Digital food delivery platforms: working conditions and health risks.

Plataformas digitais de entrega de alimentação: condições de trabalho e riscos para a saúde.

Pamela Tamara Gomes de Oliveira[a]
https://orcid.org/0000-0002-8435-1873
E-mail: nutripamelatamara@gmail.com

José Roque Junges[a]
https://orcid.org/0000-0003-4675-0993
E-mail: jrjunges@unisinos.br

[a] Universidade do Vale do Rio dos Sinos. Programa de Pós-Graduação em Saúde Coletiva. São Leopoldo, RS, Brasil.

Abstract

The social distancing brought about by the COVID-19 pandemic sped up a process that was already underway: the emergence of the platform economy. One of the applications present in this process was for the delivery of food by motorbike couriers, causing a radical transformation of working conditions that requires investigation. The objective of this study was to discuss those conditions and the risks that they pose to the health of workers. A group of 14 food delivery couriers were interviewed and their statements were recorded and transcribed for thematic analysis, resulting in two main findings: precarious employment conditions and health vulnerabilities. The platform promises independence and autonomy regarding work, but at the same time creates insecurity, failing to ensure work protection or financial stability, as it does not guarantee working conditions. On the other hand, such precarious work generates health risks. This situation requires a discussion on the legal protection of the labor rights and health protection of these workers.

Keywords: Digital Platform; Working Conditions; Labor Rights; Workers' Health.

Corresponding author

Pamela Tamara Gomes de Oliveira
Av. Unisinos, 950 — Cristo Rei. São Leopoldo, RS, Brasil. CEP 93022-750

Resumo

O isolamento social provocado pela pandemia do covid-19 acelerou um processo que já estava em curso: a plataformização da economia. Uma das aplicações presentes nesse processo foi a distribuição de comida por motoboys, ocasionando uma transformação radical das condições de trabalho, que necessita ser investigada. O objetivo desta pesquisa foi discutir essas condições e os riscos que representam para a saúde do trabalhador. 14 entregadores de alimentos foram entrevistados, suas falas foram gravadas e transcritas para análise temática, obtendo dois principais resultados: a precarização das condições de trabalho e a vulneração da saúde. A plataforma promete independência e autonomia quanto ao trabalho, mas, ao mesmo tempo, cria insegurança, não garantindo nenhuma proteção trabalhista nem subsistência financeira estável, por não assegurar os meios para o trabalho. Por outro lado, essa precarização do trabalho produz riscos para a saúde. Essa situação demanda uma discussão sobre o amparo legal dos direitos e a proteção da saúde desses trabalhadores.

Palavras-chave: Plataforma Digital; Condições de Trabalho; Direitos Trabalhistas; Saúde do Trabalhador.

Introduction

The social distancing brought about by the COVID-19 pandemic sped up a process that was already underway: the emergence of the platform economy. Many activities continued operating remotely through digital platforms, causing radical changes in working conditions (Englert; Woodcock; Cant, 2020; Grohmann, 2020).

Data point to this growth in several countries and continents. In 2018, 36% of all workers in the United States had alternative jobs (Freni-Sterrantino; Salerno, 2021), in France they accounted for 1% of total employment (Apouey et al., 2020), and 4.4% of the population of the UK had already provided services to platforms (Christie; Ward, 2019), while in Europe the percentage was 11% (Freni-Sterrantino; Salerno, 2021). In 2019, the number of workers on platforms reached 93 million worldwide (ILO, 2019). In Latin America, in 2020, 27.7% appeared as self-employed and unskilled workers, a category that includes platform jobs (ECLAC, 2020).

One of the sectors affected by the platform economy was restaurants, which had to adapt to the context of social distancing caused by the pandemic. This meant taking orders online through cell phone apps and hiring freelance workers through platforms to deliver the food to customers' homes. The digital app most used for this purpose in Brazil is iFood (Canaltech, 2021).

In Brazil, food delivery apps had around 172 thousand couriers until 2019 (Lara; Braga; Ribeiro, 2020). By the first half of 2020, they already numbered 645 thousand (Magalhães, 2020). Couriers report that, before the pandemic, the rate per kilometer was 600% higher than today, while the workload has doubled (A greve…, 2020).

In rich countries, the growth of the gig economy was viewed as a threat to formal employment relationships, due to the fragmentation and precariousness of work (Wood et al., 2019). In Brazil, informal employment and its consequent fragmentation have always been a regular feature (Abílio; Grohmann; Weiss, 2021). It remains to be seen what new elements the platform economy has brought to this precarious labor (Bajwa et al., 2018).

The complexity of new labor relations mediated by digital platforms makes it possible to raise several questions, including: What are the working

conditions of couriers and how do those conditions pose a risk to their health?

The objective of the study is to analyze these two questions in relation to food delivery couriers.

