

## Chapter 6

### Transparency and platform workers' autonomy

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#### The Working Environment of the Future

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### 6.1 Introduction

Research findings suggest that worker autonomy is an important factor in determining the positive or negative effects of digitalization and new technologies on employee health (Christensen et al., 2019). Employee health may also be enhanced by organizational autonomy support (Liu et al., 2020). If working conditions allow autonomy, it implies that workers have more capacity to act – that is, more latitude or room for manoeuvre – in their work. Here, this capacity to act is called *agency*, which means “a temporally constructed engagement by actors of different structural environments” (Emirbayer and Mische, 1998: 970). Agency, which is closely related to self-management and self-regulation, means not only making informed choices or managing uncertain working conditions but also raising one’s voice and influencing these conditions, at least a little (Gegenhuber et al., 2021; Heikkilä and Seppänen, 2014; Seppänen et al., 2023). Sometimes the word autonomy may include agency as a degree of power or discretion to decide and influence one’s work context (e.g., Laursen et al., 2021). In this chapter, autonomy and agency are separated for analytical purposes. Structural work environments differ in how much they enable autonomy, and thus agency, to actors such as platform workers.

Despite apparent risks, platform work is often considered to provide workers more autonomy than traditional employment relationships. This is because on digital platforms, compared to in a standard employment relationship, workers are often given more freedom to choose when, how or how much they work, allowing them to combine work with care responsibilities or studies, for example (Huws et al., 2018; Ropponen et al., 2019). Autonomy, flexibility and

freedom often motivate workers to platform work (Pesole, 2018; Schor, 2020; Wood et al., 2019).

One important aspect that conditions worker autonomy is transparency. Transparency means that third parties can see a chain of activity or decision-making (Stohl et al., 2016). In principle, digital technologies have the capacity to radically increase the possibility of transparency. In this chapter, transparency, or its opposite, namely opaqueness, means that a worker, in practice, can visually see (or not see) information or clarifications about operations or the environment from the labour platform. The transparency or opaqueness of a labour platform affects workers by enabling or limiting their agency – their capacity to make informed choices and to have alternatives for action – in the platform environment. It is useful for labour inspectors to understand how labour platforms operate, and transparency offers a window into the effects of digital platforms on workers' working conditions and work environment.

The aim of this chapter is to better understand digital and platform organization as a basis for occupational safety and health (OSH) risks for platform workers. Digital labour platforms are predominantly characterized by their information and communication technologies and algorithmic management (Wood, 2021). The chapter explores how transparency, or lack thereof, is experienced by platform workers in their practical work and with what consequences. How does the transparency or opaqueness of the platform operations affect platform workers' autonomy and agency? How do labour platforms manage transparency, and what are the outcomes for workers in terms of autonomy and agency?

The data consist of nine qualitative thematic interviews with food delivery couriers living and working in Finland. This food delivery service is a form of on-location platform work, carried out through an international company referred to as the *delivery platform*, where couriers transport food from restaurants to clients using cars, bikes, or scooters. Four of the nine courier interviews were conducted in 2017 and five in 2022.

The interview guide focused on platform workers' experiences with their work, how the platform shapes their activities and the role of platform work in their career and life.

The next section details the concepts of autonomy and transparency. Subsequently, [Section 6.3](#) explores the couriers' work on the delivery platform. [Section 6.4](#) describes the findings on how transparency or lack thereof affect couriers' autonomy and agency. Finally, [Section 6.5](#) discusses the importance and role of transparency and autonomy in assessing OSH risks in platform work, and the implications for Nordic labour inspectorates.

## **6.2 Autonomy and transparency**

### **6.2.1 Autonomy**

Autonomy in the workplace is generally understood as the ability to exercise a degree of control over the content, timing, location, and performance of work activities (Mazmanian et al., 2013). According to Karasek and Theorell (1990), autonomy is a core psychosocial factor at work that plays an important role in occupational health and well-being. High demands at work are particularly stressful when the worker has little control (low autonomy) over their work (Karasek, 1979). High autonomy and high social support both buffer the detrimental effects of high workload (Johnson and Hall, 1988). Peer and social support are often low in platform work, and the control exercised by the platform algorithms is high, implying that platform workers are especially at risk of experiencing occupational stress resulting from high workload (Berástegui,

2020: 37–38). Autonomy is a resource that increases motivation and engagement at work, which in turn affect safety, including injuries and accidents at work, sicknesses, and mental health (Ropponen et al., 2019: 59).

