



Gamification and work games: Examining consent and resistance among Uber drivers

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Abstract

In 2018, Uber released an overhauled mobile application for its independent contractor workforce, who had become increasingly dissatisfied by the lack of autonomy, transparency, and flexibility while working on the platform. Based on the gamification of work, the application linked individualized rewards with Uber's need to maintain a frictionless marketplace. However, as recent studies of gig economy have revealed, workers resist gamified algorithmic management by developing work games. Our findings, based upon analysis of driver accounts of using Uber's application, presents a typology of player modes and work games that drivers play. We identified two distinctive player modes, grinding and oppositional play, which, respectively, illustrate how drivers consent and resist gamification. We also describe several work games that Uber drivers play in resistance to Uber's gamification. This study contributes to the understanding of how the (re)design of worker-facing apps shape the power dynamics underpinning platform-initiated algorithmic governance and worker-initiated games.

Keywords

Algorithmic governance, design, gamification, gig economy, platform capitalism, Uber, work games

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Introduction

On 28 February 2017, *Bloomberg News* published a video that captured a heated argument between the CEO of Uber Technologies, Travis Kalanick and a driver for the ride-hailing platform (Newcomer, 2017). The dispute arose when the driver, Fawzi Kamel, alleged he had lost nearly US\$100,000 because of Uber's unpredictable policies and rate reductions, after he purchased two vehicles to operate on the platform. A visibly agitated Kalanick, seated in the backseat of Kamel's car, concluded the conversation by saying, "Some people don't like to take responsibility for their own shit. They blame everything in their life on somebody else." The incident, according to journalist Johana Bhuiyan (2018), "validated the primary concern of Uber's three million drivers: Kalanick—and, by extension, Uber—wasn't listening to them." Kalanick left the company less than 4 months later amid a string of scandals and growing dissatisfaction from drivers, evidenced by the company's 30% attrition rate of drivers each quarter, which was becoming prohibitively expensive for the ride-hailing service (Bhuiyan, 2018). Providing drivers with a better work experience was not only a moral objective, according to Bhuiyan, but it also became clear that cultivating workers was crucial to Uber's survival.

In April 2018, Uber announced the release of a completely overhauled driver application (app), marketed as a panacea to driver complaints about the lack of transparency, autonomy, and flexibility while driving for the platform. In contrast to the cluttered interface of its precursor that permanently displayed multiple streams of information, the new app design gave drivers more control over how to view information, such as their earnings and upcoming promotions (Khosrowshahi, 2018). The updated app also employed text and iconography to emphasize the driver's personal metrics, such as their monetary earnings, as well as their front-facing accolades, such as their status in the Uber Pro program and compliments they have received from previous passengers. These features are illustrative of gamification, a process through which managers scaffold work within "the structure, look, and feel of a designed game" (Mollick and Rothbard, 2014: 8) in ways that give workers the satisfaction of playing the game while also increasing their productivity. Although Uber had employed gamification features in its previous driver app, the new app also featured a unified gamification design that presented work as a set of games through which drivers can win monetary and symbolic prizes.

Uber's overhaul of its app design, we contend, exemplifies a pervasive trend of gamification in algorithmic governance and management.¹ We use the term gamification to refer to how platforms explicitly apply game design features—such as competition, scores, and rewards—in the workplace (Deterding, 2019; Kellogg et al., 2020; Woodcock and Johnson, 2018) so as to garner the consent of their labor force (Mollick and Rothbard, 2014). Algorithmic governance represents an emerging mode of "design-based governance," which exercises indirect control over the governed subjects "through (*re-*)designing actors' choice architecture" (Gritsenko and Wood, 2020: 7; italics original). Eyert et al. (2020), meanwhile, direct attention to three key dimensions of algorithmic regulatory systems, namely, representation, direction, and intervention. According to Eyert et al., representation entails the making of social knowledge through algorithmic instruments. Direction refers to the regulators' desired standards and states that are prescribed in algorithms. Intervention encompasses the

techniques of modifying the governed subjects' behaviors to achieve the desired states. What distinguishes algorithmic regulatory systems from pre-digital regulation, they suggest, is that the former is highly adaptive and opaque. Within the context of Uber, and more broadly, the platform-mediated gig economy, gamification is a key algorithmic technique of re-organizing work-related information (i.e. representation), normalizing scores and rewards (i.e. direction), and nudging drivers to increase their productivity (i.e. intervention). As such, gamification can be considered a "soft" labor control (Gandini, 2019; Mason, 2019; Purcell and Brook, 2020), while enabling platforms to manage their volatile labor supply (Van Doorn and Chen, 2021). However, recent scholarship reveals how gig workers collaboratively develop strategies and work games to protect their autonomy and maximize their earnings in the face of gamified algorithmic management (Manriquez, 2019; Möhlmann and Zalmanson, 2017; Rosenblat, 2018; Shapiro, 2018; Van Doorn, 2020).