Method

This is an exploratory and descriptive study with a qualitative approach. Data were obtained from semi-structured interviews with food delivery couriers working for the iFood app. Snowballing sampling (Flick, 2009) was used to select the respondents. The participants were recruited in São Leopoldo, a city in the metropolitan area of Porto Alegre with 238,648 inhabitants, average monthly salary of three minimum wages and 66,699 people in formal employment (28.2%) (IBGE, 2020a).

The participants were selected as follows: acquaintance with the first one was made through the delivery of a pizza order; this one, in turn, recruited another delivery courier and so on, until data saturation. The semi-structured interview was based on the following prompts: What activity did you do before downloading the app? Why did you take up this type of activity? What is the work routine like? What are the advantages and disadvantages and the risks and insecurities of this type of activity?

The interviews were not conducted during delivery, but in a controlled environment, with face masks, distancing recommended by WHO and temperature checks, i.e., basic safety measures adopted during the pandemic. The participants were interviewed in the second half of 2020, after signing an informed consent form, following the prompts. The study was approved by the Ethics and Research Committee of Universidade do Vale do Rio dos Sinos (Unisinos) under CAAE 91002918.5.000.5344 and Opinion Number 2.724.272.

iFood is a Brazilian company created in May 2011 in São Paulo which operates in more than 200 cities in Brazil. The platform receives over 6.2 million orders per month and has 5.1 million active users. It is also possible to access it in Mexico, Colombia, and Argentina (iFood…, 2019).

The following is required from couriers who wish to join the app: (1) a motorcycle (driver's license and vehicle registration) or bicycle; (2) a smartphone with Android operating system; (3) mobile internet and GPS connection; and (4) being in agreement with the terms and conditions of use, which clearly state that the company is not liable for any accidents or mishaps during delivery and does not provide any material such as bags (thermal backpack), reflective jacket, and/or security equipment (iFood, 2020).

The data were interpreted through thematic analysis, a method used to identify and report patterns. The survey also has a realistic character, as it reports experiences and meanings of the participants, giving them a voice. It is also characterized by constructionism, by understanding that these experiences are operative within society, building meanings. It comprises different steps: Step 1: Familiarization with the data; Step 2: Initial code generation; Step 3: Synthesis of themes by grouping potential themes; Step 4: Review of themes, relating them to the data corpus and generating a thematic map of the analysis; Step 5: Definition and naming of themes, refining their details; and Step 6: Production of the report (Souza, 2019).

Results and discussion

The study interviewed 14 people who work for the iFood platform as couriers, of whom 13 were men (92%) and only one was a woman (8%). According to observation, eight were black – including the woman – and the other six were white. Most were young people aged between 20 and 30 (63%), followed by those aged between 30 and 40 (21%), only one was over 50 (8%) and one was a minor (8%). The respondents reflect evidence found in other studies: a predominance of young men between 20 and 40 years old (ECLAC, 2020b; Christie; Ward, 2019; Tran; Sokas, 2017). All had motorcycles, except for the minor, who made deliveries by bicycle, breaking the rules of the app, which only allows persons of legal age. Their statements will be identified by the letter I followed by the interviewee's number.

From the analyses, two results were reached: precarious working conditions and health vulnerability.

Precarious working conditions

It is possible to identify that the main motivation for working for delivery apps is unemployment. This finding is clear in the couriers' statements, including: "*The pandemic started and I was fired, it was the only way I found to earn money*" (I13), and "*Because of the pandemic my income fell, it was the only option I really had*" (I5).

This "new type of employment" attracts people who have low or no income (Apouey et al., 2020). The pandemic increased unemployment in Brazil; in 2019 the unemployment rate was 11.9% (ILO, 2019), growing to 14.7% in the first quarter of 2021 (IBGE, 2020b).

Such precariousness, enabled by the platform economy and caused by unemployment, allows an analysis from a racial perspective, since it especially affects young people, mainly Black, pushed out of the labor market, who experience a process of social vulnerability increased by the racial factor, as appears in the identification of the respondents themselves – more than half are Black (Gouveia, 2019; Antunes, 2020).

In addition to the urgent needs caused by unemployment, the couriers reproduce the discourse of autonomy promoted by the company to justify itself. They express the feeling of independence and neutrality of the application: "*You can make your own schedule[...] you are free[...] you finish your delivery, log off and go away and log on when you want to work[...]*" (I10) ; "*I joined iFood so I don't have a boss ordering me around, picking on me all the time[...]*" (I11)

However, behind this apparent "autonomy" lies a monitoring strategy, increased control (Ivanova et al., 2018) and precarious employment due to lack of benefits (Muntaner, 2018).

The concept of "independence and flexibility" promised by the platform is not fulfilled, because the tasks are defined by the algorithm, which is constantly reprogrammed in order to reach the company's goals. An example is promotions, through which couriers earn bonuses for achieving targets established by the algorithm. In some cases, this generates exclusion when the target is not achieved (Kalil, 2019). Moreover, the terms and conditions of use of the application may be modified at any time by the platform, without prior notice (Kaine; Josserand, 2019).