The question of worker autonomy in relation to technology use or digitally organized work is complex. Ten years ago, Mazmanian and colleagues (2013) found that the use of mobile email technologies increased knowledge professionals' autonomy in terms of being able to work anywhere and anytime. But in the long run, they argued, this “anywhere and anytime” phenomenon intensified collective expectations of their availability and escalated their engagement with work, thus reducing their ability to disconnect from work. In other words, technology-induced increased autonomy in fact decreased their autonomy. This is referred to as the *autonomy paradox* (Mazmanian et al., 2013). Workers may voluntarily limit their autonomy and even experience this voluntary limitation as part of their autonomy, the paradox suggests.

Even if labour platforms allow autonomy over which tasks or projects to take on and how and when to fulfil them, platform workers may remain subject to intensive surveillance and control, limiting their autonomy. This has been called the autonomy paradox in platform work (Laursen et al., 2021; Möhlmann and Zalmanson, 2017). Platform workers do have freedom and flexibility, but due to their need to increase their reputation and ranking to compete with other workers and gain income, platform workers may voluntarily engage in a lot of unpaid labour and work unsocial hours, which increase OSH risks (Jarrahi et al., 2020; Laursen et al., 2021; Ropponen et al., 2019; Sevchuk et al., 2019). Platform workers may see their voluntary efforts as part of their autonomy, without seeing the possible negative effects to their health and safety.

But what are the mechanisms that enhance or inhibit workers' sense of autonomy on labour platforms? To gain work and income, platform workers need to know how the platform works in terms of matching tasks and workers, how workers are evaluated and ranked, what is the demand situation for their work, and so on. Workers' knowing requires that platform companies make necessary information transparent to platform users – transparency thus becomes a resource that makes agency possible.

### **6.2.2 Transparency and opaqueness**

As we saw above, the role of labour platforms is to match workers with tasks offered by requesters or clients. In digitally mediated virtual environments, there can be few real social contacts between workers and clients, and sometimes there is even no contact at all. The worker and the client are often strangers to each other, and their relation can be short, as in food delivery. Despite this, they need to trust each other: the client needs to trust that the worker will perform the service, and workers need to trust that they will be paid for their work. Furthermore, platform users need to trust the labour platform, and vice versa. Digital platforms, with their capacity for transparency, were initially created for the purpose of building and maintaining trust between strangers (Sundararajan, 2016).

Transparency is defined in many ways including as the disclosure of information (Mol, 2010), “seeing through” information to detect something of interest (Stohl et al., 2016), or understandability of a specific (algorithmic) model for accountability (Kemper and Klokman, 2018). Transparency implies that somebody can trace the process through which a decision, score, or outcome is made, and it is a valued term (Ball, 2009). Transparency can be enhanced relatively easily by using digital technologies and the Internet.

Transparency is necessary for seeing and knowing. When individuals can see the behaviours of others directly, it is clearer to them what activities are conducted and how. But when behaviours are made visible through technology, seeing and knowing become more difficult. Digital technologies, data, and algorithms – also called “digital architectures” – extract and encode data from work into certain datapoints, aggregate and compile them to more abstract categorizations and compute them into scores and measures. The new scores, measures or visualizations take part in, shape, and influence workers and working in different ways (Leonardi and Treem, 2020; Flyverbom, 2022).

Usually, transparency helps people see and know better. However, transparency does not always imply that things can be seen and known (Ananny and Crawford, 2018; Stohl et al., 2016). Sometimes more transparency can even produce opaqueness, a situation that is called the *transparency paradox* in research literature (Stohl et al., 2016; Leonardi and Treem, 2020). The transparency paradox refers to the fact that sometimes more communication and transparency hide rather than reveal information to people. For instance, increases in transparency can produce such a large volume and diversity of communication that finding and understanding any single piece of information becomes difficult. This is called “unintentional opacity” (Stohl et al., 2016: 133).

