%	17.4%		10.7%	3.4%

Appendix D: Regressions on financial protection

Would not make voluntary CPF contributions

Logistic regression was performed to find out the characteristics of drivers who would not make voluntary CPF contributions. About half of the drivers did not voluntarily contribute to their CPF and the remaining half made some voluntary CPF contributions. Hence, the outcome variable on “What portion of your income do you allocate to a voluntary CPF contribution every month/year?” was recoded to reflect the binary outcomes: contribute nothing and contributing at least something.

The results show that drivers who were aged between 30 – 39 years old and drivers who derived all their monthly income from driving were unlikely to make voluntary CPF contributions. Specifically, drivers who were aged 30 – 39 were 2.9 times more likely than those aged 60 and above to not make voluntary CPF contributions, while drivers who fully derived their incomes from driving were about 1.5 - 1.9 times more likely than drivers who derived a portion of their incomes from driving to not make voluntary CPF contributions.

Table D1: Drivers who would not make voluntary CPF contributions

Predictors	Odds Ratio
Age	
21 – 29	1.761
30 – 39	2.906***
40 – 49	2.241**
50 – 59	1.788*
Reference group: 60 and above	
Education	
Secondary and below	1.141
Post-secondary	1.057
Reference group: Bachelors and above	
Marital status	

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Married	.787
Divorced/separated/widowed	.616
Reference group: Single	
Household income	
Below \$3,000	.742
\$3,000 - \$5,999	.853
Reference group: \$6,000 and above	
Proportion of monthly income derived from driving	
One-quarter	.601*
Half	.527**
Three-quarters	.649*
Reference group: Wholly derived from driving	
Number of years worked as a PHC driver	
Five years and above	1.057
Three to less than five years	1.213
Two to less than three years	1.168
One to less than two years	1.332
Six months to less than a year	1.084
Reference group: Less than six months	
Hours spent driving per week	
More than 59 hours	1.347
50-59 hours	1.261
40-49 hours	1.156
30-39 hours	.694
20-29 hours	1.392
10-19 hours	1.212
Reference group: Less than 10 hours	
Constant	.627

To illustrate how the significant predictors mentioned above relate to voluntary CPF contribution, we report some bivariate relationships below:

- **Age**
 - Around 57.1 per cent of drivers who were aged between 30 – 39 did not make a voluntary contribution to CPF, as compared to 34.8 per cent of drivers aged 60 and above. Of the drivers who would make a voluntary contribution to CPF, most would make a voluntary CPF contribution of less than 5%. Around 15.5 per cent to 28.3 per cent of drivers aged 30 and above would make a voluntary CPF contribution of less than 5%, while around 23.3 percent of drivers aged between 21 – 29 would make a voluntary CPF contribution of 5% to less than 10% (see Table D2).

Table D2: What portion of your income do you allocate to a voluntary CPF contribution every month/year? By age group (%)

% of respondents n=958	Did not make voluntary contribution	Less than 5%	Less than 10%	Less than 20%	20% and above
21-29	48.8%	11.6%	23.3%	4.7%	11.6%
30-39	57.1%	15.5%	9.4%	12.7%	5.3%
40-49	51.6%	21.2%	12.8%	9.3%	5.2%
50-59	46.8%	24.5%	12.4%	10.3%	6.0%
60 and above	34.8%	28.3%	22.8%	8.7%	5.4%

- **Proportion of monthly income derived from driving**
 - Around 56.0 per cent of drivers who fully derived their income from driving did not make a voluntary CPF contribution, as compared to around 39.7 per cent to 46.2 per cent of drivers who only derived up to three-quarters of their income from driving. Of

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the drivers who would make a voluntary CPF contribution, most would make a contribution of less than 5%. Around 19.9 per cent to 25.2 per cent of drivers who derived part of their income from driving would contribute less than 5%, while around 19.0 per cent of drivers who derived their full income from driving would contribute less than 5% (see Table D3).

