# Perceptions of COVID-19 related risks by platform-based couriers: An analysis of user comment threads on Reddit

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**Abstract**.
**BACKGROUND:** The COVID-19 pandemic increased demand for app-based platform-based couriers, creating job opportunities for individuals who have lost income because of COVID-19. Through various stages of lockdown, courier workers (e.g., delivering for Uber Eats, Amazon Flex, and Lyft) provide an essential service. At the same time, this form of work poses risks for exposure to the SARS-CoV-2 virus as these workers are highly mobile and in contact with many individuals.
**OBJECTIVE:** To explore how platform-based couriers discuss risks associated with their work during periods of high (first wave, second wave, third wave/rise in concerns regarding variants) and low risk during the COVID-19 pandemic, 2020–2021.
**METHODS:** We provide a narrative analysis of user posts ($n = 2,866$) on Reddit during periods of interest.
**RESULTS:** Our analysis resulted in three central findings. First, we identified changing patterns in discourse as the pandemic went on. Second, we found that the theme of risk prevailed largely in the first wave, with dialogue dominated by tips and asking for advice about how to manage risk. Third, our findings reveal a growing polarization among users during the latter phases of the study.
**CONCLUSION:** Polarization largely focused on acceptance (or not) of public health measures and the nature of their work as independent contractors and the role/responsibility of courier companies to offer protection. Our study is the first to document risks, from the perspectives of anonymous couriers who may be unwilling to share their honest opinions and thoughts through primary data collection where anonymity is not guaranteed.

Keywords: Canada, social media, occupational health, public health, qualitative research

## 1. Introduction

The destabilisation of formal employment and increase in entrepreneurial culture, including platform-based courier or 'gig' work, has given risk to new forms of risk and uncertainty for workers [1] (p. 3). 'Gig' work, promoted for its flexibility and autonomy [2], comes with limited to no labour protections, leading to financial uncertainty and related concerns for the health and welfare of workers [3]. As we discuss, platform-based work has increased considerably as a result of the pandemic, creating new and emerging risks for workers [3]. Job loss as the result of lockdowns and stay at home orders coupled with increased demand for 'essential' gig work (food and package delivery) as individuals were forced to stay at home, led to a growth in the gig workforce, particularly among already vulnerable populations [4]. The focus of the present paper is to understand, from the perspective of these workers, how COVID-19 has changed the risk landscape of platform-based courier work. Central to our discussion is the (mis)classification of platform-based workers as independent contractors as it relates to COVID-19 risk.

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Platform-based workers connect with clientele through an app on their device. Clients 'order' products (a parcel, a ride, or a meal) via the app or online platform and the work is distributed to individuals registered with the platform host. Herein we focus on courier workers – that is, individuals who move people, food and packages from one location to another. Though this type of work offers flexibility and income in a period of significant job loss and income insecurity across developed nations due to COVID-19 [5], reports to date suggest that app-based courier workers (referred to often as 'gig' workers) have been adversely affected due to the nature of the work; namely, the absence of employer-provided prevention measures to mitigate risks of COVID-19 [6] and no or little protection through employer-provided or government-regulated health and safety standards [7]. At the same time, this form of work poses additional risks for exposure to the SARS-CoV-2 because these workers are highly mobile and in contact with many individuals [8].

Companies that govern platform-based couriers have introduced some limited COVID-19 related measures, though they differ by jurisdiction. For example, within Canada (the location of the present study), Uber Eats promised couriers sick pay for up to two weeks if they get COVID-19 [9]. However, workers have no control over the behaviour of clientele and may be exposed at the point of delivery to individuals who do not follow public health or other government guidance. Indeed, platform-based couriers have been identified as highly exposed, frontline, low-wage, non-unionised workers with almost no occupational health guidance or support in the context of COVID-19 [10]. Courier work and related SARS-CoV-2 exposures have already been documented (see for example, McGran [11]).

The nature of platform-based work in terms of government support schemes, coupled with the pressure to earn an income through courier work, means that platform-based couriers have a high risk of exposure, creating opportunities for contracting COVID-19. Research continues to be conducted to understand risk from the perspective of advocates for workers and the workers themselves. For example, survey data from workers across OECD countries suggest that only ~1/3 of those surveyed said that their platform(s) had taken measures during the pandemic and only 44% of this group were satisfied with the measures taken. Further 30% indicated that it was hard to access the resources provided [7]. To date, there is limited data capturing the experiences of vulnerable platform-based workers – many of whom may be women, immigrants, and members of visible minority groups in low-income occupations [12], which may mean that they do not speak up or hesitate to share their experiences out of fear of repercussions related to job security or migrant status.

The present research draws on anonymous social media posts, publicly available, to overcome limitations related to accessing hard-to-reach populations and individuals who may hesitate to participate in interviews or focus groups. These data allowed us to hear the stories and experiences of workers not currently captured through survey data with pre-defined lines of questioning. Ultimately our aim was to examine discussions about platform-based courier work during the pandemic, to understand worker narratives related to virus exposures, risk and transmission to the public.