Opacity through transparency, as in the transparency paradox, can also be intentional. Actors or organizations can purposefully make so much information visible that receivers will be distracted from some central information. Or information can be made transparent in a manner that is ambiguous, misleading or difficult to understand – in other words, transparency does not produce visibility. When opacity through transparency is intentional, as in these cases, it is called “strategic opacity” (Stohl et al., 2016: 133–134). For organizations, strategic opacity can be a way to simultaneously comply with expectations and hide important information. (Stohl et al, 2016). In Section 6.4, we will investigate some practices of the delivery platform that can be interpreted as strategic opacity.

In this chapter, transparency means that platform workers can see – or not see in the case of opaqueness– information (such as text, picture or video, figures or oral information or clarifications) that helps them use their agency, make informed choices and craft their work according to their motives and interests. While perceived autonomy is important for workers’ health and well-being in digital work environments (Christensen et al., 2019), it is argued that transparency is needed for workers’ autonomy and agency.

### **6.3 Delivery platform**

The delivery platform offers new couriers “freedom and flexibility” and promises them “you can choose when to offer your services” (Delivery platform’s induction material, 2022). Once accepted, couriers first need to book work shifts in the platform application. In principle, they can work as much or as little they want, but in practice, competition between couriers and rules of Finnish residence permits limit this formal flexibility. For instance, students with a temporary residence permit and without an employment contract can work only a limited number of hours per week (Perkiö et al., 2023). When starting a shift, a courier goes to a starting zone and logs in to the app through their mobile phone, with GPS on. After the courier receive an order, they accept it by clicking a button in the mobile application. Couriers have a right to refuse tasks, but refusing more than two tasks means that they cannot get new orders for half an hour. A courier keystrokes into the app both pick up and drop of the food, and in case of trouble, a courier can

ask for help from the platform. When the order is completed, the courier is ready to receive the next one.

The delivery platform matches food orders with couriers. Based on performance data collected from couriers, the platform ranks them into five levels at regular time intervals. Performance measures affecting the ranking level are the number of deliveries per hour, no-shows or being late to their shift, number of work hours, and other minor factors (Delivery platform's induction material, 2022). The better a courier's performance ranking, the better their level as a position to reserve working shifts. Therefore, ranking scores heavily affect a courier's agency in terms of access to work and earnings. Next, we turn to the findings of the study.

## **6.4 Transparency, autonomy and agency in courier work**

### **6.4.1 Transparency enhancing couriers' autonomy and agency**

The delivery platform can see couriers' activities and their geographical locations, which enables data collection for performance metrics and scoring. The platform is able to assist couriers in finding the customers' homes, because it records the couriers' positions. The food courier interviews from 2017 and 2022 reveal that the delivery platform has, through technology, considerably increased transparency for couriers.

As we saw above, the platform ranks couriers to certain levels based on their performance scores. Couriers with good performance, and thus ranked highly, can choose the most lucrative shifts. Highly ranked couriers enjoy more autonomy than those with lower rankings (Perkiö et al, 2023). The ranking level is of utmost importance in getting working shifts and income. One courier

said: "So if all your points [of] working performance point to something very good, then you have enough working shifts". The delivery platform informs couriers about the basic logic of the rankings and the performance criteria based on which they are evaluated. Couriers know that speed – how many gigs they complete in an hour – and the number of hours they work are important criteria in their ranking. Couriers feel that they have agency and can influence their ranking through performance. One of them argued: "Well, it seems fair to me, because there is the system of levels, so you can yourself influence what level you are on". This agency and the ability to influence one's ranking is a positive outcome of the platform making transparent the evaluation criteria for couriers.

In autumn 2021, a new feature appeared on couriers' app. They could now see the final address of the client from the first announcement of a gig. Previously, they received this information only after picking the food from a restaurant. A consequence of enabling couriers to see the customers' addresses upon allocating the request to the courier was the strengthening of the couriers' agency through the ability to make more informed decisions about what "gigs" to accept based on a better understanding of how lucrative they will be. One courier said: "You can more easily pick the gigs you want when you know where the client lives (...) You can refuse to take a gig that you know, okay, it will take me somewhere without restaurants and with fewer orders".