Table D3: What portion of your income do you allocate to a voluntary CPF contribution every month/year, By proportion of income derived from driving (%)

% of respondents n=958	Did not make voluntary contribution	Less than 5%	Less than 10%	Less than 20%	20% and above
One-quarter	45.2%	23.1%	14.4%	11.1%	6.3%
Half	39.7%	19.9%	17.6%	17.6%	5.1%
Three-quarters	46.2%	25.2%	14.3%	8.4%	5.9%
Wholly derived from driving	56.0%	19.0%	11.3%	8.1%	5.7%

Less willing to set aside portion of income for insurance

Logistic regression was also conducted to understand which drivers were less willing to set aside a portion of their income for insurance coverage. Using the variables which measured the drivers' willingness to set aside a portion of their income for retirement savings plan, health insurance and unemployment insurance, the outcome variable was computed into a scale ("Willingness to set aside a portion of income for insurance")²⁰. A median split of the outcome variable was then performed, with those less willing to set aside a portion of income for insurance scoring above the median on the scale.

²⁰ The variables used to compute the scale are "In addition to your voluntary contributions to CPF, if any, what portion of your monthly/yearly income would you be willing to set aside for (a) Retirement Savings Plan", "(b) Healthcare Savings Plan" and "(c) Unemployment Insurance".

Drivers who were less willing to set aside a portion of their income for insurance coverage came from lower income households. Lower income households may have difficulty coping with living expenses and may not have enough savings to spend on insurance. Specifically, drivers from households with total income of less than \$3,000 were 1.8 times more likely than those with household incomes of \$6,000 and above to be less willing to set aside a portion of their income for insurance coverage.

Table D4: Drivers less willing to set aside a portion of their income for insurance coverage

Predictors	Odds Ratio
Age	
21 – 29	1.027
30 – 39	1.450
40 – 49	1.536
50 – 59	1.227
Reference group: 60 and above	
Education	
Secondary and below	1.086
Post-secondary	1.151
Reference group: Bachelors and above	
Marital status	
Married	.786
Divorced/separated/widowed	.774
Reference group: Single	
Household income	
Below \$3,000	1.823**
\$3,000 - \$5,999	1.389*
Reference group: \$6,000 and above	
Proportion of monthly income	

derived from driving	
One-quarter	1.149
Half	.748
Three-quarters	1.003
Reference group: Wholly derived from driving	
Number of years worked as a PHC driver	
Five years and above	1.118
Three to less than five years	1.565
Two to less than three years	1.125
One to less than two years	1.113
Six months to less than a year	1.117
Reference group: Less than six months	
Hours spent driving per week	
More than 59 hours	1.187
50-59 hours	.981
40-49 hours	1.132
30-39 hours	1.026
20-29 hours	1.163
10-19 hours	1.118
Reference group: Less than 10 hours	
Constant	.461

To illustrate how the significant predictor mentioned above relate to willingness to set aside a portion of income for insurance, we report a bivariate relationship below using a constituent question from the “Willingness to set aside a portion of income for insurance” scale:

- **Household income**

- Around 37.9 per cent of drivers with household incomes of below \$3,000 were not willing to set aside a portion of income for a retirement savings plan, as compared to 28.9 per cent of those

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from household incomes of \$6,000 and more. On the other hand, around 23.7 per cent of drivers with household incomes of below \$3,000 were willing to set aside 8% or more of their income for a retirement savings plan, while 37.0 per cent of those with household incomes of \$6,000 and above were willing to do the same (see Table D5).

Table D5: Portion of monthly/yearly income willing to set aside for a retirement savings plan, by household income (%)

% of respondents N=958	Not willing	Less than 3%	Less than 5%	Less than 8%	8% and above
Below \$3,000	37.9%	21.1%	14.2%	3.0%	23.7%
\$3,000-\$5,999	32.8%	21.0%	17.6%	3.6%	25.1%
\$6,000 and above	28.9%	14.8%	15.4%	3.9%	37.0%

Worried about retirement adequacy

We performed ordinal regression to understand who were the drivers who were very worried about the adequacy of their retirement savings. The variable “I am worried about whether I have enough retirement savings” was recoded into three outcomes: not worried, worried and very worried.

The results show that drivers who were more likely to be very worried about whether they had enough retirement savings were those who were aged between 30-59 years old, derived their full incomes from driving and have been driving for three years and above.

Specifically, drivers aged between 30 – 59 years old were most worried about their retirement savings and were around 3.1 – 3.8 times more likely to be very

worried as compared to those aged 60 and above. These drivers may find it harder to save for retirement savings as they may have higher financial commitments.