The possibility of working flexible hours increases motivation and performance, because work management is left to the courier. However, this autonomous management is monitored by algorithms that characterize the management of digital platforms, starting right after the worker registers on the platform, which needs to be approved before deliveries start: "*My other phone broke and I had to download it again, but registration approval is taking time, it's been a week*" (I1); "*My registration was quick, for others it was difficult, mine didn't take a week*" (I8).

The algorithm is a basic unit of computation used for solving problems, that is, it is an automatic set of instructions that are adapted and improved over time. Platforms manage their workers using algorithms that involve a set of predefined criteria to process instructions in order to find a solution and command path. However, such information becomes a "black box," since its content is not disclosed (Grohmann, 2020).

An important aspect of the process of precarious employment relates to the existence of two categories of workers: the so-called "cloud" worker, who is free to download the app, being available for deliveries at any time he wants; and a fixed category called "logistics operator" (LO). According to couriers, the platform needs to guarantee the delivery of orders, regardless of the distance, location or quantity to be delivered, as the application sells the idea that it is omnipresent, requiring the existence of a category with a fixed schedule of times, shifts and days. "*There are two categories of apps, there is LO and there is cloud, cloud is autonomous, LO are committed to iFood, they have to comply with working hours and working days.*" (I6)

Among the respondents, eight were "cloud" (57%) and six were "LO" (43%).

For the couriers, the "LO" work schedule is made randomly. As they have an "obligation" with the app, they have to do their shifts. If the courier is on the lunch shift (from 11 am to 3 pm), at 11:00 am he/she is automatically available on the platform. If the courier is not ready, he/she can request a 20-minute break, the maximum allowed per shift. Depending on

the schedule, the app automatically logs workers on at the start of the shift and logs them off at the end, preventing them from going offline during the shift. If they are not available during the shift, they are considered "absent." The same goes if the phone is turned off at the start of the shift. "*...whenever they need you, you have to be available...*" (I4), "*...obliged to be available during that shift...*" (I5)

Most of the LO interviewed (70%) work three shifts a day: lunch, afternoon coffee, and dinner, six days a week. The three shifts add up to 11 hours of work per day, from 11 am to 11 pm, with a 20-minute break in each shift (1 hour total), resulting in a workload of 66 hours per week. However, according to the CLT (Consolidation of Labor Laws), the maximum number of working hours per week in a company is 44.

The couriers' schedules are disclosed once a month on the platform. Contact is made when the work schedules for the following month are announced.

When asked by the interviewer: "*So you do you have a boss?*" Interviewee 3 replied: "*Yes, but I don't see him, he lives in Porto Alegre. He is responsible for setting up the schedules*" (I3).

Although the couriers are not aware of it, the "random" schedule is defined by algorithmic management that constantly tracks and evaluates their behavior and performance, with automatic decisions to which they do not have access.

Unlike "LO," "cloud" workers do not have a pre-set schedule in which they must be available. Although they can start at any time, it is best to be available during the opening hours of the restaurants, otherwise there may not be any deliveries for them to make. For "cloud" couriers, the work routine depends on whether the platform is their only source of income or an extra source. Those who depends on it exclusively spend more time available.

Twelve hours per day, with no shift breaks ("cloud" workers do not have that option), multiplied by six days results in a total weekly workload of 72 hours. This is the most exploited category of the platform. Similar results were found with a workload of up to 78 hours per week (Wood et al., 2019). "*We work from eleven to eleven, three shifts straight, lunch, coffee, and dinner...*" (I12); "*My routine is to log on at half past ten in the morning and stay on until half past eleven (pm)...*" (I7).

When asked: "Why does the platform prefer LO couriers, who are assigned more deliveries, over 'cloud' couriers?", one of them replied:

iFood calls first the courier with the highest score. He ("cloud") might be available, but he will only be called if there is no one here with a better score than his. Even if I am still on my way back from a delivery, instead of calling him ("cloud"), who is immediately available, they will call me because my score is higher... (I4).

The couriers' rating system was based on customer reviews. Previously, customers were asked to rate them on a five-star scale in which one was poor and five was excellent. Increasing the score means having a good rapport with customers. Also, couriers are constantly offered bonuses by the platforms for many reasons, such as referring a friend to be a courier or making a certain number of deliveries per day, thus increasing the chances of being well reviewed and getting higher scores.

