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Participation of Women Ride-hailing Drivers in Los Angeles;
Redefining A Gendered Occupation or Reproducing Gender Roles?

A thesis submitted in partial satisfaction
of the requirements for the degree
Master of Urban and Regional Planning

by

Gul Nisa Gurbuz

2021

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ABSTRACT OF THE THESIS

Participation of Women Ride-hailing Drivers in Los Angeles;
Redefining A Gendered Occupation or Reproducing Gender Roles?

by

Gul Nisa Gurbuz

Master of Urban and Regional Planning

University of California, Los Angeles, 2021

Professor Anastasia Loukaitou-Sideris, Committee Chair

Why do we not see more female drivers in ride-hailing services? The advancement of technology is reshaping transportation for both drivers and riders through platform economies. This study focuses on the gig drivers in Los Angeles county using a gender lens. It attempts to analyze why there is still a gender gap in the ride-hailing sector, although this gap is narrower than in the taxi industry. The questions of the research are: 1) why do women become ride-hailing drivers? 2) Are ride-hailing systems redefining the gendered nature of the driving occupation, which is traditionally male-dominated? 3) What challenges do female ride-hailing drivers face, and 4) how are these challenges different from those faced by men? The study draws from 20 interviews and 400 survey responses of ride-hailing drivers in Los Angeles. The survey and interview data are interpreted with the help of statistical analyses and content analysis. The paper concludes with further research and policy suggestions for ride-hailing companies to welcome

more female drivers on board and turn their work into a safer and fairer model. The study finds that female drivers' ongoing safety concerns and the possibility of getting harassed hold them back from attending to this labor force as much as men do. Also, it finds that many gig workers, who lack many employment benefits and a decent income without the support of a partner, have to take care of their households and families regardless of their gender. The ride-hailing companies have a large room to improve their safety systems to welcome more female drivers on board.

The thesis of Gul Nisa Gurbuz is approved.

Christopher Tilly

Evelyn Blumenberg

Anastasia Loukaitou-Sideris, Committee Chair

University of California, Los Angeles

2021

Dedication

To women who are changing their destinies.

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1. Introduction

Innovations and developing technologies keep changing life, including how urban dwellers commute within major cities. When traditional systems do not meet society's needs, alternatives may appear. The sharing economy is based on the sharing of underused assets or services for free or for a fee, usually with the help of new media tools and the internet. These innovative platforms have become major actors in the private mobility sector. Among the leading ride-hailing systems, Uber's value is approximately \$120 billion, while Lyft has an estimated worth of \$19 billion (Deleventhal, 2018). These economy models have entered the transportation arena only in the last decade and have already accumulated this capital. Also, according to statistics, while only one percent of taxi drivers are female in the US, the percentage of female drivers at Lyft is 23 and at Uber is 19 (Brown, 2018). This implies that the new sharing economy models may be redefining traditional occupational profiles.

"I don't see why more stay-at-home moms don't do this... I would say stay-at-home moms should probably do this because one, it gets you out of the house, and then it gives you a little extra cash that's not going to kill nobody" says C. who is a single mother and working as a part-time ride-hailing driver in Los Angeles. This study inquiries about some of the issues that C. raises. Why more women are not doing this ride-hailing job? And why do those who are already doing this job do it? This thesis examines the changing gender profile of driving as an occupation within ride-hailing companies, while at the same time seeking to unpack the job quality and life quality characteristics of each ride-hailing driver in Los Angeles. More broadly, the research aims to

understand women's participation in the sharing economy through ride-hailing systems and identifying the pros and cons of these systems in regard to the types of jobs they offer.

Ride-hailing is a relatively new way of commuting. Yet, it is already changing the transportation experience for city dwellers. Especially women, as a social group with unique safety concerns and commuting needs, may be differentially affected by these on-demand transportation platforms. Nevertheless, there is a significant gap in the literature regarding women ride-hailing drivers. This research focuses on women's participation in this economic model as the ride-hailing systems seem to empower them by giving them roles in the labor market and providing them fast and relatively safer ways of commuting. I hypothesize that most women become ride-hailing drivers due to financial hardship and scarcity of good employment opportunities for them, in light of their inability to hold a typical 9-5 job throughout the week because of their gender roles, such as being a mother, and being the main caregivers and domestic workers in their households.

This study starts with an Introduction that gives a background story of the entrance of ride-hailing systems into the transportation market and women's mobility in the context of private transportation. The Literature Review, which is the second chapter of the thesis, covers the following topics: 1) gender-based participation and pay gap in the economy, 2) differences between sharing economy models and traditional economy models in transportation, 3) location-based gig work and transportation and delivery services, 4) legal regulations over the sharing economy in California, 5) women ride-hailing drivers, and 6) women-only ride-hailing systems. The third chapter is titled Methodology and Data; it explains the research design and methods for the collection and interpretation of the data set of the study. The fourth chapter is titled Findings

& Discussion and analyzes the collected data. This chapter is divided into sections. It first gives the general picture of the survey and interview participants' statistics. The two main sections of this chapter are titled: 1) Difference Between genders: Harassment Fear, and Safety Concerns and 2) Similarity Between Genders; Scheduling and Life Quality. The first section includes a) Sexual Harassment and Ride-hailing Drivers, b) Picking the time of drive; The light, c) Female ride-hailing drivers and learned helplessness, d) Picking the space of drive: The neighbors, e) Routine Activities Theory and Avoidance Behavior of Female Drivers. The second section includes a) The Dilemma, or Delusion, of Schedule Flexibility, b) Gig work and housework (un)balance, c) Life quality of ride-hailing drivers; Eat, drink, and dispose. Finally, the paper closes with a conclusion that discusses areas for further study and policy suggestions.

This thesis draws from two original data sets. The first set is 20 interviews with ten female and ten male ride-hailing drivers, mainly working in Los Angeles, with a few in San Francisco and San Diego. The second set is an online survey filled out by 418 ride-hailing drivers working in Los Angeles. The study finds that the main reason that drivers pursue this job type is because of the widely flexible work hours. Almost every participant related that they schedule their operating hours around their households, families, personal life, other jobs, etc. The study also finds that the primary reasons that keep women away from the ride-hailing sector are safety concerns and insufficient income. Although the technology usage and online tracking systems of the ride-hailing systems give a safe first impression, compared to traditional taxi systems, they still have many flaws which need to be overcome to attract more women drivers. A second common reason found for both men and women is that the income that the job generates is not worth the work put into it, in the eyes of many drivers. As Uber and Lyft update their business models, they keep lowering

the driver's income rate per ride. The participants declared that the profit rate of rides per mile and per minute has decreased over time. When they deduct job-related expenses, which include wear and tear on their vehicles, gasoline, daily food, and drinks, they earn even less in reality. This thesis will discuss in more detail the patterns of Los Angeles ride-hailing drivers' experience with this system.

1.1. A new actor in the private mobility market and the lack of regulations

Broadly, the sharing economy models can be defined as a platform economy. Platform economies consist of three parties; the provider of the model, the producer, and the consumer of the goods and/or services offered virtually (Kennet & Zysman, 2016). The providers do not pay for labor work or production. However, the providers take their interest in each good and/or service provided through their platforms. Schmidt (2017) defines these platforms also as digital labor platforms and divides them into two categories: cloud work (web-based digital labor) and gig work (location-based digital labor). Ride-hailing systems fall under the category of gig work, specifically transportation and delivery services (Schmidt, 2017).

Ride-hailing systems are radically changing the transportation systems and market. Since the 2010s, Uber and Lyft, the most well-known ride-hailing companies, have witnessed business success but also concerns about their practices (Brown, 2018). The lack of regulation over gig work remains a gray space in the legal realm (Yanelys, 2016). As of 2020, the sharing economy models affect the competition in mobility on-demand markets. Owners of gig economy businesses benefit from the absence of tax and employment regulations and make more profits than the similar but regulated traditional business in the private mobility market. In the example of ride-hailing

systems, Uber and Lyft stand on one side of the market; the conventional taxis stand on the other side of the same market. Nevertheless, taxis and ride-hailing systems are still two distinctly different systems that operate, especially in their use of technology, differently from each other (Brown, LaValle, 2020). Since the emergence of ride-hailing systems, there has been a dramatic downturn in taxi ridership and revenue (Waheed et al., 2015).

In many countries, taxi and public transportation regulations do not cover ride-hailing systems. Uber and Lyft still considered their drivers as independent contractors and not employees in the US. Prior to AB5 regulations, which is discussed in this paper later, it meant that these contractors cannot receive employment benefits such as healthcare benefits and paid-leave. These sharing economy models did not follow labor regulations either, including payroll taxes and minimum wage. The time flexibility of sharing economy models would be in danger under possible employment regulations in California requiring a time commitment (Campbell, 2021). California's new state regulations and the reactions of the drivers and company owners call for more in-depth academic research to set the agenda to develop just regulations for both drivers and the companies that employ them.

1.2. Private mobility and women

The mobility of female city-dwellers, which is affected by the time and cost required for travel, has been a topic studied by many researchers worldwide. As an old and common way of commuting, traditional public transportation systems have been the focal point of these studies (Gekoski et al., 2017; Hamilton & Jenkins, 2000; Law, 1999; Mazumder & Pokharel, 2018;

Neupane & Chesney-lind, 2013; Smith, 2008). Also, studies show that having an automobile represents an advantage for women's mobility, helping them better balance the requirements of work and household. Yet, low-income women suffer from low levels of access to automobiles. However, ride-hailing, a relatively newer commuting method, may change the picture for women and requires further academic research. Potentially the ride-hailing provides the opportunity for low-income people to pay for the mobility only when they need it by saving from the full costs of automobile ownership (Blumenberg, 2016). Additionally, women as a social group have special needs and different travel patterns than men and may be differentially affected by regulations in the sharing economy. Women's other needs and opportunities are due to their socially constructed gender-based roles and duties, such as being caretakers of their households or mothers (UNECE, 2008). Also, the racial and economic backgrounds of people shape these needs. While one can argue that ride-hailing systems broaden the places women can reach, one should not forget that these rides cost more than traditional public transportation while it is less than owning an automobile. The statistics demonstrate that the percentage of female ride-hailing drivers is higher than those of female taxi drivers in the US (Brown, 2018). Recently, the state of California approved Assembly Bill 5 that regulates the employment status of gig workers in the state. Yet, Californians voted in favor of Proposition 22 to amend AB5 in the November 2020 elections. Based on the amendment, the gig workers, including ride-hailing drivers, were going to remain independent contractors, rather than become employees in California (LA Times, 2020). However, in August 2021 a judge in California deemed Proposition 22 unconstitutional. This decision means that app-based gig workers will be considered employees under California gig economy law (Roosevelt and Hussain, 2021). This regulation process is another reason why women's level of

participation in the ride-hailing systems as drivers and ongoing gig-work regulation attempts in California prompted further academic research.

As the sharing economy models reshape society, the long-existing structures of traditional models stand a difference. Breaking the gendered ties of driving as an occupation and the lack of public transportation efficiency in the context of the city of Los Angeles make this research significant. It is important to highlight these changes so that society can adapt to the new social, economic, and political systems accordingly. In this section, I will analyze the gendered profile of the occupation and the transportation alternatives to emphasize the importance of the research.

Women's participation in a traditionally male-dominated sector, such as driving to make a living, is a barrier that is hard to break. The statistics show more female ride-hailing drivers than there are female taxi drivers in the US (Brown, 2016). This difference in the sex composition of jobs in private mobility services likely happens because unregulated ride-hailing systems and regulated taxis provide different job opportunities to their drivers. The unregulated gig-work leaves its workers outside of the essential employee benefits, such as minimum wage and health benefits. Furthermore, it provides time flexibility as it allows its drivers to choose the times and days they wish to work. Women's economic empowerment includes their ability to participate equally in existing markets. Despite advancements in education and income, the gender gap in the economy remains. (UN Secretary-General, 2016). Although the participation of women in the sharing economy model of the private mobility sector is higher than in the classical personal mobility systems, women are still a minority compared to men in the industry. However, the gender

distribution of labor is more balanced in the sharing economy models than in the traditional models. This alternative can be a way to welcome women in this male-dominated sector.

While transportation is a vital component of city life, the travel needs of men and women differ from each other. Studies show the inequality between men's and women's mobility opportunities (Hamilton & Jenkins 2000). The complexity of transportation modes is positively correlated with the complexity of networks that connect urban dwellers within a city and between towns through social and economic interactions (Want et al., 2018). Traditional public transportation planning seems to serve men's needs better than women's (Pourhashem, 2019). The ride-hailing systems increase women's physical mobility by making different parts of the city more accessible, albeit at a higher cost. From the point of view of women, these systems might be advantageous and empower them. Women, nevertheless, are not a homogeneous group that has the same opportunities and resources in life. According to the statistics, 93.3% of U.S. households had access to at least one vehicle in 2019 (Peterson, 2020). Also, there are 227,254,100 licensed drivers in the US, and 50.6% of them are female. California has the highest number of people with driver licenses compared to its population; 84% of 26 million Californians have a driver's license (Hedges & Company, 2019). However, we do not know if women have personal access to a vehicle whenever they need a ride.