Drivers who derived their full incomes from driving were around 1.8 – 2.2 times more likely than those who derived either one-quarter or half of the income from driving to be very worried about their retirement savings. Lastly, drivers with driving experience of three years or more were around 1.7 - 1.8 times as likely as those who have just joined the industry for under six months to be very worried about retirement savings. Drivers who have been driving for three years and above and drivers who derived their full incomes from driving may regard driving as their permanent income stream and continue staying in the industry. As such, they may worry about the adequacy of their retirement savings if they have found it difficult to save up for retirement thus far.

Table D6: Drivers who were very worried about the adequacy of their retirement savings

Predictors	Odds Ratio
Age	
21 – 29	2.348*
30 – 39	3.813***
40 – 49	3.833***
50 – 59	3.060***
Reference group: 60 and above	
Education	
Secondary and below	1.134
Post-secondary	1.230
Reference group: Bachelors and above	
Marital status	
Married	1.175
Divorced/separated/widowed	1.117
Reference group: Single	

Household income	
Below \$3,000	1.186
\$3,000 - \$5,999	1.067
Reference group: \$6,000 and above	
Proportion of monthly income derived from driving	
One-quarter	.449***
Half	.571**
Three-quarters	.717
Reference group: Wholly derived from driving	
Number of years worked as a PHC driver	
Five years and above	1.733**
Three to less than five years	1.775**
Two to less than three years	1.147
One to less than two years	1.302
Six months to less than a year	1.232
Reference group: Less than six months	
Hours spent driving per week	
More than 59 hours	1.336
50-59 hours	.927
40-49 hours	.892
30-39 hours	.759
20-29 hours	.760
10-19 hours	1.122
Reference group: Less than 10 hours	

To illustrate how the significant predictors mentioned above relate to drivers' worry over retirement savings, we report bivariate relationships below:

- **Age**
 - Around 47.8 per cent to 51.6 per cent of drivers aged 30 – 59 years old strongly agreed that they were worried about retirement adequacy, as compared to 20.7 per cent of those aged 60 and above (see Table D7).

Table D7: Worry over retirement savings, by age group (%)

% of respondents n=958	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
21-29	7.0%		18.6%	74.4%	
	0.0%	7.0%		44.2%	30.2%
30-39	3.7%		11.0%	85.3%	
	1.2%	2.4%		37.6%	47.8%
40-49	1.7%		11.0%	87.2%	
	0.6%	1.2%		35.7%	51.6%
50-59	3.9%		11.2%	85.0%	
	2.1%	1.7%		36.5%	48.5%
60 and above	6.5%		20.7%	72.8%	
	1.1%	5.4%		52.2%	20.7%

- **Proportion of income derived from driving**
 - Around 54.3 per cent of drivers who wholly derived their incomes from driving strongly agreed that they were worried about retirement adequacy, as compared to 32.2 per cent of those who derived only one-quarter of their incomes from driving (see Table D8).

Table D8: Worry over retirement savings, by proportion of income derived from driving (%)

% of respondents n=958	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
One-quarter	4.8%		18.3%	76.9%	
	1.9%	2.9%		44.7%	32.2%
Half	5.1%		15.4%	79.4%	
	0.7%	4.4%		41.9%	37.5%
Three-quarters	3.4%		10.9%	85.7%	
	1.7%	1.7%		41.2%	44.5%
Wholly derived from driving	2.4%		9.3%	88.3%	
	0.8%	1.6%		33.9%	54.3%

- **Number of years worked as a PHC driver**
 - Around 51.3 per cent to 52.2 per cent of drivers with driving experience of three years and above strongly agreed that they were worried about retirement adequacy, as compared to around 37.9 per cent of those who have worked as a driver for less than six months (see Table D9).