In addition, the platform punishes couriers by blocking them. Overnight they are unable to work without knowing why:

I was blocked for 48 hours [...] (I7)

I did everything right, but they blocked me at the end of the shift for 48 hours, claiming that a customer had not received an order (I6)

If the customer says you didn't deliver an order or the owner of the restaurant says you were rude, they don't say much... they talk about mislaid orders, you're blocked (I9)

Three of the interviewees had been blocked, but cases that happened to their colleagues were also reported. This is one of the biggest fears of couriers, as they do not know exactly why they are blocked. The fear is aggravated by the fact that they do not have formal employment and can be banned from the platform without prior notice. "*You never know what might happen to you if a customer says he didn't receive the*

order, even if you delivered it..." (I7); "*We have no right of defense, what the customer says, goes*" (I6).

Not having the right to a voice was the reason why respondents did not take part in the demonstrations that occurred in 2020, for fear of reprisals or for not being able to afford losing a day's work. "*The weaker always goes to the wall, it's no use, the motorbike couriers strike, but there's no one to fight for us, it's no use, it will always be the same*" (E13).

Most participants did not mention any improvement in working conditions after the strike. Those who mentioned changes reported the introduction of facial recognition before shifts.

The initial expenses of couriers to be able to work are nothing like in the past, with some even incurring debts: "*I also had to buy a phone to be able to work*" (I11).

The items used to make deliveries are: motorcycle (or bicycle), cell phone, and internet connection. Some added helmet, charger, and reflective jacket. All couriers are fully aware that good working conditions depend on themselves - such as the smooth functioning of motorcycle, phone battery, and internet connection. The backpack with the platform logo to carry food is not provided as soon as the courier starts working for the delivery app, it can only be changed if the current one is damaged. The courier bears all costs of the delivery. "*We have to pay for expenses, maintenance, fuel, tires, food*" (I12); "*Everything comes out of our own pocket...*" (I8).

Workers manage to capture the exploitation they suffer when referring to the disadvantages of this type of work: "*The disadvantage is that you don't have a life anymore*" (I12); "*...I lose track of time, for me every day is the weekend, it seems like the same day, I work almost every day*" (E8).

All these aspects of the labor relationship mediated by digital platforms—unemployment, illusive autonomy, working costs borne by couriers, rating scores defined by algorithmic criteria and, lastly, two categories of workers—point to the process of precarious working conditions.

Platform work removes the social and human relationship from the production process: contact with the leader. However, even if this abolishes the negative effects of abusive leadership, it also abolishes the positive effects of a leader who provides support, guidance and a sense of the importance of work (Keith; Harms; Long, 2020).

Not having the guarantee of a fixed income does away with the classic relationship between payment and working hours, because, in the case of platform work, in order to earn enough to make ends meet, couriers must put in long hours (Wood et al., 2019). In Brazil, around 3.8 million people use apps as their main source of income (Brasil, 2020). However, when couriers have another source of income, the narrative is different compared to those who felt pressured to work for the platform due to lack of employment or financial difficulties, since by working with a shorter workload, according to their own schedule, they tend to have more positive results (Keith; Harms; Long, 2020).

Besides not being limited by a fixed workload, these relationships suffer from algorithmic management that controls the behavior of couriers, producing automatic decisions that appear to be neutral and objective but are supported by gamification encrypted by algorithms (Grohmann, 2020).

On the platform, couriers are subject to race, gender, and religious prejudice by customers (Bajwa et al., 2018), since customer satisfaction governs the online rating of couriers, with those with low scores earning less (Wood et al., 2019). There is an incessant search for new deliveries and positive reviews (Keith; Harms; Long, 2020), which implies a lack of autonomy of couriers combined with high levels of work intensity (Wood et al., 2019). The couriers' rating system determines the precarious labor conditions, as they have no control over or access to the evaluation criteria.

The distinction between high- and low-score couriers splits them apart, putting them in direct competition with each other. Rather than viewing the others as co-workers (Tran; Sokas, 2017), they view them as rivals and potential threats (Keith; Harms; Long, 2020). It is a demobilization of the workforce: short and poorly paid single tasks, competitively offered to fragmented workers, advertised as providing flexibility and freedom (Kaine; Josserand, 2019).

However, the nub of the precarious work is that the couriers, in addition to labor, provide also the tools or equipment to work (Kaine; Josserand, 2019).

Moreover, the platform does not give them any employment protection, such as pension plan and minimum wage. The risk of the operation, including the economic risk, is transferred to the courier (Bajwa et al., 2018; Keith; Harms; Long, 2020).

Economic insecurity is experienced daily, as they cannot predict how much they will earn, not to mention the economic risks passed on to couriers, in a potentially precarious situation for them (Keith; Harms; Long, 2020). The lack of guarantees regarding income and working hours and the dependence on algorithmic management with no clear evaluation criteria intensifies the exploitation of labor, due to its devaluation, expressed by the increase in long working hours (Abílio; Grohmann; Weiss, 2021).

The vulnerability of working conditions caused by unemployment and made possible by the outsourcing and intensification of work processes causes a relaxation of labor rights, producing insecurity and health risks, thanks to the loss of individual and collective identity of workers, due to the weakening of their trade organizations (Abílio; Grohmann; Weiss, 2021).