Another new transparency feature was offered to old couriers a couple of months before the interviews. When receiving an order and before accepting it, a courier would see how much money they would get from that order. We call this feature an "advance notice of payment". As one of the couriers argued:

It [the advance notice of payment] was thought to be a good thing, that you can accept based on, hey now I get eight euros, I start driving a bit longer distance when I know that I will get eight euros for sure. Before, I would have had to estimate from the map the two points visually, and with my knowledge of the map certainly I could know it before, but I thought that this is good.

By helping couriers estimate income from orders, the advance notice of payment could increase their selection and thus their agency. We will come back to this later.

#### **6.4.2 Opaqueness limiting couriers' autonomy and agency**

A second and equally important question is how the platform decreases transparency for couriers – and with what outcomes. This is explored by looking at task allocation, ranking, and preconditions for advance notice of payment.

According to the interviewed couriers, the delivery platform is not transparent about how tasks are allocated to couriers. One of them said:

I don't know [how tasks are allocated] and probably even those app guys don't know, because that app has been developed somewhere abroad and it can be there in the code somewhere. Maybe nobody knows. But I think it would be fair to clarify it (...) because then, as a worker you could [better] plan your location.

According to this courier, seeing and knowing how tasks are allocated would enable couriers to improve their tactics for selecting their locations and tasks. This would be a positive agency outcome of transparency. Many couriers had tried to ask the platforms about the task allocation mechanisms without receiving adequate explanations. Some couriers also would have liked to have more transparency about the location of orders. One possible outcome of increased transparency regarding geographical demand might be that couriers could better anticipate future gigs. One courier had suggestions:

On the map [on the platform app] there could be green dots showing the places where there are lots of unaccepted orders. (...) You could then anticipate where you should be driving if you don't have a task. (...) In principle, the platform advises you to go towards the centre zone, but it is not necessarily worth it because your next order can go in a completely different direction.

As we saw above, the platform enables the couriers to see and understand the performance criteria that are the basis for their ranking and work shift distribution. However, couriers cannot see how many couriers there are at each ranking level. Another courier said:

At least when delivering by bicycle, first of all, you are unable to plan far [ahead], [for example] if you will be able to obtain work shifts or not, especially in summer. Because you don't know, first, what will your level be because [the delivery platform] decides how many workers go into the first and second levels, and it always varies. So you never know [if you] have you been good enough for the first level. And you can guess, okay, if I'm on the second level, probably there will not be enough work shifts for me because couriers on the first level will take them all next [time].

In this excerpt, the courier explains why delivering food by bike as a full-time summer job is uncertain and untenable on the delivery platform. Many bike couriers want to work as much as possible in summer rather than during the cold and snowy Finnish winter. In summer, the competition between couriers becomes "cutthroat hard", as one courier put it. There is uncertainty about the amount of demand at any given time, and the company's tactic is to

flexibly regulate the number of couriers at each ranking level to balance the supply and demand of deliveries. This causes uncertainty and stress, particularly among those couriers who are dependent on platform income. This is also the reason why couriers who need the income so eagerly and voluntarily work quickly and long hours, causing fatigue and risks to their health and safety.

The delivery platform tries to balance supply and demand and thus diminish the demand risk to couriers by distributing work shifts based on performance control and ranking levels. The positive side for couriers is that the risk of not having gigs during their work shifts is small. The negative side is that they must compete with each other for work shifts, which requires them to constantly maintain or improve their ranking.

The delivery platform had recently provided more transparency for experienced couriers with the advance notice of payment feature, as we saw above. This was a welcome improvement to couriers' working conditions (see the last quote in [subsection 6.4.1](#) above). However, this option was only available in a new contract between the delivery platform and a courier. Couriers with an old contract would get it only if they would change to the new contract. In the following quote, a courier with the old contract compares the transparency in his app with that of his colleague who has the new contract.