The existing literature on transportation, mobility, ride-hailing systems, and the sharing economy models from the women's perspective examines these topics from different angles. Women's participation in the gig work market requires some focused attention. Los Angeles is the second-largest metropolitan area in the US and plays a critical role in the state's economy. Also,

Los Angeles has a reputation for being a car-based city where public transportation is quite inefficient, with trips often requiring multiple transfers. Although the efficiency of public transportation in the city is another research topic, its car-dominated reputation remains common knowledge among people who know the city and are interested in the field.

2. Literature Review

This section reviews the literature on several interrelated topics. It examines the literature on gender-based participation and pay gap in the economy, differences between sharing economy models and traditional economy models in transportation, location-based gig work and transportation, and delivery services, the gray area of legal regulations governing the sharing economy in California, and lastly, women as ride-hailing drivers. While these different bodies of literature establish a solid base for this research, existing studies lack the gender-based story of ride-hailing systems in the context of Los Angeles. This is the reason this research will try to highlight women's participation in this man's world.

2.1. Gender-based participation and pay gap in the economy

The 2030 Agenda for Sustainable Development of the United Nations calls for an increase in women's participation in the economy. The Agenda explains its reasoning through its interlinked pillars: universal fundamental human rights, growth, human development, and business. The UN claims that although there has been progress in closing the gender inequalities gap in education and health, there is still room to improve and increase women's participation in the economy. Various reports explain the reason for the gender gap and sexual division in the economy as follows: adverse social norms; discriminatory laws and lack of legal protection; failure to recognize unpaid household work and caregiving; lack of access to financial, digital, and property assets (Cook et al., 2020; Hamilton & Jenkins, 2000; UN Secretary General's High-Level Panel on Women's Economic Empowerment, 2016; Chichilnisky, 2016) Additionally, even if women do participate in the economy, they tend to work in jobs based on gender stereotypes, which have relatively low earnings, bad working conditions, and limited career advancement

opportunities. However, the UN's report on Women's Economic Empowerment maintains that empowering women in the economy would also uplift the development of society and humanity. The UN report focuses on the distribution of household and care responsibilities; gender-based segregation in occupations and lower-paid sectors as obstacles facing women's equal participation in the economy.

Although encouraging and increasing women's participation in the economy would serve their greater benefit, many obstacles remain and need to be overcome. Gender inequality and gender segregation of work advantage men (Blackburn & Jarman, 2006). The occupations traditionally filled by women pay less than the ones filled by men (Cohen & Huffman, 2003; de Ruijter & Huffman, 2003; England et al., 1994). In regard to the gig economy, a study by Cook et al. (2018) titled *The Gender Earnings Gap in the Gig Economy: Evidence from over a million rideshare drivers* demonstrates the gender gap in the sharing-economy model of private mobility. Although the wage gap between women and men has decreased during the last forty years (Blau and Kahn 2017), it still exists due to the fewer hours worked and weaker continuity of labor market participation by women (Bernard et al. 2010). Cook et al. (2020) claim that gig work can be beneficial to women and narrow down the gender-based wage gap as it is more flexible than other types of employment. According to a report by Hyperwallet (2017), 86% of female gig workers believe that they get paid the same as their male co-workers. However, the study finds that men earn 7% more per hour than women on average. This earning difference is easy to see in Table 1. According to the statistics presented by Cook et al. (2018) below, the number of female drivers is less than half of the number of male drivers in the US, 512,185 female drivers compared to 1,361,289 male drivers. The difference in the number of Uber trips they drive is also significant.

	All	Men	Women
Weekly earnings	\$376.38	\$397.68	\$268.18
Hourly earnings	\$21.07	\$21.28	\$20.04
Hours per week	17.06	17.98	12.82
Trips per week	29.83	31.52	21.83
6-month attrition rate	68.1%	65.0%	76.5%
Number of drivers	1,873,474	1,361,289	512,185
Number of driver/weeks	24,832,168	20,210,399	4,621,760
Number of Uber trips	740,627,707	646,965,269	93,662,438

Table 1¹ Basic summary statistics, all UberX and UberPool US drivers²

The data in this table is from 2017, while this study’s empirical research took place in 2020 and 2021. Nevertheless, it shows a \$1.04 hourly earning difference between female and male drivers in the US.

¹ Source: Cook et al., 2018. Values are based on all UberX/UberPool driver-weeks in the US from January 2015 - March 2017. The percentage of female drivers varies across the city; to mitigate composition effects, we weight averages at the city level by a total number of drivers in a city, rather than by the number of males (or female) drivers. The 6-month attrition rate is defined as the percent of drivers who are no longer active 26 weeks after their first trip. We consider drivers to be active on a given date if they complete another trip within another 26 weeks of that date. For calculating attrition rate, we subset drivers who completed their first trip between Jan 2015 and March 2016 allow us to fully observe whether they are inactive, per the definition above, 26 weeks after joining.

² The “all US drivers” included in Cook et al.’s paper cover drivers who have completed a trip for Uber’s “peer-to-peer services,” UberX and UberPool in the US from January 2015 to March 2017.

2.2. Differences between sharing economy models and traditional economy models in transportation

The sharing economy is a broad umbrella term that covers different systems and subfields (Frenken, 2017). The peer-to-peer (P2P) economy and the collaborative economy are also other names given to the sharing economy (Malone, 2015). According to Bocker (2017), internet-facilitated platforms have been established in different sectors to allow people to share their underutilized assets. One of the new concepts that the sharing economy has offered is “stranger sharing.” People used to refrain from sharing with strangers in the past. However, the sharing platforms have been building trust among their users and producers through commenting, rating, tracking ways, and linking people (Frenken, 2017). Nevertheless, some literature also shows that the trust issue is an obstacle facing the sharing economy models (Dillahunt et al., 2016). There is a lack of consensus among different studies on this topic.

Schmidt (2017) provides a broad categorization of digital labor work that covers the gig work and ride-hailing sector as well. His taxonomy divides digital labor into two major types: if the task can be done remotely via the internet, then it is cloud work, and if the task can be done only at a specific location, then it is gig work. The following are the six basic types of digital labor according to the study.

Cloud work (web-based digital labor)

1. Freelance marketplaces
2. Micro tasking crowd work
3. Contest-based creative crowd work

Gig work (location-based digital labor)

4. Accommodation
5. Transportation and delivery services
6. Household services and personal services

Schmidt (2017) states that the order of the above list is chronological, from emergence to success, and the last three categories are more recent and require more research. According to Schmidt, gig work in transportation and delivery services, alongside the other types of digital labor work, is flexible, lean, and cost-efficient.

2.3. Location-based gig work and transportation and delivery services

Although the communication and facilitation of gig work occur online through smartphones and GPS trackers, the location-based work requires the worker to be at specific places based on-demand (Schmidt, 2016). Ride-hailing systems match available drivers and riders for the trips and make it possible to transfer money online through new media tools, the internet, and a GPS connection. Uber, the leader of the sector, started in 2008 during a period of economic crises. Today, the company's worth is about \$2.2 billion (Business Wire, 2020) According to Schmidt (2016), in the beginning, Uber promised to pay drivers at least \$40 per hour. However, with the increase in the number of drivers, earning this amount is no longer possible for most. Since the gig work takes place in-person physically, it also involves the risk of occupational accidents, traffic accidents, theft, and damage to property more than cloud work (Roherback, 2016). Also, in the context of the global pandemic, the risk of spreading the COVID-19 has been increased. The ride-hailing gig work carries the risk of a car accident for the drivers without proper health insurance.

Schimidit (2017) uses a model to break down the categories of digital labor markets in the platform economy. Uber and Lyft are under the category of transportation which is a task given to selected individuals as a gig work and as a service. According to him the term “platform economy” explains the shared economy model the best; this refers to a business model that relies on private individuals, who as independent contractors carry out small jobs in their free time; a labor pool that can be hired and fired at any time. This new digital labor market, Schmidt states, claims to be flexible and cost-efficient for the users and producers. However, despite the benefits of the sharing economy models, there also are disadvantages with this model. The literature says it degrades labor, exacerbates inequality, and commodifies daily life (Schor, 2016). Scholars continue to debate the benefits and harm of sharing economies.

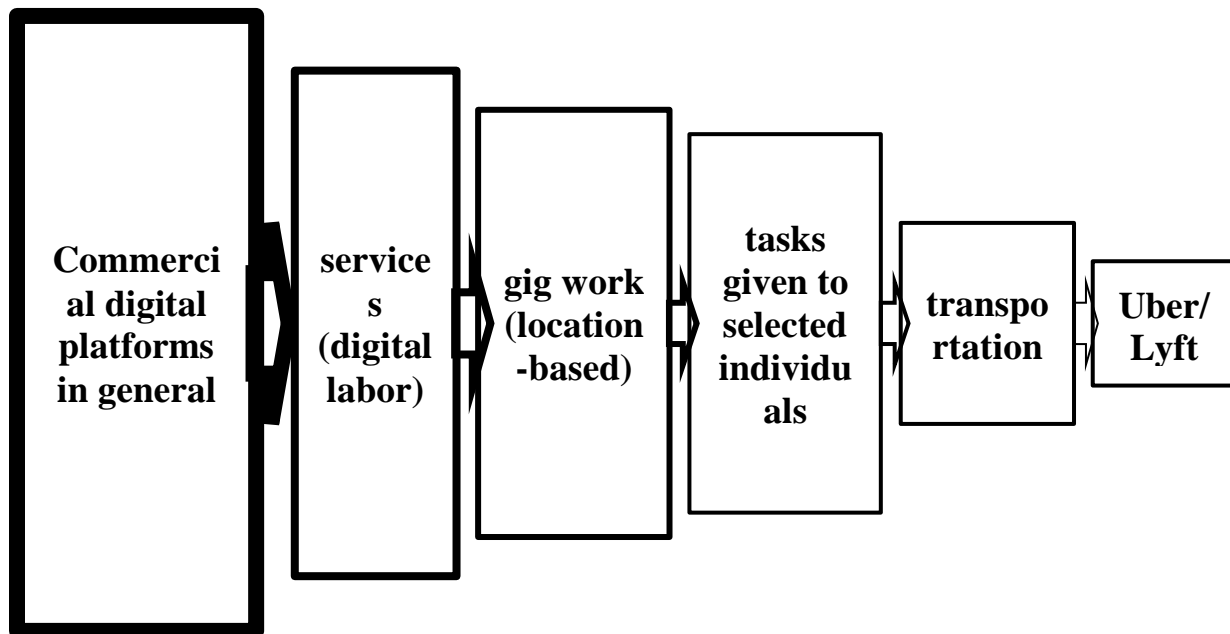


Figure 1 Breakdown of digital market categories in the platform economy

The advantages and disadvantages of sharing economies go hand-in-hand because it has dramatically changed the traditional economic models and regulations. The development of technology and application-based models change the nature of work. However, that change is also

determined by the social, political, and business choices we make. The digitizing of value-creating human activities is at the core of platform economies (Kenney & Zysman, 2016).

2.4. A gray area of legal regulations over the sharing economy in California

The up-and-rising sharing economy models have been disrupting already existing industries around the world. According to Crespo (2016), the legal system has not been established to regulate a technology-driven shared environment. That is why the regulators in some cities and countries have resisted the concept of “ride-hailing,” resulting in a legal gray area in contrast to the highly regulated taxi industry. This gray realm creates obstacles for those who want to get into already regulated traditional markets with technology-based innovations. For the coexistence of ride-hailing systems and taxis, there is a need for new or modified regulations (Crespo, 2016). Societies evolve constantly, and it is in the interest of the people, governments, and businesses to have inclusive regulations instead of entry control or price-fixing (Posen, 2015).

In 2020, the California Public Utilities Commission regulated the Transport Network Companies and announced that the ride-hailing drivers would be considered employees under Assembly Bill-5 (AB5). This regulation started a new era for Uber and Lyft in California. AB5 aims to prevent the misclassification of workers and employees. The Bill has an ABC test to define and decide the worker’s classification based on three indicators:

A. Is the worker free from control and direction by the hiring company?

B. Does the worker perform work outside the usual course of business of the hiring entity? And

C. Is the worker independently established in that trade, occupation, or business?

If a worker does not fit into these three categories, AB5 classifies this person as an employee. This classification gives the employee fundamental rights such as minimum wage and overtime protections, paid sick days, workers' compensation benefits, and unemployment insurance benefits. On the contrary, a worker is responsible for paying his/her financial responsibilities like taxes and insurance obligations. At the same time, AB5 gives the employer the obligation to pay his/her fair share of state workers' compensation insurance, unemployment insurance taxes, Medicare, and social security payments. So far, the sharing economy models have enjoyed their gray areas in the legal realm that let them avoid these obligations. With AB5, ride-hail business owners will have to spend more money on their soon-to-be employees, which might decrease the numbers of employees they can afford. (McNicholas & Poydock 2019).

In November 2020, Proposition 22 was on the California ballot. This Proposition was under the Business Regulations and Labor and Unions. The Ballot title was the following: "Exempts App-Based Transportation and Delivery Companies from Providing Employee Benefits to Certain Drivers. Initiative Statute" The meaning of the votes corresponded to:

A "yes" vote supports this ballot initiative to define app-based transportation (rideshare) and delivery drivers as independent contractors and adopt labor and wage policies specific to app-based drivers and companies.