Vulnerable health

Physical and psychosocial risks were identified in the statements of the interviewed couriers. These risks are associated with working in the street. "*Being in the street is risking everything*" (I2).

When the street is the workplace, couriers are at the mercy of the weather, because there is no sheltered area to wait for delivery requests. Extreme weather, such as storms, when they get drenched, are unpleasant experiences: "*When it rains, even wearing a raincoat all day long, we get wet*" (I3); "*The customer takes time to answer, deciding who will go in the rain, when we are already getting wet...*" (E9).

The street as a workplace proves to be harmful, since, in the absence of a physical working site, there is no protective shelter (Tran; Sokas, 2017), which may cause thermal stress due to excessive heat (ILO, 2019).

In these street conditions, the motorcycle is considered the means of production, and therefore any traffic accident should be considered a working accident. However, the platform does not take responsibility for this (Apouey et al., 2020). The pressure to deliver fast is constant and it is common to hear sentences like "*the faster you go, the more deliveries you make, the more you earn,*" so workers take risks for better pay. Couriers disregard speed limits and run red lights to save time, because going faster is synonymous with higher income, making this an endemic behavior (Christie; Ward, 2019).

The participants reported that the restaurant exceeds the time stipulated by the platform for preparing food, transferring to the couriers the obligation of delivering on time, forcing them to drive faster and increasing the risk of accidents. "*We are always rushing because we have three, four minutes to get to the customer's house*" (I4); "*Supposing I take on a delivery for such and such a street, they give you two minutes and there are three traffic lights...*" (I13)

Besides speeding, another great cause of traffic accidents is the cell phone, a tool as important as the motorcycle to make deliveries. "*Today, cell phone use is frequent, whether riding a motorcycle or driving a car, causing a lot of accidents, if I fall I'm screwed...*" (E8)

The application emits distracting sounds and vocalizations during the journey. When there are new delivery requests, alerts are issued until the courier accepts or refuses them, in addition to serving as a GPS, which can provoke mistakes (Christie; Ward, 2019). In addition, the platform encourages faster deliveries without pauses to increase the rating score, facilitating the occurrence of accidents (Garben, 2019).

Another context of health vulnerability was the pandemic. With direct contact with people, couriers are constantly exposed to the SARS-CoV-2 virus. Working outdoors increases the risk of exposure, which produces stress or anxiety. Apoey et al. (2020) found that food delivery couriers were much more likely than other precarious workers to continue working during the pandemic, subjecting themselves to risks. The reason given by Wood et al. (2019) is the excess supply of labor, which leads to a constant competitive environment and the feeling that they

can be easily replaced, thus making them willing to work for less money.

During the interviews, all couriers were wearing masks. The use of hand sanitizer was not noticed. When asked, they stated that they receive a prevention kit from the platform, delivered every 15 days, when they are instructed to go a certain location to receive the kit. If the courier does not pick up the supplies, an amount of 30 reais is credited to their account to buy them. The narratives are that this delivery of virus prevention supplies only started in July 2021, when the motorbike couriers of this and other delivery platforms went on strike.

In addition to the context of working in the street and COVID-19, the 14 interviewees mentioned robberies as one of the biggest risks they face. "*You never know where you are taking the meal, it may turn out to be a scam*" (I12); "*Some addresses are fake for robberies, they send the address and rob you, they give someone else's name*" (I1)

Many mentioned ambushes at false addresses to steal the motorbike, saying they must be familiar with the delivery site in order not to fall into "trick addresses." Another threat is that gated communities do not allow the entrance of motorcycles. They have to be parked in the street and the courier goes up to the customer's house on foot. If they do not want to leave the motorcycle in the street, they may be punished by being blocked or even excluded from the platform (Christie; Ward, 2019).

Lack of safety in the workplace harms workers' health, causing stress and anxiety (Kaine; Josserand, 2019; Tran; Sokas, 2017). In general, fatigue, anxiety and stress are cited as risks to the quality of life of couriers (Rodrigues; Faiad; Facas, 2020). As most are young, these factors are greater because they are more willing to take risks (Tran; Sokas, 2017; Garben, 2019).

The couriers interviewed reported muscle pain caused by the backpack in which they carry the food. In addition, they declared that it causes shoulder and back pain, and that the use of the backpack produces more weariness. The literature also reports that it is a causal factor of collisions (Christie; Ward, 2019). "*With the bag you have to make a greater effort, it strains your back, because it hurts*" (I5).

Some switch to the trunk, but this also has its limitations, as it is more expensive and unsteady. The food may move about inside, impacting the quality of delivery and the evaluation of the courier.

In times of lockdown, ordering food online made things easier for customers, because it includes the delivery of groceries. "*There are 16 items per order, but in those 16 there may be six small things or six three-and-a-half-liter Pepsi bottles, which is hard*" (I14); "*There is a maximum of 16 items, but people only ask for soda and milk cartons that are heavy*" (I5).