## 2. Materials and method

Social media posts, freely available through Reddit, were collected and analyzed using narrative analysis [13]. Reddit is used daily by millions around the world. Users can post (share content in the form of stories, links, images/videos), vote (to promote content up or down) and comment (provide discussion in reference to a post) in various communities organized around their specific interests [14]. Unlike social media sites, such as Facebook, that require users to provide their real names, Reddit differentiates itself as a site that values anonymity and pseudonymity [15]. Given our aim of accessing and documenting the voices of workers without hesitancy related to repercussion, Reddit provides a space for confidential sharing of information among platform-based workers to anonymously share experiences on the job.

### 2.1. Data collection

Data were collected by author BR, a female graduate student with experience in data collection using social media. Data were pulled from six different months to reflect risks facing platform-based courier workers at the height of the first three waves of COVID-19 in Canada, where the third wave also saw the onset of concerns over the Delta variant. For periods of higher risk, data were collected in March and April 2020 (wave 1), November and December 2020 (wave 2), and March 2021 (wave 3 and increased discussion regarding variants of concern). Data were

also collected in June 2020 to reflect periods of lower risk given the decline in cases throughout Canada, as a point of comparison (e.g., were people speaking to risk in the same way despite change in actual risk?). This design allowed us to identify COVID-19 risks to workers and the population (by way of transmission) as described by workers, during critical events in the first year of the pandemic.

We collected posts from subreddits; communities where users can post about and discuss a specific subject. The Reddit search bar was used to identify subreddits for each platform. To meet our aim, it was important to identify all types of platform-based courier worker voices (ride-hail, food delivery, parcel delivery) and we therefore focused on individuals with direct experience with courier work. Author BR started by searching for subreddits specific to platform-based companies, as identified in our scan of courier companies operating as of 2020. Due to the volume of data present across all 13 identified subreddits after searching for relevant posts using preliminary search terms (e.g., >40,000), the decision was made to collect data from one subreddit per type of work (food delivery, ride-hail, and parcel delivery). The chosen subreddits were: reddit.com/r/uberdrivers, reddit.com/r/skipthedishes, and reddit.com/r/amazonflexdrivers. Skip The Dishes was selected because it is a Canadian company and thus gave us greater insight into the risks faced by Canadians specifically, the site of the current study. Uber and Amazon Flex were chosen as the largest platform-based courier firms for ride-hail and parcel delivery.

Six initial search terms identified by our team and in consultation with a library scientist, were queried within each subreddit: 'covid', 'covid-19', 'corona', 'coronavirus', 'pandemic' and 'variants'. We then reviewed the first 50 posts for each subreddit for search terms to be used across the whole dataset. The final nine search terms included: 'covid', 'covid-19', 'corona', 'coronavirus', 'pandemic', 'mask', 'PPE', 'vaccine' and 'variants'.

Each search term was entered in the search bar of subreddit and the top three posts from the specified months were manually cut and pasted into an Excel file for analysis. By selecting the top three posts, data volume became manageable ($n = 2,866$) for manual scraping and human (rather than machine learning) analysis, which was critical given our use of narrative analysis. If a given month did not have three posts, this was noted and any posts that were present were scraped. All data (posts/comments) were copied and
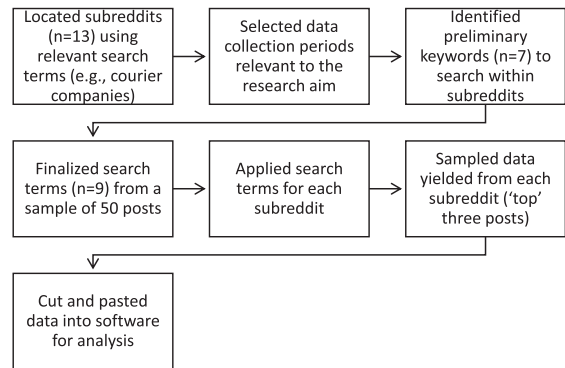


Fig. 1. Steps taken to yield final dataset for analysis.

pasted. See Fig. 1 for a summary of steps taken to yield the final dataset for analysis.

Time and date submitted, number of comments and username of poster (to identify recurring posters) was collected for each subreddit post. For each comment or threaded comment (comment that follows a comment that follows an original post), time and date submitted, and username of the commenter was collected. At the time of our search, we did not come across any cases where the comments or posts were deleted; however, there were instances where the usernames were no longer available and could not be recorded. We did not use a software to identify usernames as deletion incidences were rare and usernames did not feature in our analysis, except to identify frequent posters. We also excluded content external to written content posts or threads – e.g., external links, games and videos.

## 2.2. Study context

We document COVID-19 cases in Canada, as per the Public Health Agency of Canada [16], given the location of the research team, though the pandemic waves were similar across North America where, based on our review of the data, the majority of Uber drivers and Amazon Flex users are located (Skip The Dishes is only in Canada). Given the inability to limit our Reddit search to Canadian posters only, we capture the voices of couriers located across North America, and likely some internationally, despite our primary location of interest being Canada whereby the research team resides. These data nonetheless provide insight into how COVID-19 has changed the risk landscape for couriers working in Canada.