A "no" vote opposes this ballot initiative, meaning California Assembly Bill 5 (2019) could be used to decide whether app-based drivers are employees or independent contractors.

According to the *Los Angeles Times*, transportation and delivery companies spent millions of dollars on Proposition 22 propaganda (Skelton, 2020). Uber was the leader with \$52 million in donations, followed by Lyft with \$49 million, and DoorDash with \$48 million ahead of Instacart with \$28 million by October 2020. The Californians approved Proposition 22 with 58.6% of the vote. The passage of the proposition means that gig workers will not be considered employees based on regulations but rather as independent contractors (ABC7.com, 2020). As of 2021, the regulations over gig work in California still require further discussion and research. The following table shows the difference between the labor standards of sharing economy employees under AB5 and gig workers under the Proposition 22 ballot initiative. AB5 includes minimum wage, overtime pay, unemployment insurance, worker' compensation, paid sick days, paid family leave, discrimination protection, unlike Prop22; the only standard they have in common is sexual harassment protections.

On the 20th of August 2021 a California judge overturned Proposition 22, ruling it unconstitutional. Uber, Lyft, DoorDash, and Instacart, cannot classify their gig workers as independent contractors. They must be considered employees. The decision was the outcome of a lawsuit brought by the Service Employees International Union (SEIU) in January 2021 (LeBlanc, 2021). Nevertheless, it is highly likely that an appeal request will come from Prop22 defenders soon. Thus, it is hard to give a finalized picture of AB5 and Proposition 22 ruling. (Nixon, 2021).

Labor standard	As employees under AB5	As exempted gig workers under the ballot initiative
Minimum wage	√	X*

Overtime pays	√	X
Unemployment insurance	√	X
Workers' compensation	√	X
Paid sick days	√	X
Paid family leave	√	X
Discrimination and sexual harassment protections	√	√
Right to join a union.	X	X

Table 2³ Comparing worker rights under AB5 and proposed gig worker ballot initiative⁴

2.5. Female ride-hail drivers

Gig economies allow workers to work independently and flexibly. According to the literature, these aspects of sharing economies favor women (Cook et al., 2018). The study by Cook et al. (2018) starts by assuming that the flexibility of gig work welcomes women onboard. They convey a study result from Hyperwallet (2017) and claim that 86% of female gig workers have the idea that they can get equal payment with their male co-workers in the gig sector. They suggest that, however, the gender pay gap remains in this model as well. They explain the job-flexibility penalty as the large potential of easy substitution of work across workers. Due to the increase of gig work, the job-flexibility penalty in gender wage inequality can weaken. Also, Cook et al. explain the gender pay gap with the returns of hours worked. Gallen (2015) describes the relatively less productivity of mothers compared to other women and men due to the hours they can give

³ Source: A.B. 5, 2019–20 Assembly., Reg. Sess. (Cal. 2019); Nielsen Merksamer LLP. 2019. Memorandum, Request for Title and Summary for Proposed Initiative Statute: Section 1, Chapter 10.5, App-Based Drivers, and Services. Received by California Attorney General Xavier Becerra's Office, October 29, 2019

⁴ The UC Berkeley Labor Center estimates that loopholes in the initiative leave Uber and Lyft drivers with a pay guarantee equivalent to a wage of \$5.64 per hour, far less than the 120% earnings guarantee provided by the initiative. See Ken Jacobs and Michael Reich, "The Uber/Lyft Ballot Initiative Guarantees only \$5.64 an Hour," UC Berkeley Labor Center Blog, October 31, 2019.

based on an analysis of a broad sample of Danish workers. According to Cook et al., the gender gap in earnings from gig work, which is 7%, is the outcome of three reasons: experience with the platform, preferences for work, and preferences for driving speed (2018). Same study suggests that women do not have as much experience as men in driving professionally. Also, women tend to drive near where they live due to safety or family concerns. These limitations cause women to miss the higher-paying rides that men can take. These factors also help to explain why men, on average, have a higher level of experience, better ranking, and more positive comments on their Uber driver profiles than women, leading to higher income. Lastly, male drivers tend to drive at higher speeds than women drivers, which increases their productivity and revenue (Cook et al., 2018). The study correlates preferences of time, location and driving speed to gender.

Based on the statistics, the percentage of women drivers in the US is higher in ride-hailing systems than in taxis (Brown, 2016), as mentioned earlier. Although it is a possibility that the flexibility of gig work could allow women to balance between their gender-based domestic roles and sharing economy work, it does not mean that gig work will necessarily close the gender gap in occupation and pay.

The travel behavior of women is a topic many feminist researchers have studied. The mobility and safety of female riders has received more scholarly attention than the female drivers, particularly ride-hailing drivers. Loukaitou-Sideris (2016) categorizes the movement restriction faced by women as an outcome of social power relations. She identifies four types of mobility barriers faced by women: cultural, economic, psychological, and physical. Gender discrimination and assigned gender-based roles shape the status of women in both private and public spaces. For

instance, Wei-Shiuen and Acker (2018) explain gendered urban travel behavior based on gendered division of work and housework. According to them, women who have multiple tasks at home related to their families tend to commute shorter distances and undertake chain trips, for non-work trips during off-peak hours. Thus, the transportation needs of women and men are different from each other (Loukaitou-Sideris, 2014). At this point, the increasing entrance of females in the driving sector labor force indicates a further need for extensive scholarly research.

2.6. Women-only ride-hailing systems

The safety concerns and mobility of women in cities are topics that have received the attention of ride-hailing companies. As a result, some ride-hailing platforms have launched women-only services. The ride-hailing service users, both riders and drivers, are women in such services. Female users with safety concerns prefer to have the chance of knowing that they will match with only other women for rides due to the driver and rider pool exclusivity. Tang et al., (2021) calls the women-only ride-hailing systems "pooling systems," and the mixed-gender systems "hybrid systems." According to their research, the safety-concerned female users prefer pooling systems over hybrid systems. SheTaxis, Safr, and Chariot in the US, SheCabs in India, and She'Kab in Pakistan are among the examples of these women-only ride-hailing systems.

Women-only ride-hailing systems are not the first gender-based segregated transportation examples. Mexico City, for instance, is a city where nine out of ten women were victims of sexual violence on public transit during 2019 (Reeder, 2020). Pink public transit is one of the rare approaches of the Mexico City government to promote public transportation ridership and increase safety among female city-dwellers. In this system, there are specific vehicles and train wagons for only women and children. Yet, there is also criticism against gender-based segregation in public

transportation. For example, Amy Dunckel-Graglia says, in her article called “Women-Only Transportation: How “Pink” Public Transportation Changes Public Perception of Women’s Mobility,” that if men were educated in gender equality and problems of sexual harassment, the women would not need “pink” public transportation. Safr, one example of such systems, faced a lawsuit for segregating people and denying service to people based on gender (Kunkle, 2019). Many counter arguments have followed gender-based segregated public transportation systems. For example, Sonal Shah (2019), a transportation specialist, says, “Sex segregation should not be the default response to harassment in public transport, as it does not foster behavioral change.” Nevertheless, these women-only transportation systems target the female rider’s safety more than drivers. Thus, the driver’s safety in transportation remains mostly unaddressed.

Whether on public transportation or in ride-hailing systems, and whether in the US or around the globe, the safety concerns of female transportation riders and drivers remain a planning and policy problem that requires attention.

3. Methodology & Data

This thesis poses the following research questions; 1) why do women become ride-hailing drivers? 2) Are the ride-hailing systems redefining the gendered nature of the driving occupation that is traditionally male-dominated? 3) What challenges do women ride-hailing drivers face? and 4) how are these challenges different from those faced by men? The research focuses on women as drivers in the ride-hailing sector. Although the target of the study is women drivers, I use the male drivers' experience as a reference point to highlight gender-based differences.

The thesis draws on data from an online survey and from in-depth interviews conducted with ride-hailing drivers working in Los Angeles, San Francisco, and San Diego. The dataset is not a random sample of ride-hail drivers in these three cities. However, it aims to paint a descriptive presentation of this particular labor group. Initially, 576 people took the survey. However, I eliminated those responses which did not indicate if the respondents were current or former ride-hailing drivers. In total, the cleaned survey included 418 current or former ride-hailing drivers working in LA; additionally, 20 people agreed to be interviewed. The gender distribution of the online survey was as follows: 240 male, 160 female, and 18 people who preferred not to indicate their gender. The interviews included ten male and ten female ride-hailing drivers. The interviews took approximately an hour each, and participants received \$50 in exchange for their time. Due to COVID-19 restrictions, I conducted the interviews remotely. I used Zoom for video calls or cell phones for regular voice calls with the interviewees, based on their preference. I used social media pages and e-mails to distribute the research announcement.

I collected my original dataset between February and May 2021. The primary method of reaching out to potential participants was through social media pages, including Facebook and Twitter. In addition, I regularly posted my recruitment announcement on ride-hailing pages and accounts. The participants first filled out an online survey. At the end of the survey, I asked them if they would participate in a follow-up one-hour interview for which they would receive \$50 for their time. The Lewis Center for Regional Policy Studies provided the funds for the incentives. The participants who agreed to participate in an interview left their preferred way of communication. I reached out to them with details and set a date to meet online for the interview.

Before the global COVID-19 pandemic, the initial plan was to also use in-person methods, such as observation and field notes. However, I did not conduct observations or take field notes during ride-hailing rides because of COVID-19 safety measures. Thus, the sole way of data collection was online. The introduction of both survey and interviews included the consent script for the study and requested participants to indicate if they were current or former ride-hailing drivers working in Los Angeles. Interviews also included one ride-hailing driver working in San Francisco and another one in San Diego.

To analyze the interview data, I transcribed the interviews by hand and uploaded them to a qualitative research analysis software called Atlas.ti to code. I used the content analysis technique to interpret the data. The transcription and coding processes followed the end of the interviews. I divided the survey data set into two different Microsoft Excel documents, one for female and the other for male participant responses. Then, I ran t-tests and chi-square tests based on the data type I had in hand for each question. I also created graphs and tables to visualize my data.

4. Findings & Discussion

The different lifestyles and needs of each driver resulted in tremendous diversity in the ride-hailing driver experience. Imagine a single white man compared to a woman of color who is looking after her family. Ride-hailing, as a profession, does not provide individuals with an evolving career path. Ride-hailing companies lower the driver's profit rate per ride on an irregular basis. Thus, a driver who has a one-year seniority might end up earning less income in comparison to the previous year. Unlike other professions, this gig work allows people to earn less and less in time. Different portraits of interviews gave the many shades of one color: the lack of regulations and fairness in ride-hailing. Regardless of their characteristics and demographics they all suffer due to the lack of regulations.

Gendered occupations reproduce socially constructed gender roles. For instance, the nursery and early childcare sectors are heavily dominated by women. Participation of men in the nursery is so rare that it even became a paper topic. Claire Cameron published a paper in 2007 called "Men in the Nursery Revisited: issues of male workers and professionalism" in *Contemporary Issues in Early Childhood*. Also, driving as an occupation is heavily dominated by male workers. Although the ride-hailing systems have more female drivers than those in the taxi industry, the difference between the numbers of male versus female drivers is still considerably high. Thus, the survey demographics do not have an equal gender distribution. To reflect the unequal gender distribution in the sector, I did not equalize the number of male and female participants in the survey responses. The clean dataset had 60% male drivers and 40% female drivers. Also, 18 people did not indicate their gender. Figure 2 depicts the gender distribution of survey participants.

How do you define your sex?

Figure 2

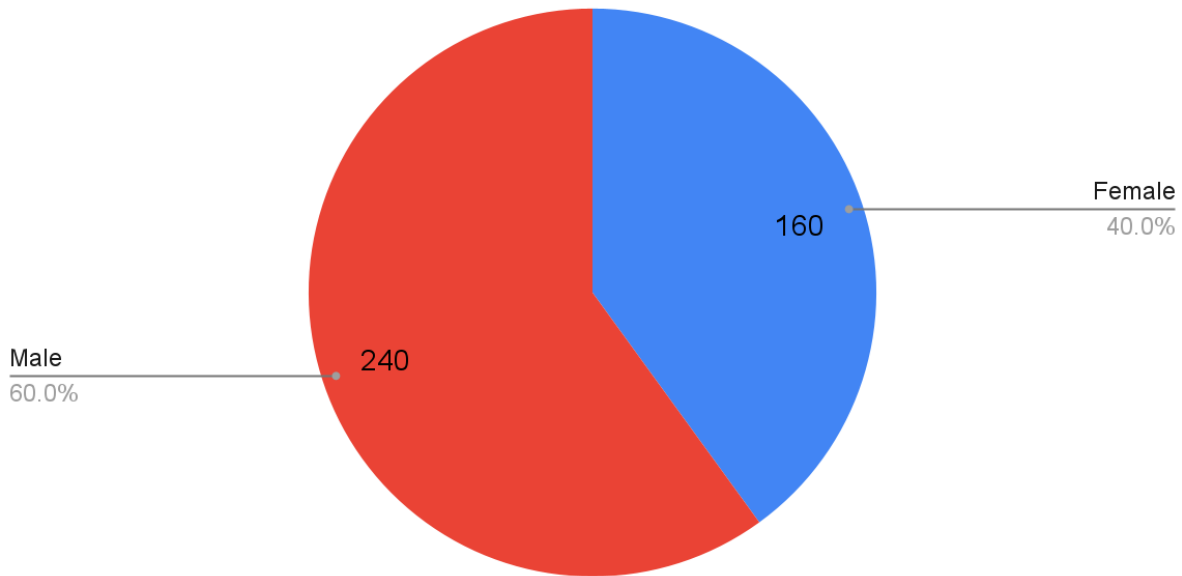


Figure 2 Research participants' gender distribution

The following table shows age, education, and family characteristics of female and male interviewees. The two groups were quite similar to each along these characteristics. I ran chi-square tests for the participants' characteristics with categorical variables, and the results at $p < .05$ were not significantly different.