It is not advisable for couriers to cancel this type of delivery as they run the risk of being blocked. Requiring workers to carry heavy groceries upstairs is a stressor that harms their health (Keith; Harms; Long, 2020).

Another aspect that affects the health of couriers is poor nutrition. Working conditions do not allow them enough time for proper meals. "*...actually, I bring a small container from home and eat while I wait for delivery requests... we need to adapt...*" (I6); "*...I don't have lunch because there's no time, I eat a snack, a hot dog, a cheeseburger...*" (E14).

In addition to the low nutritional value, it is not a quiet meal in a comfortable setting, focused on the act of eating, because there is an urgency to get back to work (Brasil, 2014).

With excessive working hours and fatigue, it is normal for couriers to take stimulating beverages for better concentration (Christie; Ward, 2019), which poses increased risk of type 2 diabetes, already higher for individuals who work more than 55 hours a week. Those who depend exclusively on this income may also develop altered levels of HDL, cholesterol, and triglycerides (Freni-Sterrantino; Salerno, 2021).

Food delivery couriers were more likely to continue working during the pandemic than other workers (Apouey; et al., 2020). The excess supply of labor leads to the constant experience of a competitive environment. As a result, workers feel that they can be easily replaced and are willing to work for less money (Wood et al., 2019), affecting their health and quality of life.

Among all the factors that most negatively affect the health of workers is the perception and feeling of devaluation of their work by customers and the actual restaurants, with repercussions on mental health due to psychosocial risks (Rodrigues

et al. 2020). Some report that they work attentively, paying attention to the details of the product they are going to deliver, not only to get a good score, but out of empathy with the person who will receive the product. "*When I see that it's turned over, I don't give it to the customer, I think the customer has paid and deserves to eat well*" (I13).

However, all this effort to deliver the food in perfect condition and as quickly as possible is not repaid due to the discourtesy of customers. "*Everyone thinks they are your boss, everyone wants to put you down*" (I5); "*People don't appreciate motorbike couriers, it's a dangerous, tiring profession, it's hard work*" (I2); "*But you have to face it, you have to go, you have to deliver, there's no way*" (I8).

This situation points to the development of workaholic syndrome, characterized by excessive dedication to work, making it the sole goal in life since it is impossible to stop working. In addition, there is the irrational fear of being without a cell phone or internet connection. "*The cell phone is almost as important as the motorcycle*" (I8); "*Using the cell phone on the journey depends on the internet, but it does not provide any security, it is a health risk*" (I9).

All these risks to the quality of life of couriers lead to a process of health vulnerability. The possibility of low costumer rating creates a power imbalance, resulting in high potential for unfair treatment and even abusive interaction (Keith; Harms; Long, 2020). The couriers feel pressured to be friendly and tolerate inappropriate and offensive behavior, leading to mentally exhausting and stressful consequences (Bajwa et al., 2018). To get good scores they must be friendly, efficient, and helpful at all times (Garben, 2019).

Therefore, talking about their profession was not a source of pride, but an outburst due to the irregular information and scanty explanations provided by the platform about their work processes, leading them to feel undervalued as individuals (Keith et al., 2020) and not having their work appreciated (Kaine; Josserand, 2019).

In addition to the risks to physical health, there are also risks to mental health, as they cannot respond to blocking and offense, feeling unappreciated for not having an alternative. They suffer psychologically from the poor working conditions (Bajwa et al., 2018), with the negative impact on health and higher levels of stress (Christie; Ward, 2019).

The couriers see no other solution to unemployment and feel unable to solve this dilemma. Phrases such as "if you work harder, you earn more" often uttered by them are a problem when the courier does not reach the minimum number of deliveries per day, because he thinks he did not work as much as he should have or was not fast enough.

The literature points to several risks caused by precarious labor with consequences on health: income insecurity (Kaine; Josserand, 2019) for not having a guaranteed minimum wage (Garben, 2019); stress (Apouey et al., 2020); anxiety and depression (Christie; Ward, 2019); poor well-being; burn-out; and exhaustion (Keith; Harms; Long, 2020). For them, it is distressing to have to accept this situation, because they have no alternative source of income.

Conclusions

The explosion of employment relations mediated by digital platforms is a new chapter in the trend of current capitalism towards outsourcing of labor, precarious labor rights and relaxation of legal provisions for the protection of workers. This labor-economic phenomenon is present in food delivery platforms, which experienced a boom during the pandemic, connecting restaurants and customers through apps accessed by workers.

These new forms of employability emerged in a context of high unemployment, becoming the only means of obtaining income and leading workers to accept highly precarious working conditions, expressed in the requirement to pay for the means needed to work, in the complete unpredictability of income, over which they have no control, and the submission to non-transparent review scores with criteria that depend on algorithms encrypted by the platform.