In their app, my friend who is paid less than me, he can see his... he has more features in the app than me. Okay. So now when we talk to each other he says he can see how much he earned from this task. And I cannot see that. I will only see at the end of the month. They will send me the calculations, like you made this many deliveries, you drove this many kilometers, and this is...and then do the calculation. I have to wait until the end of the month, but my friend, he can see his earnings right away. So, they [the delivery platform] sell those features. So they will send me an email, we have these new features in our app, if you want to have access to them, then choose this [new contract].

This new contract, offered as an option to couriers with the old contract, included a change in the payment system: the fee for each gig was higher than before, but the hourly pay during a shift included in the old contract was removed. The same courier elaborated on the issue:

For example, tomorrow me and my friend are both working, and he has this fear in his head like if he doesn't get a task in an hour, he will make no money. But I am relaxed. If there is no task in an hour, I will get paid eleven euros for that hour. So our state of mind will be different. (...) this is the other thing with that new [contract].

The old contract offered a more stable income through its hourly base pay while the new contract provided increased transparency. Some couriers went after the better transparency while others calculated the outcome of the change in terms of income and decided not to sign the new contract. Incoming couriers were offered only the new contract without the hourly base pay. By advertising the advance notice of payment as an improvement in transparency, the delivery platform may have purposely directed old couriers' attention away from the effects of contract change on their income. This can be interpreted as an example of the strategic transparency paradox (see [subsection 6.2.2](#)) where organizations, by introducing new transparency features, may divert attention from less favourable changes introduced simultaneously.

## **6.5 Discussion and conclusion**

In this chapter we have examined how transparency on the platform affects workers' autonomy, and agency. Besides alleviating OSH risks, autonomy is also important for learning in routine platform work where opportunities for skills and career development are poor (Eurofound, 2018). Platform-enabled transparency helps workers in many ways. The main criteria for performance evaluation and payment are often transparent, and new technologies can allow platforms to add more worker-supporting features to their apps. This kind of transparency gives platform workers autonomy and enables them to make more informed decisions, thus influencing their way of working. Simultaneously, platforms' opaqueness limits platform workers' autonomy. As a result, workers need to tolerate uncertainty and stress. When workers are in competition with each other, lack of transparency promotes haste and working long hours, increasing OSH risks. Workers need self-management (Ropponen et al., 2019) and they must be attentive to changes proposed by platforms.

The findings of this study suggest that transparency, or lack thereof, has consequences for couriers' autonomy and agency. But its role should not be overestimated. For instance, transparency does not in itself affect the crucial question of income. Income level, the piece-rate system, and the evaluation and ranking system all encourage platform workers to increase efficiency, with haste and stress as outcomes. Platform workers benefit from positive demand and suffer from negative demand. Moreover, transparency cannot directly improve working conditions related to the physical environment. Too much emphasis on transparency may fall into the transparency paradox by hiding other important factors affecting OSH. That said, transparency is still very relevant because, as we have seen, it may help workers' own agency in terms of self-management and self-regulation. Transparency may also help platform workers better understand the autonomy paradox and thus avoid the phenomenon Laursen et al. (2021) call the "double autonomy paradox". By revealing some of the logics of labour platforms, transparency may increase workers' agency in reflecting and deciding whether they want to continue with platform work or find alternatives (Alasoini et al., 2023). When it comes to transparency, platforms have a great deal of power in deciding what to reveal or hide. We can imagine the huge possibilities for transparency and opacity labour platforms and other organizations have with their algorithmic and AI management systems.

Labour platforms can and do improve transparency for the benefit of workers. Despite increased transparency, however, platform workers are still confronted with opaqueness and uncertainty (Perkiö et al., 2023; Rahman 2021). This study suggests that labour platforms may tie improved transparency features to other less beneficial changes so that the latter may remain hidden from workers, either unintentionally or strategically. The transparency paradox (Leonardi and Treem, 2020; Stohl et al., 2016) highlights how sharing more information does not necessarily produce transparency. Other factors may affect transparency: accessing the information may require too much effort or platform users may not have the necessary skills to read or interpret information. By increasing transparency for workers, delivery platform companies may try to strengthen workers' independent entrepreneurship. Labour inspectors could instruct platforms to pay attention to transparency and communication to and with platform users (Seppänen et al., 2022).