Table D9: Worry over retirement savings, by number of years worked as a PHC driver (%)

% of respondents n=958	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Less than six months	5.8%		16.8%	77.4%	
	1.1%	4.7%		39.5%	37.9%
Six months to less than a year	0.0%		25.0%	75.0%	
	0.0%	0.0%		30.4%	44.6%
	5.6%		12.9%	81.5%	

One to less than two years	2.4%	3.2%		34.7%	46.8%
Two to less than three years	1.4%		12.6%	86.0%	
	0.7%	0.7%		47.6%	38.5%
Three to less than five years	3.0%		8.2%	88.8%	
	1.1%	1.9%		37.5%	51.3%
Five years and above	2.8%		9.0%	88.2%	
	1.1%	1.7%		36.0%	52.2%

Worried about savings in event of accident or serious illness

We performed ordinal regression to understand who were the drivers who were very worried about whether they had enough savings if they or a family member had an accident or had a serious illness. The variable “I am worried about whether I have enough savings if I or a dependent family member has an accident or serious illness” was recoded to reflect three outcomes: not worried, worried and very worried.

Results show that drivers who were most worried about whether they had enough savings if they or a family member had an accident or has a serious illness were aged between 30 – 59, derived their income wholly from driving and have worked as a driver for more than six months. Specifically, drivers aged between 30 – 59 were more than twice as likely as those aged 60 and above to be worried, while drivers who wholly derived their incomes from driving were more than 1.5 times more likely than those who derived a quarter or half their incomes from driving to be worried. With the exception of those who drove for one to less than three years, those who drove for six months and more were at least 1.5 times more likely than those who have just entered the industry for under six months to be worried about whether they had enough savings if they or a family member had an accident or has a serious illness.

Possibly due to the unpredictability of knowing when they or a family member would have an accident or serious illness, the need to have sufficient savings now may be important to drivers. As such, drivers who are middle aged who may have higher financial commitments, drivers who derived their income fully from driving without a secondary income stream, and drivers who may regard the job as more than just a transitory role may find themselves unable to deal with the medical expenses if they or their family member had an accident or illness.

Table D10: Drivers who were very worried about whether they had enough savings if they or a family member had an accident or has a serious illness

Predictors	Odds Ratio
Age	
21 – 29	1.391
30 – 39	2.394**
40 – 49	2.180**
50 – 59	2.028**
Reference group: 60 and above	
Education	
Secondary and below	1.096
Post-secondary	1.336
Reference group: Bachelors and above	
Marital status	
Married	1.156
Divorced/separated/widowed	.835
Reference group: Single	
Household income	
Below \$3,000	1.351
\$3,000 - \$5,999	1.123
Reference group: \$6,000 and above	
Proportion of monthly income	

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derived from driving	
One-quarter	.541**
Half	.647*
Three-quarters	.873
Reference group: Wholly derived from driving	
Driving experience	
Five years and above	1.584*
Three to less than five years	1.887**
Two to less than three years	.993
One to less than two years	1.531
Six months to less than a year	1.950*
Reference group: Less than six months	
Hours spent driving per week	
More than 59 hours	1.436
50-59 hours	1.096
40-49 hours	.893
30-39 hours	.669
20-29 hours	1.108
10-19 hours	1.081
Reference group: Less than 10 hours	

To illustrate how the significant predictors mentioned above relate to drivers' worry whether they had enough savings if they or a family member had an accident or serious illness, we report bivariate relationships below:

- **Age**
 - Around 54.9 per cent to 57.6 per cent of drivers aged 30 – 59 strongly agreed that they were worried about whether they had enough savings if they or a family member had an accident or has a serious illness, as compared to 38.0 per cent of those aged 60 and above (see Table D11).

Table D11: Worry about whether they had enough savings if they or a family member had an accident or has a serious illness, by age group (%)

% of respondents n=958	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
21-29	2.3%		18.6%	79.1%	
	0.0%	2.3%		41.9%	37.2%
30-39	2.4%		10.2%	87.3%	
	1.6%	0.8%		29.8%	57.6%
40-49	2.0%		9.3%	88.7%	
	0.9%	1.2%		32.2%	56.5%
50-59	1.7%		7.3%	91.0%	
	1.3%	0.4%		36.1%	54.9%
60 and above	5.4%		12.0%	82.6%	
	1.1%	4.3%		44.6%	38.0%

- **Proportion of income derived from driving**
 - Around 60.0 per cent of drivers who derived their full incomes from driving were very worried about whether they had enough savings if they or a family member had an accident or has a serious illness, as compared to 42.8 per cent of drivers who derived one-quarter of their incomes from driving (see Table D12).