Uber's redesign of its driver app provides an analytical point of "disruption" for understanding algorithmic governance in contexts. In this article, we focus on the tensions between gamification and work games in the gig economy. On one hand, as Burawoy (1979) argued, technological change has a "transformative impact on the organization of work" (p. 47). This necessitates an examination of how Uber's new app reorients work through gamification and how the app attempts to align the interests of workers with the ride-hailing platform. On the other hand, this study explores how drivers resist gamification through the creation of what Burawoy described as "work games." As such, we examine how Uber drivers govern and are governed *by* algorithms. Our analysis, based upon a qualitative study of Uber's driver app and discussion threads on the UberPeople.net—one of the largest driver-led online forums—presents both a typology of player modes and work games that drivers play. We identified two distinctive player modes, grinding, and oppositional play, which, respectively, illustrate how Uber drivers consent and resist gamification. The design of Uber's gamification resembles video gambling games and when players grind, they consent to a mode of labor in which they are conditioned to lose inhibition and maximize their supply of labor. In contrast to grinding, oppositional play is a mode of labor in which drivers resist Uber's gamification features using them in unintended ways to create and play work games. We identified three work games—Mario Karting, longhauling, and shuffling—that articulate how drivers employ the interactive affordances of Uber's application from an "oppositional" position for "unexpected uses" (Shaw, 2017: 598). In addition, we identified that drivers implement strategies of control, speed, and skill in games that help them maximize their earnings, protect their labor supply, and garner insight about Uber's opaque algorithmic management system (Sherman, 2007).

We first lay a foundation for our theoretical framework by examining relevant literature about gamification, algorithmic management, and work games. We then explicate how our qualitative methodology, developed upon the critical interface analysis of Uber's driver app and a textual analysis of forum threads provides a meaningful analytical tool to understand how drivers consent and resist Uber's algorithmic management. In our findings, we first examine the two distinctive player modes of grinding and oppositional play, and then analyze several work games that drivers play in resistance to Uber's algorithmic management. Finally, in the conclusion, we locate the findings of this study

within a broader context of how the (re)design of worker-facing apps shapes the power dynamics underpinning platform-initiated algorithmic governance and worker-initiated games.

Literature review

Gamification as platform-initiated techniques of algorithmic management

In the platform-mediated gig economy, algorithms are embedded in the labor process, from recruitment to work allocation to performance evaluation and work termination (Gandini, 2019; Kellogg et al., 2020; Vallas and Schor, 2020). In algorithmic management, the ways that work-related information is being collected, processed, and represented to workers embody platforms' normative assumptions about work practices, and indirectly influence workers' choice architecture (Eyert et al., 2020; Gritsenko and Wood, 2020). Hence, workers' autonomy is largely dependent upon the (in)visibility of actionable information in their decision-making process (Levy, 2015; Rosenblat and Stark, 2016; Vallas and Schor, 2020). Platforms can selectively withhold actionable information about new orders to narrow workers' decision-making capabilities (Möhlmann and Zalmanson, 2017; Rosenblat and Stark, 2016; Shapiro, 2018; Veen et al., 2020).

Platforms, such as Uber, Lyft, and Deliveroo, have incorporated techniques of gamification into their algorithmic management (Gandini, 2019; Mason, 2019; Scheiber, 2017; Van Doorn, 2020). Gamification scaffolds tedious work tasks as "puzzles" and "challenges" that offer workers the potential to earn "points," "badges," and "virtual goods" (Kim and Werbach, 2016: 157) through an adaptive representation, direction, and intervention of the on-demand workplace (Eyert et al., 2020). The ultimate goals are to garner the consent of their labor force (Mollick and Rothbard, 2014) and to regulate platforms' unstable labor supply in a cost-effective manner (Van Doorn and Chen, 2021). Put otherwise, gamification is a key management technique of reorienting *how* workers should pay attention to work-related information on the apps and should work accordingly (Gandini, 2019; Mason, 2019; Purcell and Brook, 2020). Ride-hailing platforms, for example, re-organize pricing and locational information into a seemingly real-time colored "surge" map (Uber) or "hot spots" (Lyft) where drivers are encouraged to work in a particular area at a specific time (Rosenblat, 2018; Rosenblat and Stark, 2016; Scheiber, 2017). The deployment of metrics can be considered as another key technique of gamification (Gandini, 2019; Kellogg et al., 2020) in which workers are categorized into different levels based on their metrics (Chan and Humphreys, 2018; Lei, 2021; Sun, 2019). As metrics become a form of capital (Fourcade and Healy, 2017) and are often used as markers of visibility (Duffy et al., 2021), they incite workers to modify their behavior to meet platforms' prescribed expectations (Chan, 2019b; Christin, 2018; Levy, 2015; Rosenblat, 2018; Ticona and Mateescu, 2018). Meanwhile, workers' metrics are essential to platform-based rewards programs and loyalty schemes (e.g. Uber Pro). As metrics are not transferable, workers can only stay on the platform if they want to keep their rewards status.