The first wave in Canada took place between March 2020 and May 2020, with the peak occurring on May
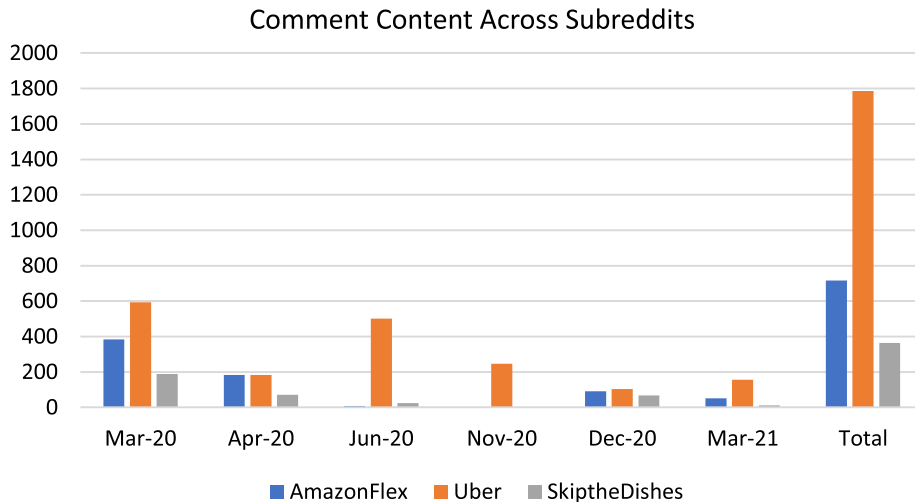
Fig. 2. Graph of number of comments across each month for selected subreddits.

3rd with 2,760 cases of COVID-19 reported. The summer months (June-August) were characterized by decreasing case counts, where the lowest case counts were on both June 26th and July 7th, with 172 cases [16]. The second wave began in October, with case counts beginning to fall slightly in February, though they remained close to double that of the first wave. The peak of the second wave took place on January 2nd, with 10,209 daily cases. The last period, March 2021, was the earliest month of the third wave and emergence of concern over SARS-CoV-2 variants. The peak of this wave occurred on April 15th, with 9,565 cases reported. See Fig. 2 for a frequency of posts in our selected time periods, by subreddit, as aligned with our four study periods of interest.

### 2.2.1. Analysis

Narrative analysis, as discussed by Riessman [13], was used though modified for the analysis of written text relevant to our aim. Narratives were developed by analyzing the content of each post and threaded comment and by drawing on our own prior understanding of what constitutes risks for exposure and transmission. Data were organized to identify common narratives both within and across platforms, and at periods of high (beginning of waves 1, 2 and 3) and low (June 2020) COVID-19 risk in North America. Given the inability to geographically locate users (as per the anonymity of Reddit), we did not attempt to interpret data speaking to company policy or regulation; rather, we provide descriptions of what workers share as their perceptions of company/regulatory role in risk exposure or mitigation. Illustrative examples

of posts/comments related to each narrative were recorded and are presented in the results. The presented narratives are relevant to the research question; meaning that the decision to include a narrative is not based on how many posters report that theme but rather, if it has direct relevance to the study aim.

The analysis process involved author BR reviewing the posts a minimum of three times to gain familiarity with the data. Authors BR and SBM then conducted narrative analysis of all data pulled from Skip The Dishes. Narratives were compared between authors to discuss consistency in approach and emerging results. Author BR then completed narratives for the remaining two subreddits which were reviewed by SBM and in very few cases, made minor changes in discussion with BR to the analysis. The results, as presented, draw on common narratives across the data in relation to our research aim. These narratives were discussed by SBM and BR before being presented to the remaining authors.

In consultation with the Human Research Ethics Board at the University of Waterloo, it was determined that ethics approval was not required. The data collected are publicly available user comments, which are themselves posted on a publicly available website with uncontrolled access.

## 3. Results

In the following we present three key findings. The first is the changing nature of discussions of risk across the time periods of study (high vs. low

risk). The second is risk as it relates to the nature of platform-based courier work. The third is the polarization of discourse around the nature and perception of risk between commenters. Note that in the case where we attribute a quote to a post, it is the original (first) post in a thread. 'Comments' are those that were left in response to the original post or comments preceding. Also note that quotes are excerpted verbatim and not corrected by the authors.