	Women (N=160)	Men (N=240)
Majority of them are married or living with a partner	71.9% (115 participants)	75.6% (180 participants)
Majority of them have children they are taking care of	79.4% (127 participants)	73.6% (176 participants)
Education level of the majority is undergraduate	53.1% (85 participants)	51.7% (124 participants)

Age range of the majority is 25-34	49.4% (79 participants)	46.9% (112 participants)
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Table 3 Characteristics of research participants

4.1. Difference Between Genders: Harassment Fear and Safety Concerns

Regarding gender-based differences in the ride-hailing sector, safety concerns, specifically sexual harassment experiences, were significantly more present among women drivers and repeatedly discussed in in the interviews. The intersection of gender-based safety and transportation has received significant attention by scholars. Ride-hailing systems are not an exception. One should note that both male and female participants reported that they have experienced sexual harassment while driving for ride-hailing systems. However, the approaches of female and male drivers toward safety and sexual harassment concerns were different from each other.

The question if they have been sexually harassed, insulted, or attacked, was answered by 396 participants. A majority of drivers had experienced sexual harassment. Out of 157 female drivers, 91 reported that they had been sexually harassed working as drivers; 127 drivers out of 239 for male drivers reported the same. Although the figure below shows that most drivers, unfortunately, have experienced sexual harassment while working, it is impossible to see a significant difference between genders based on frequencies. Figure 3 shows the percentages of drivers who got sexually harassed while driving.

Have you ever been sexually harassed, insulted, or attacked working as a ride-hailing driver?

Figure 3

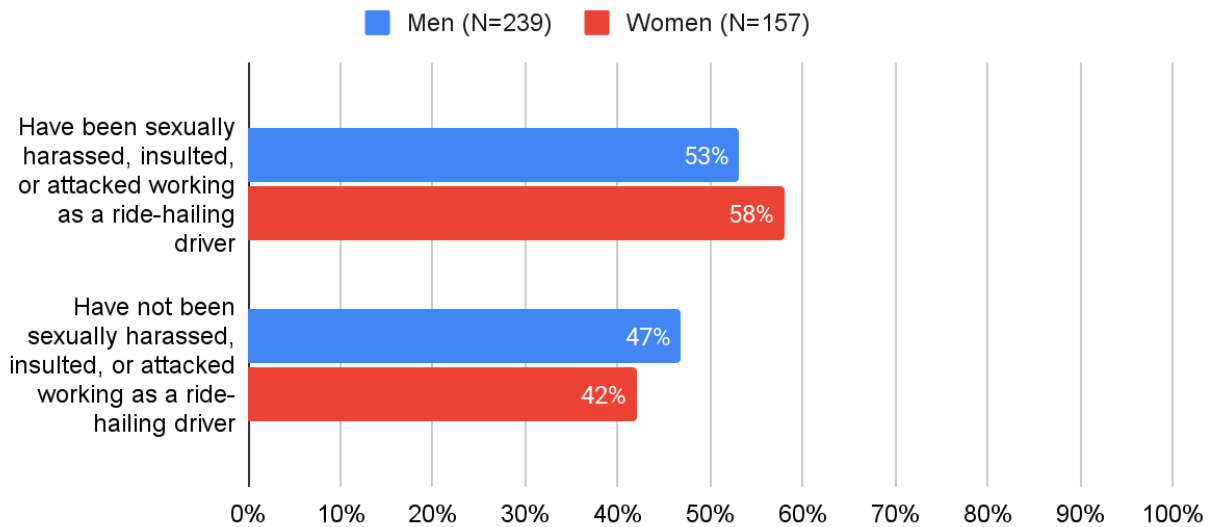


Figure 3 Sexual harassment experience of research participants

I ran a chi-square test of independence to examine the relationship between gender and sexual harassment experience, finding that the relation between gender and getting sexually harassed was not significant. The chi-square statistic was 0.891 and the p-value was .345206. Thus, the result was not significant at $p < .05$.

Have you been sexually harassed, insulted, or attacked working as a ride-hailing driver?	Yes	No	Row Totals
Women	91	66	157
Men	127	112	239
Column Totals	218	178	396

The chi-square statistic is 0.891. The p-value is .345206. The result is not significant at $p < .05$.

Equation 1 Chi-square test for sexual harassment experience of survey participants

According to these survey results, ride-hailing drivers get sexually harassed regardless of their genders. Based on the individuals' self-reporting, there is no significant difference between men and women in getting sexually harassed, insulted, or attacked while working as a ride-hailing driver in Los Angeles. Yet, while male and female drivers are exposed to comparable levels of sexual harassment and attack, is their fear also similar?

Participants responded to a Likert-scale question asking them to measure their level of fear about getting sexually harassed, insulted, or attacked while working as ride-hailing drivers.

Fear level of drivers getting sexually harassed, insulted, or attacked while working as ride-hailing drivers

Figure 4

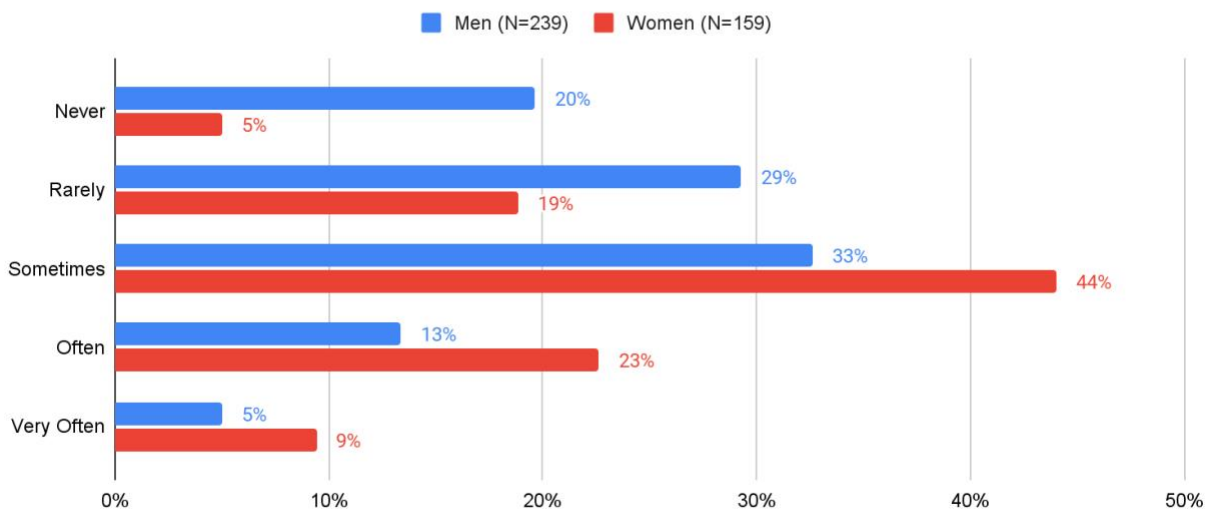


Figure 4 Research participants' fear level of getting sexually harassed, insulted, or attacked while working as ride-hailing drivers

However, as the sample sizes of female and male drivers were not equal, this descriptive chart showing the distribution of participants is not enough to interpret the significance of the difference between them. Therefore, I ran another chi-square test to compare the difference in the fear level between male and female drivers in this context. In order to simplify the chi-square test, I combined the answers of "never and rarely" as one group, "often and very often" answers as another group.

<i>Are you afraid of getting sexually harassed while driving?</i>	Never/Rarely	Sometimes	Often/Very Often	<i>Row Totals</i>
Women	38	70	51	159
Men	117	78	44	239
<i>Column Totals</i>	155	148	95	393

The chi-square statistic is 26.1905. The p-value is 0.00001. The result is significant at $p < .05$

Equation 2 Chi-square test for research participants' fear level of getting sexual harassment

The relation between gender and fear level of getting sexually harassed was significant. This result means that gender is a dependent variable in the level of sexual harassment fear. To calculate the statistical difference between female and male drivers' fear of getting sexually harassed while driving, I also ran an unpaired t-test. In order to make this calculation, I gave numbers to every Likert-scale answer. In this test, never was 1, rarely was 2, sometimes was 3, often was 4, and very often was 5. Based on the test result, the mean women's fear score was 3.13, and men's was 2.54. The results show that at 5.35 t-value, the p-value is $<.00001$ and extremely statistically significant. The details are as follows.

Women	Men
$N: 159$ $df = N - 1 = 159 - 1 = 158$ $M1: 3.13$ $SS1: 155.48$ $s21 = SS1/(N - 1) = 155.48/(159-1) = 0.98$	$N2: 239$ $df2 = N - 1 = 239 - 1 = 238$ $M2: 2.54$ $SS2: 291.29$ $s22 = SS2/(N - 1) = 291.29/(239-1) = 1.22$

T-value Calculation
$s2p = ((df1 / (df1 + df2)) * s21) + ((df2 / (df2 + df2)) * s22) =$ $((158/396) * 0.98) + ((238/396) * 1.22) = 1.13$ $s2M1 = s2p/N1 = 1.13/159 = 0.01$ $s2M2 = s2p/N2 = 1.13/239 = 0$ $t = (M1 - M2) / \sqrt{(s2M1 + s2M2)} = 0.58 / \sqrt{0.01} = 5.35$
<p>The t-value is 5.35271. The p-value is $< .00001$. The result is significant at $p < .05$.</p>

Equation 3 T- test for research participants' fear level of getting sexual harassment

Overall, the survey results and the chi-square tests reveal that while there is no statistical difference between male and female drivers in getting sexually harassed or attacked while driving, women drivers are more fearful about being harassed or attacked. It should be noted that studies break down the types of sexual harassment into three categories of verbal, physical, and nonverbal/nonphysical harassment. For instance, a study conducted by Loukaitou-Sideris and Ceccato (2021) indicates that 11,710 college students from 18 cities in six different continents reported different sexual harassment exposure in public transportation systems. Although the participants of this study were the riders, not drivers, the difference between women, men, and the LGBTQI community in their sexual harassment experiences was more significant than those found in this study. For instance, in Los Angeles, 79% of females reported being exposed to at least one

type of harassment behavior in the bus system, while 60% of them said the same for the rail system. These percentages were 46% for men in the bus system and 34% in the rail system. My study, unlike other studies, found closer rates between male and female drivers who experienced sexual harassment while working and existing in this particular transportation context, based on the individual's personal interpretation of sexual harassment. This may be the case because my survey did not ask only about sexual harassment but asked drivers if they had been sexually harassed, insulted or attacked while driving. Also, the literature uses the transportation riders as a sample to explain sexual harassment problem in transit more than the drivers. My study focuses on female drivers rather than the riders.

Despite the similar experiences in the sexual harassment or attack history of drivers, there is a significant difference between women and men's fear levels of getting sexually harassed. Reasons behind these different levels of fear arise from the differences between genders in this labor force. US Equal Employment Opportunity Commission defines sexual harassment as unwelcome sexual advances, requests for sexual favors, and other verbal or physical harassment of a sexual nature. The range can vary from unwelcome sexual comments to physical harassment beyond the victim's consent. This study did not categorize different sexual harassment types. Instead, it asked every participant if they have ever experienced anything they considered as sexual harassment while they are driving. However, the interviews revealed similar experiences of both male and female drivers. I heard both genders saying that they had primarily been sexually harassed either verbally or physically.

As another example of driver negligence, one should talk about the Industry Sharing Safety Program initiative that Uber and Lyft started in the US. In March 2021, these leading ride-hailing companies announced that they would be disclosing information about the drivers and delivery people who got deactivated on these platforms due to safety incidents, including sexual assaults and physical assaults (businesswire.com). This first-of-its-kind initiative to share these companies' internal data, however, does not include the riders who assault drivers sexually or physically. It only aims to ban drivers who assault their riders when the company has a record of harassment. Also, each of these companies decides how to handle specific cases of harassment by themselves within their internal policies. While the studies or the initiatives focus on the riders' side of transportation safety, it is challenging to compare different studies in this specific field.

Women interview participants expressed more fear toward the possibility of getting harassed while driving. Many male drivers had the idea that they could defend themselves against such incidents. Unlike the more confident male drivers, women drivers were more inclined to think they are at a higher risk. In the women's opinion, neither themselves nor the ride-hailing companies can defend them when they face personal safety hazards.