This situation of precarious working conditions poses serious consequences to the health of workers, as it exposes them to physical and psychological risks, due to having to work in the street, in traffic, with all its threats and insecurities. In employment

relationships, the workers are the weakest link, always at a disadvantage, because they are continually evaluated by customers and restaurants without receiving any feedback, which creates a mood of tension, threat, and fear, affecting their mental health.

The results of precarious work and consequent health vulnerability are limited by the reduced empirical universe of the interviewees and, therefore, cannot be universalized, as is typical of qualitative research. Hence the need for further studies on work carried out through digital platforms, as well as on its effects on health and the consequent requirement for the creation of forms of legal protection of working conditions, such as compliance with human rights.

References

A GREVE dos entregadores e uma nova forma de organização na luta dos trabalhadores. Entrevista especial com Sidnei Machado. Entrevistado: Sidnei Machado. Entrevistador: João Vitor Santos. São Leopoldo: Instituto Humanitas Unisinos, 8 jul. 2020. Notícia. Disponível em: <http://www.ihu.unisinos.br/159-noticias/entrevistas/600717-a-greve-dos-entregadores-e-uma-nova-forma-de-organizacao-na-luta-dos-trabalhadores-entrevista-especial-com-sidnei-machado>. Acesso em: 1 jul. 2020.

ABÍLIO, L.; GROHMANN, R.; WEISS, H. C. Struggles of delivery workers in Brazil: working conditions and collective organization during the pandemic. *Journal of Labor and Society,* New York, v. 24, n. 4, p. 598-616, 2021. DOI: 10.1163/24714607-bja10012

ANTUNES, R. Qual é o futuro do trabalho na Era Digital? *Laborare,* Campinas, v. 3, n. 4, p. 6-14, 2020. DOI: 10.33637/2595-847x.2020-46

APOUEY, B. et al. Gig Workers during the COVID-19 Crisis in France: Financial Precarity and Mental Well-Being. *Journal of Urban Health*, Berlin, v. 97, p. 776-795, 2020. DOI: 10.1007/s11524-020-00480-4

BAJWA, U. et al. The health of workers in the global gig economy. *Globalization and Health,* Berlin, v. 14, n. 124, 2018. DOI: 10.1186/s12992-018-0444-8

BRASIL. *Guia Alimentar para a População Brasileira.* 2 ed. Brasília, DF: Ministério da Saúde, 2014. Disponível em: <https://bvsms.saude.gov.br/bvs/publicacoes/guia_alimentar_populacao_brasileira_2ed.pdf>. Acesso em: 1 maio 2021.

BRASIL. *Pesquisa Nacional por Amostra de Domicílio (PNAD).* Brasília, DF, 2020. Disponível em: https://www.ibge.gov.br/estatisticas/sociais/trabalho/17270-pnad-continua.html?edicao=32275&t=resultados. Acesso em: 1 maio 2021.

CEPAL – Comisión Económica para América Latina y el Caribe. *Anuario Estadístico de América Latina y el Caribe, 2020.* Santiago, 2021.

CHRISTIE, N.; WARD, H. The health and safety risks for people who drive for work in the gig economy. *Journal of Transport & Health,* Amsterdam, v. 13 p. 115-127, 2019. DOI: 10.1016/j.jth.2019.02.007

COM PANDEMIA, entregadores de app têm mais trabalho, menos renda e maior risco à saúde. *BBC Brasil*, São Paulo, 2020. Disponível em: <https://www.bbc.com/portuguese/brasil-53258465>. Acesso em: 16 jun. 2021.

ENGLERT, S.; WOODCOCK, J.; CANT, C. Digital Workerism: technology, platforms and the circulation of workers Struggles. *Communication, Capitalism & Critique*, Paderborn, v. 18, n. 1, p. 132-145, 2020. DOI: 10.31269/triplec.v18i1.1133

FLICK, U. Amostragem, seleção e acesso. In: FLICK, U. *Desenho da pesquisa qualitativa.* Porto Alegre: Artmed, 2009, p. 43-55.

FRENI-STERRANTINO, A.; SALERNO, V. A Plea for the Need to investigate the Health Effects of Gig-Economy. *Frontiers in Public Health*, Bethesda, v. 9, n. 638767, 2021. DOI: 10.3389/fpubh.2021.638767

GARBEN, S. The regulatory challenge of occupational safety and health in the online platform economy. Social security and the digital economy. *International Social Security*

Review, Hoboken, v. 72, n. 3, p. 95-112, 2019. DOI: 10.1111/issr.12215

GOUVEIA, F. P. S. Faces da precarização do mundo do trabalho e a juventude sobrante. *Estudos IAT,* Salvador, v. 4, n. 1, p. 124-137, 2019.