## 3.1. High vs low risk periods

### 3.1.1. March/April 2020 (first pandemic wave)

A predominant narrative in March/April 2020 was potential mechanisms for personal protection against SARS-CoV-2, including mask wearing, protective barriers (between riders and drivers in the case of Uber drivers) and limiting in-person contact for package/food delivery drivers. Many original posts made by users were either offering tips for minimizing risk, or asking for input from the courier community. Calls for input were met with responses akin to the quote below:

> "*I bring a Clorox wipe and wipe down the wf carts handles. Still cold enough to wear winter gloves and I wipe those down after each block with disinfectant. And the usual stuff, washing hands, not touching face, social distancing, etc.*" *(March 2020, AmazonFlexDrivers, comment)*

Given that mechanisms of SARS-CoV-2 transmission were widely unknown at this time, uncertainty regarding measures to take dominated conversations in March and April 2020. For example, many commenters shared hesitations about delivering direct to a customer's door given perceived risks of transmission:

> "*You would walk up to the door with an airborn virus? Without a mask or gloves?*" *(March 2020, AmazonFlexDrivers, comment)*

> "*Folks, you have to wear mask no matter well or not. Also wearing glove. Virus host in the lung, no need to let me tell you how airborne works...*" *(March 2020, AmazonFlexDrivers, comment)*

The online forum and dialogue between users were largely used to share ideas to reduce risk. Though in March and April 2020 commenters largely showed support for protective measures, there was also uncertainty about the effectiveness of some measures being promoted among commenters, and also a lot of ques-

tioning of the effectiveness of measures put in place by platform companies. For example, the following emerged in discussions about the effectiveness of contactless delivery for reducing risk to couriers and customers. The commenter questions the interests of the company and whether or not the act of contactless delivery mattered given the packaged had been touched by the driver.

> "*There's no such thing as contactless delivery. This is just delivering false promises in an attempt to show how safe food delivery will be for the self-isolated. It's marketing, an attempt to boost business. Good for them, good for us, but by no means is it safe for anyone... I still touched their delivery bag. It's not really contactless. And that tends to be the main avenue of transmission, via inanimate objects. Door knobs. Bags. Etc.*" *(March 2020, SkipTheDishes, comment)*

Uncertainty regarding current company policy regarding COVID-19 was widespread. Many drivers stated that, at this point in time, the policies implemented by companies were not reflected in customers apps. These policies included the removal of cash payment methods and limiting the number of passengers per car.

> "*It said cash orders are temporarily suspended but I checked the customer app and it let me select cash to pay, so they better update that quick. Should have done that before they told us it was suspended. They say they "introduced" contactless delivery, however they really did not do anything [...]*" *(March 2020, SkipTheDishes, post)*

Much of the dialogue in March and April 2020 was regarding customers demanding orders be delivered to their door even if living in a multi-unit building, which was identified by couriers as putting them at risk. Many stated their concerns for safety, especially given the belief that all deliveries were supposed to be contactless at the time of posting. In certain instances, specifically pertaining to Amazon Flex and Skip The Dishes, some drivers made the choice not to deliver directly to customers based on their own risk assessment.

> "*I think coq driver said it best. We are a vector. It sucks but its true. I will not enter your apartment building. I will not enter your elevator. You get to wash your hands after you collect it. We do not. Minimizing surface exposure is the best way we*

*can prevent the spread while still pandering to the luxury class. . .*" *(April 2020, SkipTheDishes, comment)*

"*With that said, why can't Amazon set it up where bags are brought out to the driver's cars so the drivers do not need to enter the store? This would eliminate over-crowding in the back areas, and create one less individual possibly getting others and themselves sick[. . . ]*" *(March 2020, Amazon-FlexDrivers, comment)*

"*Contactless. . . what part of CONTACTLESS do you not understand? that goes for the driver as well. . . I am not making contact with your apartment doors, buzzer buttons, elevator buttons, breathing in stale high-risk air. . . that means contactless. Again, we are independent contractors, some of us have different protocols, some drivers are dumb and will bring your food to your door, while 90% of the rest of us are smart and mindful enough in this pandemic and use common sense.*" *(April 2020, SkipTheDishes, comment)*

However, not all couriers stopped offering door service; some noting that they did not have concerns about delivery if other precautions were taken:

"*What are they protecting me from by telling me this? Not the virus, I can tell you that, because there is ZERO chance of my getting it by leaving the food at their door. So, do tell, exactly what "courtesy" do you feel is being extended?*" *(March 2020, SkipTheDishes, comment)*

In terms of risk management, there were multiple accounts in March/April 2020 of individuals who stopped working due to fears of contracting the virus themselves or fears of spreading it to those around them.

"*Yeah I'm done for a bit, had redlined airports last 3 weeks this morning first case of community spread was announced and I decided to take atleast 2 weeks off.*" *(March 2020, UberDrivers, comment)*

"*I got sick today and am worried about spreading illness so I'm taking a time-out until the fever breaks. I would hate to deliver sickness to someone's home. I guess I'll just ride the credit line for the next little while and hit it hard when I'm better*" *(March 2020, SkipTheDishes, comment)*

However, it was noted in dialogue that not all couriers can take time off, despite risks, on account of financial need. In no discussions did drivers speak of continuing to work in the case of being ill or symptomatic.

"*I think it's called I'd like to feed my family and pay my fucking rent so I'm taking my chances. You take yours.*" *(March 2020, UberDrivers, comment)*

"*I can't imagine anyone is still driving for any reason other than needing the money [. . . ].*" *(March 2020, UberDrivers, comment)*

Indeed, many spoke about the opportunity for income via courier work as there was high demand during wave 1 and fewer couriers with whom to complete work.