4.1.1. Sexual Harassment and Ride-hailing Drivers

Since driving is a traditionally male-dominant occupation, female drivers are also experiencing similar gender-based obstacles to overcome in ride-hailing systems. The traditional sexist system in the driving sector makes it harder to close the gender gap in this labor force. One of my interviewees, J. is a single, white male who lives in Orange County but prefers to drive in Los Angeles. He was one of the interviewees that conveyed the most pleasure about his job in ride-

hailing. He repeatedly said that he does not have any safety concerns, whether sexual or racial while driving.

“I am a big, white fella. So, nobody messes with me. But I would not do this job in unsafe cities. The way I do it, working only in the daytime is, I think, the safest job you can have. But for minorities and women, I hear, they do not have it as easy. Because certain kinds of people are hostile.

Since J. is single, he does not have the responsibility of any other family member. He works only for himself and lives his life in the way he desires. Many drivers mentioned "flexibility" as one of their primary reasons to step into this business. Most of them cannot work for a 9 to 5 job because of various reasons or because they face hardship to find one. Thus, the flexibility of the work schedule gives them the freedom that other traditional occupations cannot offer. The ride-hailing portrait coming out of J.'s comments is positive. He is one of the few drivers I talked with who finds time for activities he enjoys.

"Now, if I want to do something like catching a baseball game, I would start two hours early, then catch a Dodger game, and then after the game, I would work a little bit more. So, I live my life with Uber. I am not too demanding. I do not have a family, and I live alone. Every now and then, I have a cousin and drive to him and stay there for the weekend, and to do that, I work a little extra on another day and take that day off. That is the absolute freedom in it. That is positive. When you want to come and go, you come and go and be your own boss. That is why I love it."

It should be noted that J. is a white, single male who considers himself physically big and strong. Also, he does not have the responsibility of a family to take care of. Thus, J. is not afraid of getting harassed while trying to make a decent income for his household, and he does not reveal any fear. However, other male drivers had different experiences in job and life quality which touch upon harassment and fear.

D. is a single father and a ride-hailing driver working in Los Angeles. He conveys his experience and safety concerns from a different perspective. He does not express a fear of assault. Just like J., D. also highlights that he is a physically big man in response to the question if he has any safety concerns, while driving.

"I definitely have heard stories of women drivers where people sexually assaulted them. I was sexually assaulted as a male driver. So, I can imagine women getting assaulted by men and women. A guy driving next to me grabbed my private parts. I had a woman who did the same from behind. So, I'm a man who is 6' 2" I can only imagine what happens to the woman. I never want my daughter out there driving for riding-hailing or any child. Because it is a dangerous job, there are a lot of safety concerns with this job."

Unlike J., a single man who does not have a daughter, D. looks at the safety issues from a different point of view. He claims that ride-hailing is the safest job one can ask for if a driver drives during daytime, while acknowledging that it is not the same experience for minorities and women. However, D. initially states that it is not a safe job. As another male driver who feels confident

about his gender identity and size while working, D. can empathize with women and children more because he has a daughter.

On the other hand, S., who also happens to be a single father of a daughter and a son, is a bodybuilder and trying to switch his professional path from driving for a ride-hail company to being a personal trainer at a gym. He describes himself as a physically strong person and does not reveal any signs of fear of getting harassed while driving. He continues to define himself as follows:

“I grew up in LA when there was a lot of gang violence. I am a very street guy. Even if it is dangerous, I know how to have my way around. It is still dangerous, but I have been to those dangerous places where people do not want to go, whether day or night. I grew up in LA, and I know my way around. I know how to talk to people on the street. There was a time I knew it was not a safe place. I went there anyway, but then the passenger wanted me to wait six minutes. I am not waiting six minutes in a dark street, in a bad area, I said, “if you are not outside, I am leaving” that is one thing you do not do in LA, you do not sit in your car if it is dark and a bad area.”

Picking, or even cherry-picking, the time and space where one will drive changes circumstances in this job. Canceling ride requests from places where a driver does not feel safe or not driving around those neighborhoods is “space-cherry picking.” One should note that cherry-picking the space of driving can be a basis for racism as drivers might not prefer to get rides from locations where minorities heavily dominate. Furthermore, preferring to work during the hours when a driver feels safe, during the daytime, for instance, is “time-cherry picking.” Although J.

repeatedly confessed that he is not afraid of getting harassed, he also admitted that he prefers to work in the daytime to be safe. As a single father who is taking care of two children, S. drives at night and trusts his knowledge of the city and gangs. Nevertheless, driving only during the day, time-cherry picking can be a privilege of a single man who does not have the responsibility of a household and lives alone.

4.1.2. Picking the time of drive; Visibility

Along the way, S. mentions another point relating to primary safety concerns, the lack of visibility and darkness after sunset. Driving when the sun is shining on your car is different from driving when it is hard to see who is waiting outside for a ride while most people are sleeping. G. is a single female who is driving for some extra cash on top of her primary career. As she confesses *"It was 5 in the afternoon. I picked up some people, and they almost raped me, half my age. I got out of it, and I said I would not drive in the evening anymore— no more after six o'clock."*

Driving people after dark is challenging for drivers who have safety concerns. Not having adequate outdoor lighting also means lower visibility and fewer potential witnesses in case of a crime. I asked the survey participants if they are afraid to drive when it is dark. The majority of women said that they were often or very often fearful of driving after dark. The following chart shows the percentages of male and female participants' fear levels of driving after dark.

Are you afraid of driving for ride-hailing after dark?

Figure 5

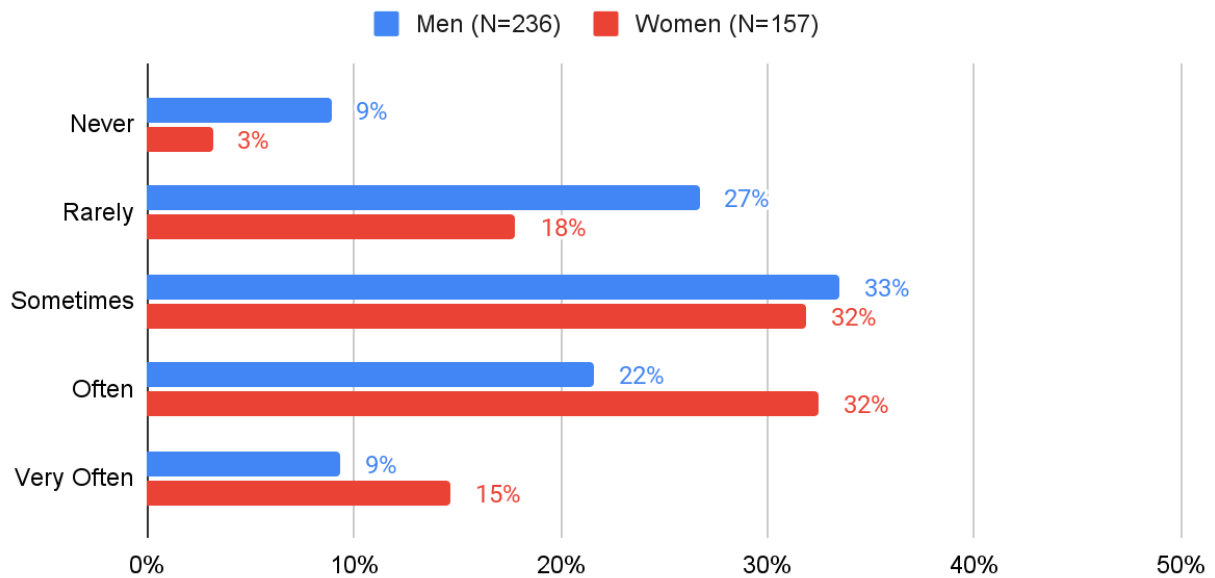


Figure 5 Research participants' fear level of driving after dark

I ran a chi-square test to assess the statistical difference between female and male drivers. For easier interpretation, I combined the Never/Rarely and Often/Very Often answers by leaving the Sometimes answer in the middle alone.

<i>Are you afraid of driving for ride-hailing after dark?</i>	Never/Rarely	Sometimes	Often/Very Often	<i>Row Totals</i>
Women	33	50	74	157
Men	84	79	73	236
<i>Column Totals</i>	117	129	147	393

The chi-square statistic is 13.4188. The p-value is .001219. The result is significant at $p < .05$.

Equation 4 Chi-square test for research participants' fear level of driving after dark

The chi-square test resulted in a p-value equal to .001219. Since the p-value is smaller than .05, the difference between females and males is statistically significant; this means a statistical relationship between being a woman and being afraid of driving after dark. Women tend to be scared of driving in the dark more than men.

To simplify these likert-scale question results, I ran a t-test by giving values from one to five to the answers that vary from never to very often. The result is significant at a 95% confidence interval since the t-value is 3.76642, the p-value is .000191 and $p < .05$. The average dark fear score of women drivers is 3.38, while this score is 2.96 for men. The details of the test are the following.

Women	Men
N1: 157 df1 = N - 1 = 157 - 1 = 156 M1: 3.38 SS1: 168.83 $s21 = SS1/(N - 1) = 168.83/(157-1) = 1.08$	N2: 236 df2 = N - 1 = 236 - 1 = 235 M2: 2.96 SS2: 285.58 $s22 = SS2/(N - 1) = 285.58/(236-1) = 1.22$

T-value Calculation
$s2p = ((df1/(df1 + df2)) * s21) + ((df2/(df2 + df2)) * s22) =$ $((156/391) * 1.08) + ((235/391) * 1.22) = 1.16$ $s2M1 = s2p/N1 = 1.16/157 = 0.01$ $s2M2 = s2p/N2 = 1.16/236 = 0$ $t = (M1 - M2)/\sqrt{(s2M1 + s2M2)} = 0.42/\sqrt{0.01} = 3.77$
The t-value is 3.76642. The p-value is .000191. The result is significant at $p < .05$

Equation 5 T- test for research participants' fear level of driving after dark

In his comments, S. continues by providing examples of when he got sexually harassed. While he does not sound fearful, he also conveys that he did not want to interact with his passengers in an unprofessional way because he was afraid of losing his job, not his safety.

"Yes, I have been sexually harassed. I think a male passenger, early in the morning at 5 or 5.30 on his way to work, was hitting on me very aggressively, very sexually, verbally though not physically. I was like, "Bro, no, do not even try." Then there were a few intoxicated females trying to hit on me. But I would not risk my job that I provide my family with. They were under the influence of some stuff. They would complain about me to Uber and accuse me. I would lose everything. So, that time, I just dropped them off and said, 'good night.'"

Most of the time, male drivers approach the sexual harassment risk of the job from a confident point. Like J., D., or S., male drivers trust that as men, they are physically capable of defending themselves. However, the case is not the same for female drivers. Although not all women expressed high levels of fear of sexual harassment, during the interviews, more women stated that they were afraid of not being able to handle the situation if they ever faced sexual harassment.

4.1.3. Female ride-hailing drivers and learned helplessness

As the survey results and chi-square tests showed, there is no significant difference between men's and women's sexual harassment and attack experiences while they are driving for ride-hailing. However, their fear level of getting sexually harassed is significantly different. Women are afraid of sexual harassment more than men. The male driver participants of the interview revealed that they trust themselves physically and personally. Yet, women do not share

this same confidence. This difference might explain why not more women participate in this job in the first place. Due to the lack of self-confidence and safety concerns, less female gig workers take the ride-hailing as a job.

K. is a single mother who recently moved back to Orange County, California from Colorado. K. left me a note at the end of the survey she had filled out before the interview. The message was as follows;

"There should be more questions about safety for women drivers in particular. I have had too many scary situations with male passengers to count! The situation is like a time bomb. Every day I go out to drive, in the back of my mind, I'm praying that I'm going to make it back home that evening. I have written to Lyft about some very serious, unsafe situations that I have experienced with passengers. But unfortunately, I received a very disingenuous response, and that was that!?"

K. brought up her fear of getting harassed several times throughout the interview. She acknowledged the difference between different races. However, being a woman does not make one feel safe on the streets.

"I know right now there's a lot of serious things going on out there. I've heard of many black, Mexican or Latin American drivers that have been assaulted. I'm sure you've seen the videos online. You know, being white is, I guess, helpful. But, being a girl, it's definitely not helpful. I've had guys that wouldn't get out of the car. They wanted to kiss me. I am not even joking. I physically pulled into the parking lot, shut my car off, and got out of my car to get in a parking lot where

there was a store right there. So, there were witnesses, if anything happened. I've had that happen so many times, where people refuse to get out of the car. Someone had passed out in my car. I couldn't wake them up. You know, going into a very remote dark area and then picking up a male passenger at night is very scary."

Unlike the male participants, K. claims that her gender identity is a weakness in a dangerous situation. She neither has the confidence or belief to defend herself from sexual harassment. As a way of protection, she mentions security cameras that drivers can install inside their cars. As one of the pioneering thinkers in crime sociology, Michel Foucault (translated by Sheridan, 1995) revisits the idea of preventing crime through the threat of violence. According to Foucault, the carceral society controls crimes through surveillance. Citizens' fear of being watched and seen doing something wrong overcomes the threat of laws and regulations to punish (Thompson, 2017). Drivers like K. follow the same thought pattern, and they use dash-cams to record their rides in case of a crime to use as proof. However, K. does not feel confident enough to let her riders know that they are being watched.