Table D12: Worry about whether they had enough savings if they or a family member had an accident or has a serious illness, by proportion of income derived from driving (%)

% of respondents n=958	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
One-quarter	4.8%		13.5%	81.7%	
	1.9%	2.9%		38.9%	42.8%
Half	4.4%		11.8%	83.8%	
	2.2%	2.2%		37.5%	46.3%
Three-quarters	1.7%		7.6%	90.8%	
	0.8%	0.8%		35.3%	55.5%
Wholly derived from driving	1.0%		8.1%	90.9%	
	0.6%	0.4%		30.9%	60.0%

- **Number of years worked as a PHC driver**
 - Around 57.3 per cent to 60.7 per cent of drivers with three years and more of driving experience were very worried about whether they had enough savings if they or a family member had an accident or has a serious illness, as compared to 45.8 per cent of drivers with less than six months of driving experience (see Table D13).

Table D13: Worry about whether they had enough savings if they or a family member had an accident or has a serious illness, by number of years worked as a PHC driver (%)

% of respondents n=958	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Less than six months	3.7%		15.8%	80.5%	
	1.1%	2.6%		34.7%	45.8%
Six months to less than a year	0.0%		14.3%	85.7%	
	0.0%	0.0%		25.0%	60.7%
One to less than two years	1.6%		11.3%	87.1%	
	1.6%	0.0%		30.6%	56.5%
Two to less than three years	0.7%		10.5%	88.8%	
	0.0%	0.7%		46.9%	42.0%
Three to less than five years	3.0%		4.9%	92.1%	
	1.1%	1.9%		31.5%	60.7%
Five years and above	2.8%		7.3%	89.9%	
	2.2%	0.6%		32.6%	57.3%

Appendix E: Predictors for cluster analysis

The following were the predictors used for the cluster analysis:

- I. Inclination to exit industry: This composite scale measures a respondent's inclination to exit the ridesharing industry, with 1 being lower inclination to leave the ridesharing industry (i.e. they want to stay) and 5 being higher inclination to leave the ridesharing industry (i.e. choosing to leave as soon as alternatives are available). Drivers with high inclination do not see themselves staying for long and are actively looking for alternatives, but they are still in the job because they have little to no job opportunities elsewhere and/or they face more obstacles in leaving because of individual circumstances (e.g., low qualifications, urgent need of money for financial/family responsibilities). "I foresee myself staying in the ride-sharing industry for another three to five years at least" (Five-point scale, strongly disagree to strongly agree; recoded for consistency), "I would leave the ride-sharing industry as soon as possible if I had job opportunities in other industries" (Five-point scale, strongly disagree to strongly agree)
 - II. "I am actively looking for a permanent job elsewhere" (Five-point scale, strongly disagree to strongly agree)
- 2) Work autonomy: This composite scale measures the extent to which the respondent feels that the work autonomy they have as a PHC driver is important for them, with 1 being not important and 5 being important.
- I. "I work as a private-hire car (PHC) driver because I like to be my own boss (and not work for someone)" (Five-point scale, strongly disagree to strongly agree)
 - II. "I work as a private-hire car (PHC) driver because I enjoy the flexibility of the working hours" (Five-point scale, strongly disagree to strongly agree)

- III. “I work as a private-hire car (PHC) driver because work-life balance is important to me” (Five-point scale, strongly disagree to strongly agree)
 - IV. “I am satisfied with my working conditions in terms of the amount of control and autonomy I have in my job” (Five-point scale, strongly disagree to strongly agree)
- 3) Self-improvement: This composite scale measures the extent to which the respondent feels that their work skills, such as interpersonal communication, entrepreneurial skills and handling technology, have improved in the time they worked as a PHC driver, with 1 being no improvement at all and 5 being great improvement. Drivers with higher scores were more likely to feel that their work skills have improved while driving as a PHC driver.
- I. “I work as a private-hire car (PHC) driver because the work is interesting and satisfying” (Five-point scale, strongly disagree to strongly agree)
 - II. “Working as a private-hire car (PHC) driver has helped me to increase my confidence in handling/interacting with digital technology” (Five-point scale, strongly disagree to strongly agree)
 - III. “Working as a private-hire car (PHC) driver has helped me to improve my soft skills, like interpersonal communication, customer service and problem-solving” (Five-point scale, strongly disagree to strongly agree)
 - IV. “Working as a private-hire car (PHC) driver has helped me improve my entrepreneurial skills, like managing my finances, strategic planning and time management” (Five-point scale, strongly disagree to strongly agree)
- 4) Perception of ridesharing industry: This composite scale captures the respondent’s perception of the ridesharing industry, with 1 being having

a very negative perception about the industry and 5 being having a very positive perception about the industry.