"*We need to start encouraging these fearmonger posts. The more people that believe it's a threat, the less competition we have out there.*" *(March 2020, UberDrivers, comment)*

"*So far it's been really good money during these times. People are generous with tips, gas is cheaper, less traffic and ample parking as a result. Just the perfect storm for couriers and drivers.*" *(March 2020, SkipTheDishes, comment)*

Finally, while the majority of posts were related to risk mitigation, some commenters showed little concern for COVID-19 risk.

"*I actually never get sick and I am very healthy..so, I believe that I am safe. I ♡ this hustle with gig working. I am a retired RN and I am 63..so I don't give a rat's ass a out this virus.*" *(March 2020, UberDrivers, comment)*

### 3.1.2. June 2020 (low point of COVID-19 cases; low risk)

The month of June, the nadir of COVID-19 cases in Canada, saw considerably less dialogue pertaining to risk and risk mitigation during this time as compared to peak risk in March 2020, as seen in Fig. 1. However, likely related to increased scientific and public knowledge about COVID-19 and risk groups, dialogue shifted to discussing personal risk to drivers considering their now known vulnerability for COVID-19 related morbidity.

"*If you have asthma why would you risk being so close to people in a confined space? You're in one of the higher risk groups and it only takes one*

*person to infect you.*" *(June 2020, UberDrivers, comment)*

Discussions regarding passengers (in the Uber drivers subreddit only) refusing to follow public health measures also appeared in June, as masks became mandatory in many jurisdictions, creating a space to air frustrations towards those not complying. Some drivers, specifically those transporting passengers, commented that many individuals they drove refused to wear masks. While drivers mentioned their ability to cancel rides in this scenario, some chose not to do so because of the resulting lost revenue (not receiving a cancellation fee). There was also speculation from drivers that passengers were lying to avoid wearing masks.

> "*There is* [a no mask cancellation option], *but you don't get a cancellation fee for that (I didn't). So maybe it's better to say "rider made me feel unsafe" - which would be true anyway, or you can wait out the timer.*" *(June 2020, UberDrivers, comment)*

> ""*None of the other drivers made me wear a mask!" Is the new "car seat" statement. Thing is. . . . I believe them.*" *(June 2020, UberDrivers, post)*

Akin to what was identified in March, the following quote too illustrates the use of Reddit to gain insight into the opinions and experiences of other drivers to help make sense of the risks/mitigation strategies available to couriers.

> "*I thought I read on the app that masks are required for riders, but today none of my riders had one. I had to disinfect my car after each trip. Was there a change I'm not aware of, or are riders just being really bad about following the rules?*" *(June 2020, UberDrivers, post)*

### 3.1.3. November/December 2020 (second pandemic wave) and March 2021 (third pandemic wave)

The volume of dialogue in November and December was also considerably less than at the start of the first wave in North America, with only 508 posts compared to 1604 in March and April 2020. Discussion during this period moved from enquiring about safety and uncertainty regarding COVID-19 to disagreements between those who were 'for' vs 'against' COVID-19 related restrictions (we speak to this in the subsection below, polarization, in greater detail).

Much dialogue occurred between the two groups, using tactics of shame and sarcasm to provoke or engage. For example, a commenter used sarcasm to attack others who were criticizing the capacity of an Amazon warehouse location.

> "*Wow, it's unbelievable to see people in a crowd working to support their families not being afraid of a virus most people survive from. Meanwhile, the keyboard Karens are online trying to sabotage those same people while they hide behind masks that don't work and spread the MSM [Mainstream Media] narrative more than the actual virus.*" *(December 2020, AmazonFlexDrivers, comment)*

Dialogue in March 2021 was also comparatively low with only 220 comments across the three subreddits. This period saw dialogue regarding challenges and customer complaints about company guidelines for COVID-19 safety measures. For example, the following commenter discussed allegations made on the part of a customer that they were not wearing a mask and the lack of support for drivers from the platform-based companies.

> "*I just a customer get so pissed because the restaurant was late with their shit they reported me for not wearing a mask. Which I was wearing one. My own father died of covid last December and now a customer tries to shoot down what I do to pay my bills. Why are people so shitty sometimes man. You didn't tip, you report me falsely, and I bet you Uber won't do shit about it even if I did reply in their chatline with my side of it. Smh.*" *(March 2021, UberDrivers, post)*

Dialogue in March 2021 regarding safety measures were in stark contrast to March 2020 when there was uncertainty about safety and efficacy of protective measures. Rather, conversations were around how to reduce transmission and vaccination as a protective measure.

> "*[. . . ] I wanted to make sure everyone who can is getting vaccinated. I recently learned due to the mutations grocery store exposure was riskier than I realized and I'm really thankful I was never exposed in any of my trips.*" *(March 2021, AmazonFlexDrivers, post)*

> "[I feel] *Very safe. All need to wear a mask or they do not get in my car*" *(March 2021, UberDrivers, comment)*

Other couriers, however, perceived their personal risk to be low which, for some, had implications for their risk-mitigation, or lack thereof (e.g., not wearing a mask). This was largely related to the perception that they were unlikely to get seriously ill from COVID-19 so there was less of a need to comply with public health measures.