"I did buy a dash-cam. I got a really good one. So, I just have to install it. But we've just been, you know, not so good. And I know that's another thing people get upset about. So, I'm almost scared to do that, too. I spent \$150 on it. But it's in my closet right now. Because as a woman, you feel like you have no line of defense. I'm there late at night to pick up passengers, in "not too great" areas. I have pepper spray. I put it in my lap between my legs, make sure it's hidden, so nobody sees it."

Despite knowing what might increase the safety and personal protection for her during a ride, K. is hesitant about a negative reaction from her passengers.

"I'm a female, and I've got these people who have been drinking, and they're in the backseat. I can only ask so many times. You know, I feel uncomfortable and nervous for my safety because they're upset, so I have to stay quiet and deal with them."

Learned helplessness defines the situation of laboratory animals where they do not try to run away anymore because of the repeated punishments they had to face when they attempted to run away previously. This physiological conviction applies to human beings as well. When one gets the same result repeatedly after persistent attempts and failures, they give up trying more (Nuvvula, 2016). K. as a female driver who has experienced multiple unsafe circumstances and has been harassed by her passengers in different contexts feels helpless to install her dash camera or raise her voice again.

Although K. might be an extreme example of a female driver's fear of getting harassed, similar patterns can be observed in other female participants' answers as well. However, one should not miss that cherry-picking time or space is also a strategy used by some drivers in response to their fears. However, some drivers do not have the privilege of choosing the time or space of their work. N. is a mother of two kids, working a full-time white-collar job and driving at night to meet her mortgage payment. N. does not have the privilege to work throughout the day, as she is working for her full-time day job during those hours.

"Safety that Lyft is providing you can't be based on cherry-picking. Why? Because of the first, you don't know who's getting in the car. A lot of times, it is not people who get in the car that set up the ride. But it is their friends. So, it's not even the picture of the person you know getting the car with you. So, you don't actually know who's getting in the car with you. I definitely had some unsafe situations. It was not based on the neighborhood, or you know anything like that. It was just randomly unsafe people that one can pick up. So, you do not know the rider all the time. They shouldn't allow it, but they don't crack down on that stuff."

In this context, cherry-picking rides does not seem to be a working solution. N. drives at night, takes all of her rides, and sometimes experiences unsafe situations. Also, N. does not unveil safety concerns as much as K. or G. With a similar approach, K. also admits that no matter how she tries to be safe, the passengers who take the rides without listing their names, profile picture, or even personal accounts create a gap in the safety of a driver.

4.1.4. Picking the space of drive: The neighbors

Cherry-picking the time, or at the very least being careful about the working hours, is one side of the safety issues. Another part applies to space. While N. says that the unsafety of the situations she has experienced was not related to the neighborhood where she drove, I asked survey participants if they are afraid to drive for ride-hailing in particular regions of Los Angeles.

Are you afraid of driving for ride-hailing in particular regions of LA?

Figure 6

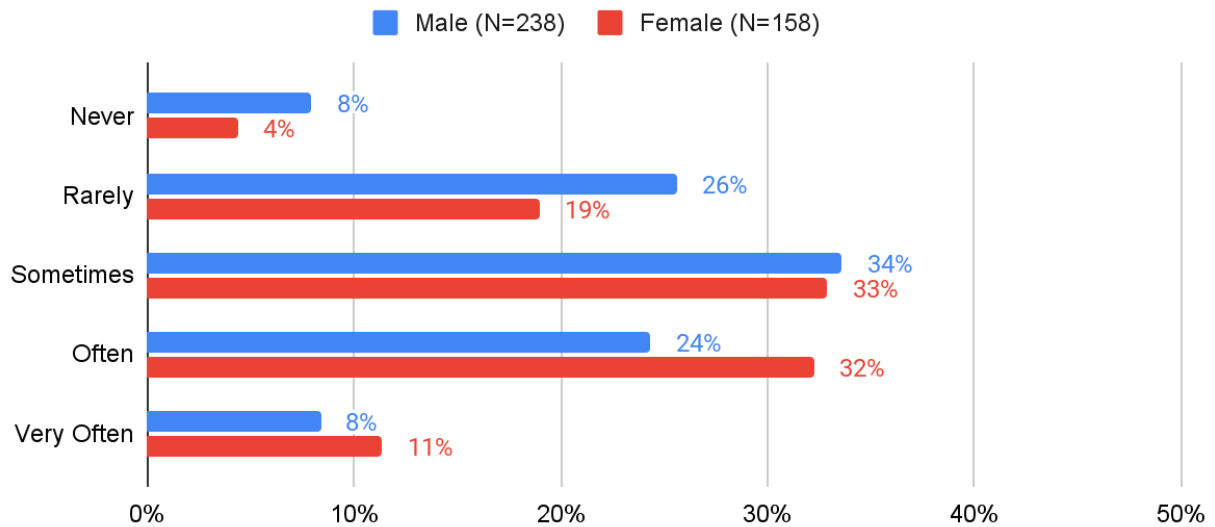


Figure 6 Research participants' fear level of driving in particular regions of LA

The result shows that women are more afraid of driving in particular neighborhoods than men statistically. I did not ask for specific neighborhoods of Los Angeles County where drivers do not prefer to work. Instead, I only asked if they cherry-pick their working space due to safety concerns. This statistical difference between men and women driver's fear of the dark is another point to explain the gender gap in this specific labor market. Women tend to drive only until dark to avoid putting their safety into potential danger.

<i>Are you afraid of driving for ride-hailing in particular regions of LA?</i>	Never/Rarely	Sometimes	Often/Very Often	<i>Row Totals</i>
Women	37	52	69	158
Men	80	80	78	238

<i>Column Totals</i>	117	132	147	396
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The chi-square statistic is 6.3931. The p-value is .040902. The result is significant at $p < .05$.

Equation 6 Chi-square test for research participants' fear level of driving in particular regions of LA

Also, I ran a t-test by giving numbers from one to five to these Likert-scale answers that range from never to very often. The average particular neighborhood fear score of women drivers is 3.27, while this score is 3 for men. The result is significant at a 95% confidence interval since the t-value is 2.53599. The p-value is .011598, and $p < .05$. This t-test also simplifies the results and makes it easier to see the difference between gender. The details of the test are the following.

Women	Men
N1: 158 $df1 = N - 1 = 158 - 1 = 157$ M1: 3.27 SS1: 169.3 $s21 = SS1/(N - 1) = 169.3/(158-1) = 1.08$	N2: 238 $df2 = N - 1 = 238 - 1 = 237$ M2: 3 SS2: 275 $s22 = SS2/(N - 1) = 275/(238-1) = 1.16$

T-value Calculation
$s2p = ((df1/(df1 + df2)) * s21) + ((df2/(df2 + df2)) * s22) =$ $((157/394) * 1.08) + ((237/394) * 1.16) = 1.13$ $s2M1 = s2p/N1 = 1.13/158 = 0.01$ $s2M2 = s2p/N2 = 1.13/238 = 0$ $t = (M1 - M2)/\sqrt{(s2M1 + s2M2)} = 0.28/\sqrt{0.01} = 2.54$
The t-value is 2.53599. The p-value is .011598. The result is significant at $p < .05$.

Equation 7 T-test for research participants' fear level of driving in particular regions of LA

Nevertheless, some women feel safer and are thinking that they can defend themselves in an unwanted situation. L. is another single mother who is driving for ride-hailing. She tells a story about how one of her passengers was harassing and touching her without her consent. She resumes, *"I'm a big chick. I have no problem. I have a loud, boisterous voice. I don't let people mess around with me. So, there are times, though, when I have felt creeped out by people."*

Mostly, the women's fear or confidence relates to their idea of being able to defend themselves or not. Most of the time, women do not consider themselves physically big or strong enough to fight against unpleasant situations. Meanwhile, male drivers, unlike women drivers, feel that they can defend themselves. This attitude difference between men and women explains their different fear of harassment levels.

What are ride-hailing companies doing to protect their drivers? According to K., there are help buttons in the applications for riders. In February 2020, Uber updated its application for riders to add something called "Safety Toolkit." This kit has three options for drivers; "Safety Center" to learn more about safety at Uber, "Share My Trip" to let family and friends see their location and trip status, and lastly, "911 Assistance" (Brown, 2020). Lyft launched the "Emergency Help" feature to let their users silently alert 911 about unsafe rides. Lyft partnered with a security company called American District Telegraph (ADT) for this system. When a rider calls 911 through ADT's design on the Lyft app, they can choose to receive a text or call from ADT, or just to alert 911. However, a driver can only request a call from ADT because the companies believe that the other options would distract the driver (Murphy, 2020). While this system makes sense for riders as the drivers cannot see their phone screen during the trip, it does not apply to the drivers.

A driver's phone is always visible as they follow the map through GPS for rides and keep their phones at places where they can easily see it. For drivers these buttons are too visible to press without showing it to the potentially unsafe riders in the car. K. says *"The help button on the app is a joke. It's like a Batman signal or something like that. What on earth? I don't know. There should be a different signal."*

The higher fear level of women against the sexual harassment potential of ride-hailing driving is one significant difference between them and male drivers. Even men express fear for women's safety while driving. N. is also another male ride-hailing driver who is doing it as a part-time job now. He works only for bonuses as he claims that it is not profitable to drive full-time anymore. He says that he would not want his partner to be a ride-hail driver.

"I think it's one thing for me to go out and work graveyard shifts or bar hours and all that. I would suggest it to my friends who are males and a bit street-smart. I would not recommend it, and I would never suggest it to my girlfriend because I don't feel like she would be safe. I think that there definitely needs to be more safety protocols. At least, they should make sure that they know who we're picking up."

To further understand how safety concerns may affect their driving patterns, I asked survey participants if they have ever given up on a possible ride, because of safety concerns, such as not feeling safe in that particular region or time. Drivers have the option to turn down ride requests if they receive a ride that they do not want to take. The cancellation policy of Uber and Lyft for drivers changes pretty often, according to interviewees. Yet, they claim that

canceling a ride always has consequences on the driver's end. For instance, if a driver keeps canceling rides one after another, their account gets suspended for a day or a few hours, M. conveys. If the cancellation continues, their profiles can even get suspended by the app. Also, according to M. again, if a driver has a low acceptance rate, they cannot benefit from certain app privileges, such as seeing the start and endpoint of their commute and exact income from that specific ride. Uber and Lyft do not share detailed information regarding the outcomes of cancellation for drivers. Instead, the drivers learn them through their side of apps, says M. (Lyft, 2021; Lyft, 2021a, Uber, 2021). The following bar chart and table show the number of drivers who turned down a ride request because they feared for their security.

Have you ever given up on a possible ride, income because of your safety concerns such as not feeling safe in that particular

Figure 7

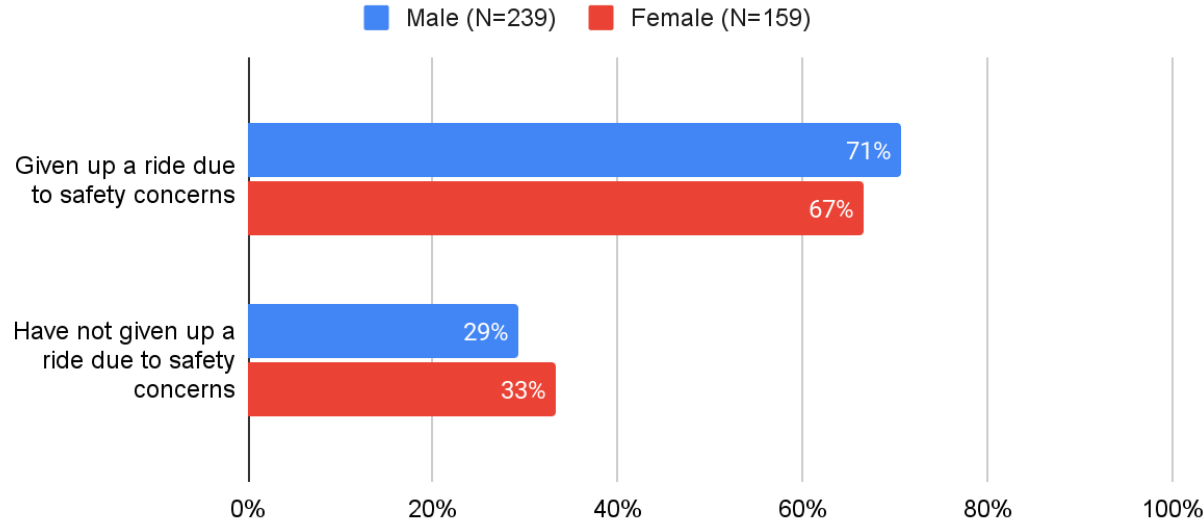


Figure 7 Research participants who have given up a ride due to safety concerns

The chi-square test did not find a statistically significant difference between men and women who have given up a ride because of their safety concerns. The following shows this not-significant difference between men and women in this context.