Labour platforms may need to keep their evaluation systems opaque for reasons of confidentiality or because users might otherwise game the system (Cedefop, 2020: 49). If systems can be easily gamed, there would be little variation in scores and rankings, which makes it difficult for the platform and/or clients to differentiate between workers (Rahman 2021: 949; Tadelis, 2016). Workers can influence their rating through their work, but after that, scores

and rankings remain largely outside of their control, being moulded by platforms' complex algorithms in a way that is partly opaque to workers.

In general, platform workers' expectations for autonomy are high and labour platforms attract workers with flexible working times. Still, workers may, either voluntarily or by necessity, choose to work at unsocial hours (evenings, weekends or even at night) and do unpaid work to gain tasks and income (Ropponen et al., 2019). The autonomy paradox refers to this discrepancy between flexibility and real experience of time use, which may be intensified by labour platforms' rating and income systems. The autonomy paradox can cause workers to speed up and to work long days and weeks, thereby increasing health and safety risks. In particular, workers who are dependent on income from platforms are in a vulnerable position (Schor, 2020).

The OSH risks are affected by workers' experiences of autonomy, and the autonomy paradox helps us understand the puzzle from workers' own perspective. This study suggests that the transparency paradox may aggravate the autonomy paradox by limiting platform workers' ability to see and know crucial information that shapes their agency and affects their work, income and well-being.

Transparency provided through algorithmic systems can, in theory, help workers better see and understand their own and collective work, which may increase their capacity to act (Bobillier Chaumon, 2021). For instance, food delivery apps can have features that couriers experience as supportive. Even opaqueness may enhance agency and strategic thinking if workers are pushed to question, study, and act on their ranking or matching mechanisms or uncertainties caused by complex algorithmic systems (Seppänen et al., 2023). But it is also possible that transparency allows platforms' algorithms to guide workers' agency by telling them how to act or what is a good attitude to have (Bobillier Chaumon, 2021). Therefore, transparency requires a critical audience both inside and outside organizations (Kemper and Klokman, 2018), and labour inspection can play an important role in this regard.

Working conditions in food delivery work, including high workload and related fatigue, piece-rate payment creating pressure to work quickly, and lack of organizational risk management, accentuate OSH risks (Christie and Ward, 2019). The autonomy and transparency paradoxes in platform work are closely linked to psycho-social risks of this type of work (Berástegui 2020, Perkiö et al. 2023; Ropponen et al., 2019). Although psycho-social risks are not often a cause for prosecution of labour protection offences, they are well recognized to produce ill health. Labour inspectorates' legal responsibilities and suitable preventive strategies are often unclear in the context of restructured and reorganized work and employment such as platform work.

## **Bibliography**

Alasoini, T., Immonen, J., Seppänen, L., & Känsälä, M. (2023). Platform workers and digital agency: Making out on three types of labor platforms. *Frontiers in Sociology* 8. DOI: <https://doi.org/10.3389/fsoc.2023.1063613>.

Ananny, M., & Crawford, K. (2018). Seeing without knowing: Limitations of transparency ideal and its application to algorithmic accountability. *New Media & Society*, 20(3), 973–989. DOI: <https://doi.org/10.1177/1461444816676645>.

Ball, C. (2009). What is transparency? *Public Integrity*, 11(4), 293-307. DOI: 10.2753/PIN1099-9922110400.

Berástegui, P. (2021). *Exposure to psychosocial risk factors in the gig economy: A systematic review* Report 2021.01. European Trade Union Institute (ETUI).

Bobillier Chaumon, M.-E. (2021). Technologies émergentes et transformations digitales de l'activité: enjeux pour l'activité et la santé au travail. *Psychologie de travail et des organisations*, 27(2021), 17–32. DOI: <https://doi.org/10.1016/j.pto.2021.01.002>.