> "*Drove through the worst of it, when Fauci [Chief Medical Advisor to the US President] was saying not to buy masks because they don't work. Never had a problem or even a sniffle. And I took a good number of sick people to the hospital. This virus is dangerous if you're 75 and morbidly obese from eating nothing but butter and sugar for 65 years. For the rest of us, I have a feeling it's 1 in 10,000 that we even get symptoms. This mask fetish is just to get the highly neurotic people to leave the house and keep spending money. False security. It's pandemic theater.*" *(March 2021, UberDrivers, comment)*

### 3.2. Polarization of opinion

One of the more polarized discussions was in relation to concerns for population vs. individual risk. Some argued that taking precautions (e.g., staying home when sick) is a social responsibility while others spoke to individual freedoms to make personal choices about protective measures to take. In relation to social responsibility, commenters questioned their role in transmission. While acknowledging their low risk for severe illness due to their age, they expressed concerns about continuing to work when they may unknowingly expose members of their community to COVID-19.

> "*Wow are you an idiot? It is more than just about drivers. It is preventing the spread of the virus within communities. You clearly are not watching the news and thinking only about yourself. It should not be a choice for customers to decide whether drivers can or cannot do an unattended delivery [...].*" *(March 2020, AmazonFlexDrivers, comment)*

In some cases, the concern was related to the lack of protective measures taken by courier businesses that put the population at risk.

> "*We know coronavirus is contagious before its symptomatic. Allowing drivers to keep driving without PPE is KILLING PEOPLE.*" *(March 2020, UberDrivers, comment)*

In relation to personal choice and freedoms, other couriers, again noting their low risk given their age, argued that it is not their responsibility to protect others and cited that they continue to work because they are not concerned about their personal risk.

> "*Being under the age of 40 i am statistically more likely to die from a heart attack than die from covid. Ubers mask mandates is just as idiotic and useless as the government ones.*" *(March 2021, UberDrivers, comment)*

> "*...I wear a mask because Uber requires it. I take it off between passengers. As a man I'm immune to covid, it's no different than any other cold.*" *(December 2020, UberDrivers, comment)*

One discussion thread on UberDrivers provides an example of very polarized back-and-forth posts between users:

> *Commenter A:* "*If you are going to walk around without a mask then just go volunteer in a covid ward and leave the PPE for those that give a fuck about others.*" *(June 2020, UberDrivers, comment)*

> *In response, commenter B:* "*The science doesn't back wearing masks. Viruses are too small. Plus, the virus just gets pushed out through the sides of the mask. Pushing masks is just political monkeyshines and virtue signaling.*" *(June 2020, UberDrivers, comment)*

Polarization also occurred in discussions of whether to continue to work as a courier despite the personal risk, particularly during the first wave. Here we noted a lack of appreciation between commenters regarding their financial means for discontinuing work.

> "*So what would you rather do. Get the virus or be homeless? Again you have the money to sit it out... great! A lot of gig workers live paycheck to paycheck. So they will continue to work because they have no choice. It's not their fault the gig economy doesn't account for emergencies. While many bosses and owners around the world are continuing to pay employees. Contractors have none of those protections. They do what they have to do.*" *(March 2020, AmazonFlexDrivers, comment)*

This is contrasted with conversations about returning to work after being on hiatus since March, without

concern regarding the financial implications; however, it may be that these workers do not require the income if courier work is a side job rather than sole income.

> "*I don't urgently need the money but I am bored and money is always nice. I have driven in the past but haven't since March.*" *(June 2020, Uber-Drivers, comment)*

Another highly polarized topic was regarding risks introduced by the nature of platform-based courier work. Some argued that due to the nature of courier work, companies have no responsibility to keep them safe and feeling comfortable in going to work. For example, speaking about a lack of distancing at Amazon pick-up facilities, the following comment was made:

> "*I understand your frustration but keep in mind we are independent contractors we don't have to work. Amazon employees can lose their job for not going to work. I personally appreciate the freedom. Amazon is no different from any other company they care about making money.*" *(December 2020, AmazonFlex, comment)*

To this, another courier replied:

> "*But the independent contractors can infect the employees and company policy requires that anyone with COVID-19 symptoms cannot come back to work without submitting a negative COVID-19 test and anyone who tests positive cannot return to work for 2 weeks. If there is an outbreak and they are understaffed, packages don't get delivered on time and the company loses money on refunds and customer service. It's in the company's best interest to enforce the policy.*" *(December 2020, AmazonFlex, comment)*

Many stated that they enjoyed the freedoms provided by platform-based courier work, especially as it related to being able to control their own health and safety practices.