- I. “I find my work as a private-hire car (PHC) driver to be a positive challenge” (Five-point scale, strongly disagree to strongly agree)
- II. “In general, the overall benefits of working as a private-hire car (PHC) driver in the ride-sharing industry outweighs the costs” (Five-point scale, strongly disagree to strongly agree)
- III. “I have a positive view of the ride-sharing industry” (Five-point scale, strongly disagree to strongly agree)
- IV. “My family has a positive view of the ride-sharing industry” (Five-point scale, strongly disagree to strongly agree)
- V. “I view self-employed persons in the gig economy, like myself, as the future” (Five-point scale, strongly disagree to strongly agree)
- VI. “I find that working a job(s) in the gig economy is a better way to earn a living compared to having a traditional 9-to-5 job” (Five-point scale, strongly disagree to strongly agree)

5) Financial stress: This composite scale captures the level of financial stress a respondent is facing, with 1 being low level of financial stress and 5 being high level of financial stress.

- I. “I have enough savings to take care of my personal and family’s needs for the next three to six months if I stopped working today” (Five-point scale, strongly disagree to strongly agree; recoded for consistency)
- II. “I am worried about whether I have enough retirement savings” (Five-point scale, strongly disagree to strongly agree)
- III. “I am worried about whether I have enough savings if I or a dependent family member has an accident or serious illness” (Five-point scale, strongly disagree to strongly agree)
- IV. “I am worried that I will no longer be able to earn enough money as a private-hire car (PHC) driver because the COVID-19

pandemic has reduced the number of tourists coming to Singapore” (Five-point scale, strongly disagree to strongly agree)

- V. “I am worried that I will no longer be able to earn enough money as a private-hire car (PHC) driver because the COVID-19 pandemic has changed behaviours toward people staying and working from home more” (Five-point scale, strongly disagree to strongly agree)
- VI. “I am worried that I will no longer be able to earn enough money as a private-hire car (PHC) driver because the financial incentives given by ride-sharing companies are increasingly being cut or reduced” (Five-point scale, strongly disagree to strongly agree)
- VII. “I am worried that I will no longer be able to work as a private-hire car (PHC) driver within the next few years because of the rapid rise of self-driving vehicles” (Five-point scale, strongly disagree to strongly agree)

6) Stress over health: This composite scale captures the level of stress a respondent is currently experiencing over his/her health, with 1 being low level of stress and 5 being high level of stress.

- I. “I am worried about contracting the COVID-19 disease from my passengers” (Five-point scale, strongly disagree to strongly agree)
- II. “My health has been _____ ever since I started driving as a private-hire car (PHC) driver” (Much worse, worse, the same, better, much better, recoded for consistency)
- III. “I feel that my break times are sufficient for me to take a rest during my driving shifts” (Five-point scale, strongly disagree to strongly agree; recoded for consistency)
- IV. “My overall quality of life has improved since I started working as a private-hire car (PHC) driver” (Five-point scale, strongly disagree to strongly agree; recoded for consistency)

- V. “My work as a private-hire car (PHC) driver makes me stressed”
(Five-point scale, strongly disagree to strongly agree)
 - VI. “I am satisfied with my working conditions in terms of driving hours” (Five-point scale, strongly disagree to strongly agree; recoded for consistency)
- 7) Number of platforms: Higher scores mean that the respondent is an active registered user of many ridesharing platforms; the maximum score a respondent can achieve is 6 (i.e. s/he is an active registered user of Gojek, Grab, Ryde, Tada, Urge, Others).
- 8) Number of years worked as a PHC driver: Higher scores mean that the respondent has been driving for a longer period of time, with 1 being less than six months and 6 being five years and above.
- 9) Proportion of monthly income: Respondents either derive one-quarter, half, three-quarters or all of their income from driving. Higher scores indicate a greater percentage of their income that has been derived from driving alone.

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