Cedefop. (2020). *Developing and matching skills in the online platform economy: Findings on new forms of digital work and learning from Cedefop's CrowdLearn study*. Publications Office. Cedefop reference series; No 116. Accessed from [https://www.cedefop.europa.eu/files/3085\\_en.pdf](https://www.cedefop.europa.eu/files/3085_en.pdf), 4 February 2024.

Christensen, J. O., Finne, L. B., Garde, A. H., Nielsen, M., Sørensen, K., & Vleeshouvers, J. (2020). *The influence of digitalization and new technologies on psychosocial work environment and employee health: A literature review*. STAMI report 2. National Institute of Occupational Health, Norway (STAMI); National Research Center for the Working Environment, Denmark (NRCWE).

Christie, N., & Ward, H. (2019). The health and safety risks for people who drive for work in the gig economy. *Journal of Transport and Health*, 13, 115–127. DOI: <https://doi.org/10.1016/j.jth.2019.02.007>.

Emirbayer, M., & Mische, A. (1998). What is agency? *American Journal of Sociology*, 103(4), 962–1023. DOI: <https://doi.org/10.1086/231294>.

Eurofound. (2018). *Employment and working conditions of selected types of platform work*. Publications Office of the European Union.

Flyverbom, M. (2022). Overlit: Digital architectures of visibility. *Organization Theory*, 3(3). DOI: <https://doi.org/10.1177/26317877221090314>.

Gegenhuber, T., Ellmer, M., & Schlüssler, E. (2021). Microphones, not megaphones: Functional crowdworker voice regimes on digital work platforms. *Human Relations*, 74(9), 1473–1503. DOI: <https://doi.org/10.1177/0018726720915761>.

Heikkilä, H., & Seppänen, L. (2014). Examining developmental dialogue. The emergence of participants' transformative agency. *Outlines. Critical Practice Studies*, 15(2), 5–30. DOI: <https://doi.org/10.7146/ocps.v15i2.16829>.

Huws, U., Spencer, N., Syrdal, D., & Holts, K. (2018). *Work in the European gig economy. Research results from the UK, Sweden, Germany, Austria, the Netherlands, Switzerland and Italy*. Foundation for European Progressive Studies, UNI Europa, University of Hertfordshire.

Jarrahi, M. H., Sutherland, W., Nelson, S. B., & Sawyer, S. (2020). Platformic management, boundary resources for gig work, and worker autonomy. *Computer Supported Cooperative Work*, 29, 153–189. DOI: <https://doi.org/10.1007/s10606-019-09368-7>.

Johnson, J. & Hall, E. (1988). Job strain, workplace social support, and cardiovascular disease: A cross-sectional study of a random sample of the Swedish working population. *American Journal of Public Health*, 78(10), 1336–1342. DOI: <https://doi.org/10.2105%2Fajph.78.10.1336>.

Karasek, R. (1979). Job demands, job decision latitude and job strain: Implications for job redesign. *Administrative Science Quarterly*, 24(2), 285–308. DOI: <https://doi.org/10.2307/2392498>.