> "*If wearing a mask makes me feel safer then I am going to wear a mask. I don't give a shit what the customer thinks. We are independent contractors and are responsible for our own health and safety. I highly doubt that it will get you banned as in the doordash email they even offered masks to drivers [. . . ]*" *(March 2020, SkipTheDishes, comment)*

Though, while appreciating these freedoms, some expressed anger that declining certain rides for their own safety could negatively affect their acceptance rate, using sarcasm to question their designation as 'independent' given the control of Uber over their work.

> "*Oh, and if I don't want to do [Uber] Pool, I know I can refuse the ride. But it shouldn't affect my acceptance rate, which is affecting my Uber Pro level. That's strong arming drivers into accepting pool rides whether they want to or not. . . . you know - us "independent drivers" that are not emoloyed by Uber. . .*" *(March 2020, Uber-Drivers, comment)*

Discussions regarding the contractual nature of work led to a final common point of dissent relevant to understanding courier risk; that a company has no responsibility to protect the couriers, as they are not technically employees of the companies they drive for.

> "*I don't think you actually understand what you are. . . you are not a "worker", you are not an "employee". . . they are not beholden to you as your employer. You actually agree to these terms when you sign up. . . you have zero protections or rights when it comes to termination of your independent contractor rights and basic access to income. . . . everybody working flex or uber doesn't seem to grasp this. . . they owe you nothing. I know the next argument will be "that is just semantics". . . . no it isn't, you are not their responsibility. . . you signed that agreement and agreed to the conditions.*" *(March 2020, Amazon-Flex, comment)*

## 4. Discussion

The aim of this paper was to explore how platform-based couriers discuss risks associated with their work during periods of high (first wave, second wave, third wave/rise in concerns regarding variants) and low COVID-19 risk.

Our findings regarding dialogue in the first wave being dominated by tips and asking for advice about how to manage risk is unsurprising, particularly given how little was known regarding the virus and transmission by officials and the general public in March 2020 [17]. Dialogue after March/April 2020 shifted from support as a community of couriers to one of polarized debate as we moved through waves of the pandemic and the political nature of COVID-

19 became more salient. Discussions, for example, regarding social responsibility vs. individual choice noted in forums also dominated the media, with anti-mask and anti-lockdown rallies in favour of the latter. Echoed on the subreddits was the rhetoric around the acceptance (or not) of public health measures that were prevalent across traditional and social media at the time [18].

While platform-based workers may be defined as independent contractors, or as engaged in "platform-based self-employment" [1], this classification is contentious with advocacy groups calling for reclassification [19]. Indeed, while courier work, being public-facing, is akin to many other jobs deemed essential throughout the pandemic (though the extent to which food/parcel delivery is essential has been questioned, particularly in relation to who these essential services benefit [20]), our data spoke to the unique nature of courier work on the basis of their classification as independent contractors; that is, they are not privy to the same worker benefits, such as paid sick leave and workplace safety measures, as employees. Data were consistent with literature documenting that COVID-19 has given rise to new forms of risk for platform-based workers. Indeed, the lack of labour protections (e.g. regulated provision of protective equipment) and compensation for time off when experiencing COVID-19 symptoms, have been noted as amplifying risk for workers [3]. Within our sample, some of the couriers reliant on courier income were forced to make a choice of whether to stay home (e.g., to protect themselves and their family, and for some in consideration of reducing public transmission) or to earn an income. Across the dataset, there was no admission that commenters had gone to work while ill, though there were statements that claimed individuals might not be able to take time off work if sick due to income loss. Rather, many spoke of their concerns that they might pose a risk to the population if working while asymptomatic, identifying the role they play in community protection.

We did not identify increased risks to the public from workers working while ill, as has been documented elsewhere [3]. However, we did identify cases of couriers having to draw on credit to take sick leave, consistent with reports that low-income workers often lack savings and are unable to go without a paycheque [21]. Although workers in this study may have been eligible for government provisions (e.g., Canadian workers would have received the Canadian Emergency Response Benefit [22]), as demonstrated in the data, the booming demand for courier services [23]

and the revenue generated from platform-based work attracted individuals to this work, even in early days when risks were poorly understood and measures provided by courier companies uncertain. Of concern then is how long these workers can continue to take time off when symptomatic and how long can companies can continue to evade the role of 'employer' while engaging in employer-like practices when it serves the interest of the company [24].

Recent data suggest that as the financial, social, physical and psychological impact of the pandemic for platform-based workers became more pronounced, platform-based companies responded to pressure to increase health and safety measures for their workers. However, without formal employment standard, there are reported gaps in their provision that continue to put workers at risk [6]. Fairwork, a network of researchers examining the working conditions and practices of platform companies, provide data from 191 platforms in 43 countries across the world suggest that platform-based companies put workers at risk; those consistent with our data are presented below:

1. **A gap between rhetoric and reality.** There is data to suggest that some platform safety measures remain rhetoric and are not actioned. For example, enforcement of cashless payments.
2. **A skew in stakeholder focus.** Responses have prioritized customers, weighting protective measures to the consumers and to maintain capital investments. For example, customer requests for contact delivery.
3. **A gap between** [worker] **needs and policies.** Platforms place the responsibility of health and safety on government and workers. For example, couriers shared safety tips, procuring their own items for personal protection.