<i>Have you ever given up a ride due to safety concerns?</i>	Yes	No	<i>Row Totals</i>
Male	169	106	275
Female	70	53	123
<i>Column Totals</i>	239	159	398

The chi-square statistic is 0.7315. The p-value is .392406. The result is not significant at $p < .05$.

Equation 8 Chi-square test for research participants who have given up a ride due to safety concerns

Although this study showed a significant difference between male and female drivers who avoid driving after dark or in particular regions due to safety concerns, there is no significant difference in cancellations of a ride. In this case, how can one explain the fact that despite having different fear levels and driving behaviors men and women drivers cancel statistically close enough numbers of rides?

4.1.5. Routine Activities Theory and Avoidance Behavior of Female Drivers

There are different types and levels of sexual harassment, which can range from verbal abuse to physical harm. While not all sexual harassment is considered a "crime" under state or federal law in the US, several acts of sexual harassment, such as rape, are crimes that can sentence the actor of the crime to jail (England, 2020).

It is crucial to define and dissolve this crime's components to understand better the nature of a potential sexual harassment crime that might occur in a ride-hailing car. Crime is behavior by act or omission defined by law as deserving punishment (Cornell Law School, 2021).

However, there is a simple explanation for this. Since women with high safety concerns do not drive after dark or in particular regions, they do not need to cancel a ride more than men. Women tend to take more precautions and do not go to those regions or drive during those hours if they are fearful. Routine Activity Theory (RAT) explains how the organization of routine activities can bear crime. People's daily routines, such as commuting within the city via a ride-hailing car, affect criminal activities' time, space and actors. Environmental criminology studies examine these components and aim to find ways to decrease crime in the routines of particular environments. There are three elements of crime, according to RAT. These elements are (a) a likely offender, (b) a suitable target (c) absence of a capable guardian. These components might make a crime easy or hard to happen based on the risk factor. Figure 8 draws the intersection of the parts where crime might occur (Criminal Justice iResearch, 2021).

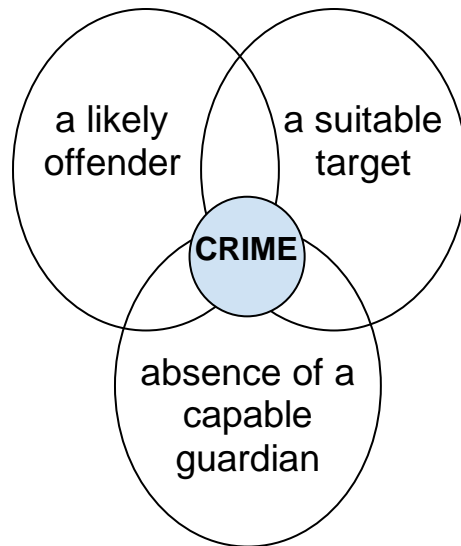


Figure 8 Components of crime based on Routine Activity Theory

On the one hand, ride-hailing and taxis are different from public transportation vehicles. While public transportation welcomes multiple people simultaneously, ride-hailing drivers and the riders are alone in smaller vehicles. This environment eliminates a potential human guardian that can prevent a crime from occurring. However, ride-hailing systems claim that they are different from traditional taxis that work without an online platform. Ride-hailing systems use online platforms to provide added safety through their trackable applications and GPS. However, two points undermine this safety claim drastically. Firstly, one should not forget that while these applications force drivers to give every single detail of their identities, riders can ride anonymously through other people's credit cards or ride-hailing accounts. This allows riders to commit crimes while making it harder to track their identities. Secondly, as interviewee K. mentioned, drivers have to take their phones in their hands to let their families and friends know where they are or to alert officials if they are unsafe while driving. Yet again, drivers use their phones to follow the map of their rides while making it visible to everyone in the car. Therefore, the applications fail to fulfill their safety promise at different levels.

On the other hand, both drivers and riders can be likely offenders and targets. A driver can drive their passenger to a location to which they did not ask to travel. However, their fully open profiles would reveal their ride as long as they are active on the app. Hence, according to the routine activity theory, the ride-hailing systems can create a suitable environment for a crime to take place

This study showed the significant difference between female and male drivers in avoiding driving in particular regions where they feel unsafe and after dark. Female drivers intentionally aim to lower the risk they take while driving. However, the research did not reveal a significant difference between female and male drivers in canceling rides due to safety concerns. Since most women already create a working time and space for themselves in which they feel safer, they do not get ride requests which they feel significantly more concerned about than men.

The American Psychological Association (APA) defines avoidance behavior as "any act or series of actions that enable an individual to avoid or anticipate unpleasant or painful situations, stimuli, or events, including conditioned aversive stimuli." Based on this definition, the following table shows (a) the reasons for women's avoidant driving behaviors, (b) types of avoidant driving behaviors of women, and (c) common types of avoidant driving behaviors of women and men.

Reasons for women's avoidant driving behaviors	Types of avoidant driving behaviors of women	Common types of avoidant driving behaviors of women and men
- Fear of getting physically harassed	- Not driving in particular regions of	- Cancelling the rides that they do not feel

<ul style="list-style-type: none"> - Fear of getting sexually harassed - Not being able to defend themselves - Not receiving help when they are in need - Being isolated 	<p style="text-align: center;">LA county</p> <ul style="list-style-type: none"> - Not driving after dark 	<p style="text-align: center;">safe to take</p>
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Table 4 Avoidant Driving Behavior Analysis of Female Drivers

The survey results and the interviews in this study show that female drivers tend to avoid particular situations, which prevents them from participating in this labor force as much as male drivers. Ride-hailing is not a job that pays a regular salary to its drivers. Instead, as drivers take more rides, they can earn more. This leads to a pay gap between genders. Since women drivers do not feel safe enough to take the rides as much as men do, they automatically eliminate themselves from the driving force. As shown in Table 1, the gender-based pay gap between drivers in ride-hailing partially arises from women's safety concerns. As long as these concerns are left unanswered, they will deepen the gender gap and pay gap in the driving sector despite the potential of the ride-hailing systems for improvement.

4.2. Similarity Between Genders; Scheduling and Life Quality

Although there is a significant difference between female and male drivers in safety concerns while driving, both genders face some similar issues. Based on the online survey results, the drivers' reported housework and childcare hours seem distributed with a statistically non-significant difference. The survey's female and male driver participants had similar or statistically non-significant differences regarding their daily work and home schedules based on their self-reports. In order to interpret the domestic and professional task distribution of drivers into their daily routines, I categorized essential duties. There are four categories that I collected data on: the

hours drivers spend doing housework, taking care of their children, driving for ride-hailing per day, and the number of days they drive per week. For the attributes with numerical variables, I ran t-tests, and the results were not statistically different at a 95% confidence interval. Although the difference between men and women is not statistically significant, there are still slight differences in these categories. Women spend more time at home with housework and childcare while spending less time driving per day than men. The following table shows the average hours and days spent by female and male participants for work inside and outside their house.

	Female	Male
Average of the hours they do housework per day	1.08 hours per day	1.05 hours per day
Average of the hours they take care of their children per day	1.92 hours per day	1.19 hours per day
Average of the days they drive per week	4.37 days per week	4.12 days per week
Average of the hours they drive per day	6.65 hours per day	7.20 hours per day

Table 5 Research participants' time that they spend for housework and gig-work

4.2.1. The Dilemma (or Delusion) of Schedule Flexibility

This study is based on two pillars. One is the gender gap in the ride-hailing labor force. The other pillar is the housework and professional work balance of the drivers. The gig work's nature allows its workforce to define their own schedules. There are no check-in and check-out hours or any mandatory days to work for ride-hailing companies. Any driver can drive riders whenever and wherever they prefer. The first claim of this study was that the gender gap in the ride-hailing sector was (a) because of the sexist structure and unsafety of the job for women and (b) the socially structured gender roles that tie women to house to do domestic work more than

men. As discussed above, the first claim seems close enough to explain the gender gap in the sector. The second claim, unbalanced distribution of housework, is another aspect that needs deeper interpretation.

Every driver's story is unique based on their gender, family and household statuses, other incomes, and sometimes on their races. As a single father, D. has been working for ride-hailing ever since he moved to Los Angeles from the Bay Area in California. His ex-wife is working a regular full-time job. Their daughter is six years old and requires care from her parents. At this point, D. lives only with his daughter, drives for a ride-hailing company, and does the housework himself. Prior to the pandemic, whenever his daughter was at school or visiting her mother, he drove for ride-hailing non-stop. Whenever his daughter was at home, he stayed at home to take care of her and do the housework. He mentioned his remaining time after working and doing the housework as follows.

"Personal life? Personal life? I did not have one until the pandemic. I like driving. It is so interesting to me. Maybe why I had such an experience was because I was starving for human interaction. But I do not have a lot of friends. So, when I was working in the Bay area, I would squeeze visits with friends. That was my social life. Literally, I'd squeeze my friends in on the run. I do not make plans. There were plenty of times, such as my birthday, Halloween, etc. I worked. I worked even on my birthday every year when I was driving ride-hailing. I work on New Year's, Fourth of July, and other peak hours during the holidays. During the week on Thursday maybe I would meet with friends. But I miss the Fourth of July Barbecue because I have to work. I have no social life other than my daughter. We would still do stuff like going to the fairs and things like

that. So, I love that, and it is all for her. I am not complaining. When you have a kid, your social life goes away a bit."

The flexibility and low income that the gig economy provides often causes ride-hailing drivers to work even on holidays. D. is thankful to have some time with his daughter while making ends meet. However, with the income he can make through ride-hailing, the schedule flexibility seems to make him drive during odd hours that exhausts him and leaves without personal time. The gig work providers are not forcing D. to work on holidays. However, realistically speaking, single parents like D., other drivers who take care of their families, or any driver who needs a decent income do not have the opportunity to pass working peak hours of holidays. The schedule flexibility converts into a myth because of the revenue the gig workers can make. This myth affects each driver with diverse personal and family needs differently.

4.2.2. Gig work and housework (un)balance

The interviews included male and female individuals married or living with a partner, married with children, single and single parents. Except for three male participants, the seventeen interviewees stated that they do housework and take care of their children, if they have any, as much as their partners, if they have any, and as much as women if they were men. Three male participants confessed that they do not take responsibility for housework unless they urgently have to.

One of the male participants, N., who does not spend time on housework, is a current driver who lost his previous high-paying job and is now trying to keep up with the ride-hailing income. According to N., he drives his kids to school and back home. However, besides that, he does not

share the housework or other childcare duties with his wife. When I asked him about his typical schedule prior to the pandemic, he explained his week as follows:

"Well, it's typically seven days a week. Sometimes I take a day off if I am exhausted. The hours used to be based on the kids when they had school, schedules, and routines. It would be from the time I wake up till I sleep. I used to drive one of them to school, starting my day after I dropped her off at 8 AM. Then I'd go until the mid-afternoon when I have to pick her up and drop her off at home. Then I used to continue until almost midnight until I head back home. I used to get six-seven hours of sleep, and I repeat. And on the weekends, I would focus mainly on the evening. So, I'd start around 7 PM and go until maybe 5 in the morning. I usually work around the central hub of activity where you get many people going out when there are concerts, football games, and sports; significant events you know helped you have a surge and all that."

The wife of N. is a stay-at-home-mom who does all of the housework and childcare. Since N. is still trying to maintain a certain income for the family, he is working 10-12 hours regularly and sometimes increasing it up to 16 hours. In this schedule, without anyone else making an income in the family, he does not take responsibility for the housework or childcare more than the minimum he can do.

Another driver who confesses that he does not do housework is M., a gig worker taking care of his parents and siblings as the only person making an income in his household. He says *"I am living with my family. I am taking care of my parents, brothers, and sisters. I am taking care of them. They do not drive; that is why I do the groceries, drive them around, take them to the*

doctor. But they do the housework. I do not cook" Then, M. continues to talk about his daily schedule.

"There is no personal life with Uber/Lyft. The reality is there is no free time because you are not making money, you do not know if you can make enough, you have to be on the streets as much as you can to make enough money for your family. That is what Uber, and some drivers say, "Oh, I can take my own children to school." They are not Uber drivers. You cannot even be with your family. I could not even spend Christmas and New Year's Eve with my family because I had to work and not have paid holidays. I do not have anything. I have to be on the streets every day. Eve, morning and try to make as much as possible. I have to go because it does not matter what time it is. You are barely making money for the family, and you keep going. It is so hard to have a proper schedule with Uber. You do not know what your schedule is. You do not know when you can stop or sleep. We sleep in the car, take showers at home and keep driving."

Both M. and N. are taking care of large families and making the only income of their households. In their cases, doing the housework or even having a personal life or free time is impossible. Although the gig work provides schedule flexibility, in Los Angeles, drivers who have many economic responsibilities on their shoulders work double shifts in a day. Both of these drivers kept talking about the low income they make through the ride-hailing sector. As an expensive city, Los Angeles makes the case harder for gig workers.

"How are you going to survive with these prices in expensive cities? I went to SF too, to work for Uber over there, and as San Francisco is more expensive. Uber is supposed to pay more too. But

it is the same thing. You cannot live from uber anymore. It can be just extra income. But even for that, you have to pay a lot... I am serious about this; there is no difference between Uber drivers and homeless people in LA. How do you let this happen? They eat on the street, trash on the road. It was not like before. Before, the Uber driver was wearing a suit, having a clean car with water inside all the time. Uber killed it. Nobody killed it. Uber killed it. Uber put the price down when everyone started to work for it. If you are going to pay us less, how is it going to work? It does not make sense."