GROHMANN, R. Plataformização do trabalho: entre datificação, financeirização e racionalidade neoliberal. *Revista Eptic*, v. 22, n. 1, p. 106-122, 2020.

IBGE – INSTITUTO BRASILEIRO DE GEOGRAFIA E ESTATÍSTICA. *Desemprego.* Rio de Janeiro, 2020b. Disponível em: <https://www.ibge.gov.br/explica/desemprego.php>. Acesso em: 1 maio 2021.

IBGE – INSTITUTO BRASILEIRO DE GEOGRAFIA E ESTATÍSTICA. *São Leopoldo*: população no último censo [2010]. Rio de Janeiro, 2020a. Disponível em: <https://cidades.ibge.gov.br/brasil/rs/sao-leopoldo/panorama>. Acesso em: 1 maio 2021.

IFOOD. *Termos e condições de uso ifood para entregadores.* São Paulo, 2020. Disponível em: <https://entregador.ifood.com.br/wp-content/uploads/2023/02/Termo-de-uso.pdf>. Acesso em: 1 maio 2021.

IFOOD: a maior plataforma de delivery do Brasil. *Cotidianum*, [s.l.], 2019. Disponível em: <https://cotidianum.com.br/ifood-a-maior-plataforma-de-delivery-do-brasil.html>. Acesso em: 1 abr. 2021.

IVANOVA, M. et al. Foodora and Deliveroo: the app as a boss? Control and autonomy in app-based management – the case of food delivery riders. *Working Paper Forschungs Förderung*, Düsseldorf, n. 107, 2018.

KAINE, S.; JOSSERAND, E. The organization and experience of work in the gig economy. *Journal of Industrial Relations.* Austrália, v. 61, n. 4, p. 479-501, 2019. DOI: 10.1177/0022185619865480

KALIL, R. B. *Capitalismo de plataforma e Direito do trabalho:* Crowdwork e trabalho sob demanda por meio de aplicativos. Tese (Doutorado em Direito do Trabalho e da Seguridade Social) – Faculdade de Direito, Universidade de São Paulo, São Paulo, 2019.

KEITH, M. G.; HARMS, P.D.; LONG, A. C. Worker health and well-being in the gig economy: A proposed framework and research agenda. In: PERREWÉ, P. L.; HARMS, P. D.; CHANG C. H. (Ed.). *Entrepreneurial and Small Business Stressors, Experienced Stress, and Well-Being.* London: Emerald Publishing, 2020. p. 1-34. DOI: 10.1108/S1479-3555202018

LARA, B.; BRAGA, N.; RIBEIRO, P. V. Parceria de risco, *The Intercept*, [s.l.], 2020. Disponível em: <https://theintercept.com/2020/03/23/coronavirus-aplicativos-entrega-comida-ifood-uber-loggi/>. Acesso em: 1 maio 2021.

MAGALHÃES, A. L. 10 aplicativos para pedir comida pelo celular. *Canaltech*, São Paulo, 7 jan. 2021. Disponível em: https://canaltech.com.br/apps/aplicativos-pedir-comida-celular. Acesso em: 1 nov. 2021.

MUNTANER, C. Digital Platforms, Gig Economy, Precarious Employment, and the Invisible Hand of Social Class. *International Journal of Health Services,* Toronto, v. 48, n. 4, p. 597-600, 2018. DOI: 10.1177/0020731418801413

OIT – ORGANIZAÇÃO INTERNACIONAL DO TRABALHO. *Trabalhar num planeta mais quente:* o impacto do stress térmico na produtividade do trabalho e no trabalho digno. Genebra, 2019. Disponível em: <https://www.ilo.org/wcmsp5/groups/public/---americas/---ro-lima/---ilo-brasilia/documents/publication/wcms_771469.pdf>. Acesso em: 1 maio 2021.

RODRIGUES, C. M.; FAIAD, C.; FACAS, E. Fatores de risco e riscos psicossociais no trabalho: definição e implicações. *Psicologia: Teoria e Pesquisa*, Brasília, DF, v. 36, 2020. Número especial. DOI: 10.1590/0102.3772e36nspe19

SOUZA, L. K. Pesquisa com análise qualitativa de dados: conhecendo a Análise Temática. *Arquivos brasileiros de psicologia*, Rio de Janeiro, v. 71, n. 2, p. 51-67, 2019. DOI: 10.36482/1809-5267.ARBP2019v71i2p.51-67

TRAN, M.; SOKAS, R. The gig economy and contingent work: an occupational health assessment. *Journal of Occupational Environment*

Medicine, Philadelphia, v. 59, n. 4, p. e63-e66, 2017. DOI: 10.1097/JOM.0000000000000977

WOOD, A. et al. Good gig, bad gig: autonomy and algorithmic control in the global gig economy. *Work, Employment and Society,* Durham, v. 33, n. 1, p. 56-75, 2019. DOI: 10.1177/0950017018785616