The criticisms of platform-based work noted above are not new – rather, the documented prioritization of clients/stakeholder, downloading management and risk responsibility to workers, and surveillance for organisational gain have only become more pronounced as organizational responses to the pandemic are documented [6]. In keeping with the tradition of offloading the financial costs of platform-based work [25], platforms place the responsibility of health and safety on government and workers, both in providing protective measures (policies and personal protection), as well as recovery in the case workers becoming ill [6]. The non-unionised nature of their work, with almost no occupational health guidance or

support in the context of COVID-19 [10], places the responsibility on workers to adhere, or not, to public health guideline to reduce transmission and in many cases to cover the costs of personal protection (masks, sanitizer). Due to the nature of their classification as independent contractors, platform companies do not have obligations to provide workers with protective equipment; this classification has thus been contradicted by the provision of masks, etc. by some platform companies [26].

Our data speaking to personal choice and individual freedoms in following public health measures (e.g., removing masks between riders in the case of UberDrivers) are concerning and pose risk to individuals travelling in vehicles. Unlike employees, couriers may choose to work while symptomatic or choose not to abide by public health measures (e.g., choosing not to wear a mask between drop-off points). While courier-based companies did introduce procedures to monitor compliance with measures – for example, penalties when customers report no mask use; selfies with masks prior to starting a shift; deactivation when symptoms are noted – monitoring and enforcement are not akin to a formal place of work due to the isolated nature of the work. Some platforms also claim that they have no obligation to provide protection for couriers, only providing guidelines for the introduction of contactless services [6]. However, this is only possible with food and package delivery. Indeed, OECD data suggest that only 25% of platforms surveyed ($n = 64$) reported providing personal protective equipment or hygiene products to workers (and some workers were dissatisfied with the quality of items provided). OECD data also suggest that only 23% of platform-based workers reported providing full or partial pay for sick or self-isolating workers, generally up to a maximum period of two weeks [7].

In terms of trends in the frequency of discussion, March and April 2020 had the highest number of posts, even across waves, for all subreddits. Notable however, was the continued dialogue on UberDrivers across all months, including the period of 'low risk'. UberDrivers had many posters who self-identified as American in their posts. In June, there continued to be elevated case counts of COVID-19 across summer months [27] which may explain the continued dialogue within this subreddit. Another explanation might be that UberDrivers has the largest number of couriers across those in our study, with 3.9 million monthly active drivers [28]. The marked decline in discussion after the first wave more broadly might be

explained by the normalization of COVID-19; that is, as officials and the public started to adjust to life in COVID-19, forums for support/tips became less desired but instead served as a platform for complaints and voicing of opinion. Polarization between couriers regarding the nature of their work – as independent contractors – is also notable. Users took two sides – one sympathetic to companies as they are not employers while the others advocating for employee conditions.

### 4.1. Limitations and strengths

We were unable to identify the geographic location of users, nor any demographic information that may have afforded insight regarding if/how user characteristic(s) explain key findings. This information may have also allowed us to identify how different locations (e.g., Canada or the United States) or identities (e.g., age, race, gender) shaped reported risks in our analysis. Further, the present analysis only captures the voices of individuals who post on Reddit and as such, omits perspectives of both non-Reddit users and individuals who simply observe, rather than post content. For example, consistent with earlier research drawing on social media data [29], the voices of users in this study were polarized and did not capture 'fence sitters' or those with more nuanced perspectives. Nonetheless, our paper has many strengths. Our research points to the value of social media for data collection, particularly in observing social phenomena that are poorly understood or may be largely polarized in nature. For example, it is likely that individuals are sharing their honest opinions and thoughts. Also, an online forum may allow users to feel more comfortable sharing their frank opinions, rather than tailoring their responses to an interviewer. It might also be true that there is a greater level of detail provided through online forums compared to in person interviews [30]. Reddit also provided an opportunity to understand the terminology, relevant to researching risk, used by the population group of interest. For example, the term 'rona' was not an original search term but was identified as a critical term for identifying relevant data. Reddit and other social media provide insight into the colloquial terms used by the public not captured in academic writing. Finally, although social media is becoming a more popular source of data for social research, our approach to data collection is novel. As such, we have documented our design and the steps taken to identify and sample data so that readers might take a similar

approach in the replication of our work, or to explore different phenomena on Reddit.

## 5. Conclusions

Our study is the first to document risks, from the perspectives of anonymous couriers who may be unwilling to share their honest opinions and thoughts through primary data collection where anonymity is not guaranteed. From a policy perspective, data highlight the increased risk to platform-based couriers as a consequence of their status as independent contractors.

## Conflicts of interest

None to declare.

## Ethics statement

In consultation with the Human Research Ethics Board at the University of Waterloo, it was determined that ethics approval was not required. The data collected are publicly available user comments, which are themselves posted on a publicly available website with uncontrolled access.

## Reporting guidelines

Data are reported in accordance with the COREQ checklist, to the extent that items apply to data collection via online forums.

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