Based on these comments from two drivers who are the only breadwinners in their households, the traditional family structures repeat themselves. However, this research started with the claim that flexibility of gig work allows women and families to reproduce the socially structured gender roles at home while giving women a platform to work outside of the house based on their schedules and needs. There are examples of this as well.

As a soon-to-be-divorced mother, C. drives for a ride-hailing company. However, she creates her driving hours wholly based on her children's schedules. While she has been doing all housework and childcare, she also studied and worked in a schedule as she conveys.

"For the first year, I only drove Friday and Saturday nights. But I drove 12-hour shifts. So, I would wait for my husband to get home from work at about six o'clock on Friday night. Then I'd start driving at six o'clock in the morning. And then, of course, I was trying to sleep on Saturday. But it wasn't always possible because the kids like I said, are so used to mom. Even if I told them I was asleep, I'd say, "Okay, mom's going to sleep. If you need anything, ask dad" Nope, they would still

come to me. So, I did it for a year. Then I realized that I didn't like not having my weekends with my kids. So, I changed my schedule, which is why I like Uber because I could change my schedule and do whatever I want to do or have time to do it. I think I went back to school at that time. And so, I was taking the kids to school in the morning. And then I guess I don't know if I have school Monday, Wednesday, Friday, or Tuesday Thursday, but I would drive myself to school and have my classes until the kids got out of school and then pick up the kids and then bring them home. And the days I didn't have school, I don't remember what days it was, but I would drive for Uber instead of going to class. So, I was able to do it during the week while the kids were at school."

The privilege that C. had but not N. and M. is the fact that she is not the only breadwinner of the house. Since C.'s husband was making the majority of the income, C. could have a flexible schedule to make some extra income which was enough for her family and okay for their schedules. Although the gig work platforms are still not forcing any driver, or other types of gig workers, to work for long hours, people who have sole financial responsibility for their households do not have any choice but to work a lot more than standard working hours per day and week.

In their paper, Anwar and Graham (2020) divide the flexibility perception of gig work into two, flexibility for the work provider and for the worker. According to them, for work providers, flexibility refers to the labor market. The providers will always have a large labor market to exploit and maximize their profit. In the neoliberal business context, the gig labor market enables instant hires and fires for work providers, just like any other low-wage and skill job.

Nevertheless, studies find that flexibility is a myth for many gig workers who need to make a decent income for themselves and their families (Anwar & Graham, 2020; Wood et al., 2018). Although there are gig workers, ride-hailing drivers who can enjoy the flexibility of gig work and still have personal time, these are the examples who have other extra sources of income, less responsibilities, needs and more people who support them. Flexibility for workers means being able to control their working time, space, pace, and scheduling. In an online gig work example Wood (2016) explains how a gig workers' schedule flexibility depends on their power. In Wood's example, an online gig worker without bargaining power has to perform a task for a client, who asks for it. Although a gig worker has the right to decline a task, it might be challenging to refuse for those who are not making an adequate income. The same applies to ride-hailing drivers as well. Drivers can decline a ride. However, it costs them. It both hurts their ride-hailing profile status based on the platforms' algorithms, and it also hurts their income. Thus, work flexibility is a blurred line for gig workers who depend on gig work. This blurred line does not see genders. It challenges male and female drivers equally. Women gig drivers cannot find the time to do the housework and take care of their children more than their male partners at home. The only significant difference among gig drivers is their other sources of household income. As long as a different source of income does not support gig workers, they cannot control their daily work or home schedules by doing only gig work. Their needs to meet their ends overcome their ability to have freedom over their plans. The myth of flexibility remains a lucrative marketing tool for the platform providers to attract more gig workers.

4.2.3. Life quality of ride-hailing drivers; Eat, drink, and dispose

The capital owners, employers, or platform providers did not give workers fair rights from the beginning of their business. African Americans fought for their freedom in the US, and workers

got unionized to seek their rights. Having 8 hours of work per day, five days in a week, was not the starting point of many employees hundreds of years ago. The Labor movement accomplished a lot, helping workers earn their rights through effort, organization, and advocacy (AFL-CIO). These changes in the workplace and society, however, got affected by gig work regulations. Today, ride-hailing drivers in LA, or gig workers in general, do not have many of the privileges that the labor movement has accomplished for other workers and employees.

The drivers, no matter their gender, share common complaints about ride-hailing systems. Many have to work more than the standard 8 hours per day to sustain themselves and their families economically. Furthermore, many drivers suffer from physical health, eating, and sleeping problems. The interviewed drivers brought these issues up, even when I did not explicitly ask for them. When I asked about the quality of ride-hailing, they all had similar complaints.

D., a single-father and driver, said "*I definitely gained weight driving a lot. I have to sit the whole day. I started to get pretty conscious after a certain amount of time and walked around a lot. So, I made it a practice to pull over and walk around.*" Another single male W. claims, "*Sometimes I would get poor sleep, and my diet would suffer. I would eat junk food if I was driving.*" Every male interviewee, just like D. and W., said similar things regarding their eating habits and health issues. Having a healthy meal and exercising can be challenging for many drivers, while they are working non-stop for long hours to make a decent income.

On the women's side, the story is the same in regard to the health problems arising from ride-hailing. Not having time to take self-care is a common problem for every driver. A single-mother L. summarizes this point in a few sentences.

"When you work a regular job, you usually get 10–15-minute breaks and at least a half-hour lunch right. Sometimes you don't get that with Lyft. You eat when you can. Stress is, I think, more significant than food issues. But stress is what makes a person get fat. And, believe me, I've gotten fat from driving." Drivers gain weight because of the lack of physical exercise and proper mealtimes. Another single mother, K., says,

"I can be two hours away from home and have to use the restroom because I have been drinking and eating while I am driving. Now I am the opposite. I won't eat or drink at all while I am out because I don't want to worry about using a restroom far away. The problem is drinking a glass of wine to unwind at home and starving, which is horrible. I have put on 16 pounds. Except for being pregnant, I have never put on this kind of weight." Eating and drinking problems lead to another common complaint, the difficulty of finding a bathroom to use while driving.

Gig work does not have a workplace. The ride-hailing drivers do not gather in a shared space to meet their co-workers or their platform providers. They do not have a space to take their ten-minute coffee breaks or even go to the bathroom. Similar to K., another female driver C. also says, *"I stop drinking water a couple of hours before I start driving. Because I do not want to have to pee."* Yet another single female driver G. explains her situation as follows,

"You have to go to the bathroom, but there is no bathroom. Even if you can go to a restroom, you have to have your app open. Because if a ride comes in, you have to go. And you need time to wash your hands and all. Drivers' lives start to become inhumane. I can't quit my life for ride-hailing. They say I'm independent, but I'm not independent."

Both female and male drivers suffer from similar regulations and quality of life issues related to being a ride-hail driver. Most drivers do not have a healthy diet, cannot eat or drink properly, cannot use the bathroom when they need while driving, cannot spend time with their loved ones on holidays, and cannot make enough income after working more than a standard full-time job. According to platform providers, the gig workers are independent contractors. Although they are independent on paper, they have to race against regulation problems and the low income they can make in practice.

5. Conclusion

The gig work and platform economies have been reshaping daily life in many different aspects. Today, there is an application one can use on their smart devices almost for anything. Using transportation applications is the new highway to the future. There is no turning back from technology usage, applications, and smart devices. The only way forward is to enact proper and just regulations and employable policies to convert these systems to physically and economically feasible transportation and income options for riders and drivers.

Ride-hailing systems are out-competing traditional taxi services and bringing a fresh perspective to public transportation. It is crucial to grasp the needs and possibilities of this relatively new way of transportation, while it is also still shaping itself. For instance, if the platforms mandate that both riders and drivers provide complete identity disclosure, it would decrease the ease of a rider committing a crime anonymously. The safety concerns in ride-hailing, especially of female drivers and riders, remain the same as in the traditional ways of commuting. The ride-hailing platform providers do not use the advantage of the technology they have as much as they claim or to the extent they can.

An important point that one must consider in the safety of ride-hailing drivers is that ride-hailing companies and transportation literature focus on riders' safety more than the drivers'. While writing this paper, I came across many other examples of research and initiatives of either ride-hailing companies or third-party think-tanks that attempt to increase the safety of female riders to promote their transportation experience. It was challenging to find sources for drivers' safety compared to riders' safety. Nonetheless, as the ride-hailing companies welcome more female

drivers on board, the safety concerns of these gig workers increase accordingly. More researchers, companies, and organizations should focus on female gig drivers', and gig workers' at large, quality of occupation and life as much as their safety.

Although the research did not differentiate between sexual harassment types, both female and male drivers reported being harassed while driving for ride-hailing with a statistically insignificant difference between men and women drivers. Despite a similar sexual harassment experience, female drivers reported being more afraid of driving after dark and in particular regions of Los Angeles County due to safety concerns. Also, female interviewees repeatedly said that they feel insecure as they do not believe that they can defend themselves in a case of harassment. Beyond self-defense, they also do not trust the ride-hailing platform providers to stand for their rights and safety. Nevertheless, most male drivers have the confidence and belief that they can defend themselves in a case of harassment. Thus, male drivers feel safer for longer hours in a day and in a larger area of Los Angeles than female drivers. This safety concern difference prevents female drivers from working as much as male drivers, leading to a gender pay gap in the sector.

This thesis started with the claim that the flexibility of gig work allows female drivers to reproduce their socially contracted gender-based roles in their families, at their homes. For instance, imagine a mother who has a partner and children. The original claim was that these women worked for ride-hailing only when their children were either at school or with their partners. Other than these driving hours, they would be taking care of their household and families. However, gig work is so challenging for everyone whose only income is ride-hailing. Some female and male drivers have no option other than working for a ride-hailing company and struggling between housework and gig work. Consequently, lack of a regular, proper income and other

employment benefits, such as insurance or paid off-days, do not differ by gender. Platform economies melt everyone in the same pot and test them with challenging work conditions that are hard to make a decent income.

The focus of this research was on the daily lives of ride-hailing drivers. Aside from safety concerns and not having enough time for housework, female and male drivers shared other common criticisms about how gig work affects their daily lives. These complaints were about eating and drinking habits, lack of movement, lack of access to bathrooms during work hours, and health issues related to these dire conditions. Gig workers without regulated work and break hours struggle to find enough time and space to eat and drink properly. Also, while they are driving away from their homes, it is troublesome to find a bathroom. Most of the places with public restrooms allow only their customers to use them. A high number of drivers conveyed that they do not eat or drink much to avoid going to a bathroom while driving. Driving for long hours means not moving from your chair. The lack of movement leads to further physical health problems such as aches on their backs, hands, or legs. Since the drivers are racing against time and trying to get rides as much as possible while working, having long lunch breaks or finding available public restrooms means losing money.

Overall, ride-hailing application systems, and more generally platform economies, have the potential to improve the work conditions of drivers, and the safety and efficacy for both drivers and riders. The problems, however, of the current system are bright as day. The solutions require further investigation and work. This thesis, due to time and researcher constraints, could not focus on the regulations intensely. Also, the COVID-19 pandemic's social distance requirements prevent the researcher from collecting field notes in person. Further research should be conducted to

investigate potential official regulations of the state and of the private companies. The potential of these platforms to close the gender gap in the labor force of the ride-hailing sector should not be missed. The technology of the platform economies should be able to welcome more women on board by providing them with adequate safety. Lastly, ways to create more fair work for drivers by updating their contracts and interest rate should be further considered. The next section lists some policy recommendations for improving the work environment of drivers in the gig economy.

5.1. Policy recommendations for gig driving

The following is a summary of policy suggestions for ride-hailing companies wishing to improve work quality for their drivers. Further research can extend this list. However, this thesis focused on the daily lives of drivers employing a gender lens. Therefore, the suggestions wander around this topic.

Allow drivers to assign themselves to specific regions that they feel safe and close to where they need to be: Providing an option for stay-at-home moms to stay close to their families and making it an option for women to drive in the regions they prefer might increase their interest in the job.

Provide dash-cams, protector shields for drivers to increase their security and health: Even if the companies would prefer to take the cost of cameras and shields from the first earnings of the drivers, these should be provided. Getting every ride recorded might reduce the risk of harassment, whether coming from the part of the rider or the driver.

Have a more developed Human Resources protocol for drivers to report the harassment they face and keep the riders accountable for their actions: Assuring drivers they will be taken care

of when they face harassment or discrimination would increase the motivation of women to enter the ride-hailing labor force.

Employ and implement equal identification regulations for both drivers and riders: While the drivers have to provide their official ID documents and proper profile pictures to be on the platforms, the riders do not have the same responsibility. This unequal regulation leaves an open door for riders to remain anonymous and pursue crime.

Provide designated destinations for drivers to take breaks and use restrooms: Many drivers lack proper breaks and restrooms they can use alongside their eating and drinking habits. Providing designated destinations at equal distances for drivers to take their breaks and satisfy their needs would upgrade these gig workers' life and work quality.

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