- Karasek, R., & Theorell, T. (1990). *Healthy work: Stress, productivity and the reconstruction of working life*. Basic Books.
- Kemper, J., & Klokman, D. (2018). Transparent to whom? No algorithmic accountability without a critical audience. *Information, Communication & Society*, 22(14), 2081–2096.  
DOI: <https://doi.org/10.1080/1369118X.2018.1477967>.
- Laursen, C. S., Nielsen, M. L., & Dyreborg, J. (2021). Young workers on digital labor platforms: Uncovering the double autonomy paradox. *Nordic Journal of Working Life Studies*, 11(4), 65–84.  
DOI: <https://doi.org/10.18291/njwls.127867>.
- Leonardi, P., & Treem, J. (2020). Behavioral visibility: A new paradigm for organization studies in the age of digitization, digitalization and datafication. *Organization Studies*, 41(12), 1601–1625.  
DOI: <https://doi.org/10.1177/0170840620970728>.
- Liu, Y. Raza, J., Zhang, J., Zhu, N. & Gul, H. (2020). Linking autonomy support and health at work: The self-determination perspective. *Current Psychology*, 41, 3651–3663.  
DOI: <https://doi.org/10.1007/s12144-020-00884-0>.
- Mazmanian, M., Orlikowski, W., & Yates, J. (2013). The autonomy paradox: The implications of mobile email devices for knowledge professionals. *Organization Science*, 24(5), 1337–1357.  
DOI: <https://doi.org/10.1287/orsc.1120.0806>.
- Mol, A. J. P. (2010). Epilogue: The future of transparency: Power, Pitfalls and Promises. *Global Environmental Politics*, 10(3), 132–143.
- Möhlmann, M. & Zalmanson, L. (2017). Hands on the wheel: Navigating algorithmic management and Uber drivers' autonomy. Paper presented at the Proceedings of the International Conference in Information Systems (ICIS 2017), Seoul, South Korea.
- Perkiö, M., Mbare, B., Svyarenko, A., Kokkinen, L., & Koivusalo, M. (2023). *Occupational health and safety risks amongst food delivery workers*. Working papers 116/2023. Tampere University, Faculty of Social Sciences, Work Research Centre.
- Pesole, A., Urzi Brancati, M. C., Fernández-Macias, E., Biagi, F., & Gonzalez Vazquez, I. (2018). *Platform workers in Europe: Evidence from the COLLEEM survey*. Publications Office of the European Union.
- Pärnänen, A. (2023). Moni alustatyötä tekevä voi vaikuttaa työhönsä [Many people working on platforms can influence on their work]. Presentation in a seminar Työnteon monet muodot [The many faces of working], 2.11. 2023: Statistics Finland.
- Rahman, H. A. (2021). The invisible cage: Workers' reactivity to opaque algorithmic evaluations. *Administrative Science Quarterly*, 66(4), 945–988.  
DOI: <https://doi.org/10.1177/00018392211010118>.
- Ropponen, A., Hakanen, J., Hasu, M., & Seppänen, L. (2019). Workers' health, wellbeing, and safety in the digitalizing platform economy. In S. Poutanen, A. Kovalainen, & P. Rouvinen (Eds.) *Digital work and the platform economy: Understanding tasks, skills and capabilities in the new era*. pp. 56–73. Routledge. DOI: 10.4324/9780429467929-4.
- Schor, J. B. (2020). *After the gig: How the sharing economy got hijacked and how to win it back*. University of California Press.

Seppänen, L., Känsälä, M., Immonen, J., & Alasoini, T. (2022). *Näkökulmia alustatyön reiluuteen. Reiluuden mallit alustatyössä-hankkeen loppuraportti*. Tietoa työstä, Työterveyslaitos.

Seppänen, L., Toiviainen, H., & Hasu, M. (2023). Workplace learning for fair work on digital labour platforms. In H. Bound, A. Edwards, K. Evans, & A. Chia (Eds.) *Workplace learning for changing social and economic circumstances*, pp. 171–184. Routledge.

Sevchuk, A., Strebkov, D., & Davis, S. N. (2019). The autonomy paradox: How night work undermines subjective well-being of internet-based freelancers. *ILR Review*, 72(1), 75–100. DOI: <https://doi.org/10.1177/0019793918767114>.

Stohl, C., Stohl, M., & Leonardi, P. (2016). Managing opacity: Information visibility and the paradox of transparency in the digital age. *International Journal of Communication*, 10(2016), 123–137.

Sundararajan, A. (2016). *The sharing economy: The end of employment and the rise of crowd-based capitalism*. The MIT Press.

Tadelis, S. (2016). Reputation and feedback systems in online platform markets. *Annual Review of Economics*, 8(3), 21–40. DOI: <https://doi.org/10.1146/annurev-economics-080315-015325>.

Wood, A. J. (2021). *Algorithmic management. Consequences for work organisation and working conditions* (No. 2021/07). JRC Working Papers Series on Labour, Education and Technology. European Commission, Joint Research Centre.

Wood, A., Graham, M., Lehdonvirta, V., & Hjorth, I. (2019). Networked but commodified: The (dis)embeddedness of digital labour in the gig economy. *Sociology*, 53(5), 931–950. DOI: <https://doi.org/10.1177/0038038519828906>.



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