Gamification of labor, however, becomes predatory when the behavioral modification of workers is designed to cultivate "obsessive behavior," while limiting "rational self-reflection" (Kim and Werbach, 2016: 164). Underlying this concern, which in recent

years has been shared by scholars studying social media platforms and video games, is that gamification is underpinned by the same psychological and design insights that are used in video gambling machines to condition addictive behaviors (Alter, 2017; Kim and Werbach, 2016; Schüll, 2014; Vasudevan, 2020). Specifically, video gambling machines employ variable reward structures and multisensorial, positive feedback that are designed to place players in a state of “habituation” or “the zone” (MacLaren, 2016; Schüll, 2014). Furthermore, insights garnered from constant surveillance of players provide designers with the capacity to extend the time a player spends on a game, by gradually escalating the level of difficulty, providing games-within-games, and anticipating a player’s “pain point” (Schüll, 2014), at which point players can be given free gifts that compel them back into a state of habituation.

Labor platforms resemble the techniques of gamification to promote compulsive gambling. Reflecting on her experience as a Lyft driver, Mason (2019) highlighted how the platform elicits drivers to accept a series of consecutive “challenges” and maintain a high customer rating to receive bonuses and unlock virtual rewards. Mason argued that such gamified activities are similar to gambling in terms of their unpredictability. As Scheiber (2017) found prior to the redesign of Uber’s driver app, when drivers had reached their pain point, the app nudged them to continue working by reminding them of how close they were to reaching their personal goals. Against this backdrop, our study examines how the gamification of Uber’s app garners consent from drivers, especially as its creation was predicated upon Uber’s acknowledgment that the company had not previously focused on the experiences of its drivers.

Work games under algorithmic management in the gig economy

We now turn to discuss another key concept—“work games” (Burawoy, 1979)—which helps to analyze how gig workers respond to platform-initiated games.² Burawoy (1979) argued that games provide a fitting “metaphor” for understanding how and why factory workers consent to the extraction of surplus value of their labor. The unpredictability of receiving bonus pay—engendered by the “piece-rate” remuneration system—motivated workers to play the game of “making out.” Recognizing that they could earn bonus pay by producing in surplus of their piece-rate, machine operators improvised tools and sped up machinery to greatly increase their output. In addition to these “angles,” (p. 57) or “short-cuts,” making out was contingent on cultivating mutually beneficial relationships with “auxiliary workers” (p. 60), such as the “scheduling man,” (p. 52) who had the power to slow down the nature of work. Making out not only provided workers the potential to optimize their daily earnings, but as Burawoy himself experienced, playing the game garners “social and psychological rewards” (p. 85), such as “prestige, sense of accomplishment, and pride” (p. 89).

Developing upon Burawoy’s (1979) work, scholars have examined work games played by service workers. Sherman (2007) found that hotel workers developed games of “skill and control” (p. 112) that are designed to “maintain control” over their time, “meet standards,” and “conserve” their “labor by avoiding guest complaints” (pp. 113–114). Sherman also drew attention to how hotel guests become “agents of production” (p. 112; see also Burawoy, 1979) within games and are viewed as “opponents” (p. 114) who

stand in the way of winning. Hotel workers like blackjack dealers, as Sallaz (2002) found, employ emotional labor in games designed to nudge patrons toward paying out tips for services. Although work games align the individualized self-interest of workers with the goals of management, Sherman (2007) observed that perceived overreach by management may lead workers to “withdraw consent” by “withholding labor” or by leaving the workplace altogether (p. 113).

More recently, Manriquez (2019) documented the game of “earning coins” in which drivers strategically manage their spatio-temporal movement and interactions with customers to maximize their earnings in her ethnographic study of Uber drivers in Mexico. Chan (2019b) used the term “rating game” to describe how Uber drivers learned to normalize platform surveillance and maximize their customer ratings in their daily service interactions. Ride-hailing drivers also reportedly engaged in what Mosseri (2020) called “reputation auditing” to constantly monitor, review, and dispute their digital records on the platforms. In addition, Chen (2018) found that Chinese taxi drivers used bot apps and worked on multiple platforms to “game” DiDi’s algorithms. Highlighting mass “log-offs” as a commonly discussed gaming strategy in driver-led online forums, Mason (2019) noted that log-offs might create a sense of autonomy, while potentially reinforcing “their consent to the rules of the game.” In their study of African remote gig workers, Anwar and Graham (2020) argued that workers exercised their agency through offstage “hidden transcripts,” specifically everyday resilience, reworking, and resistance practices on and off the labor platforms.

Much like the game of “making out” in Burawoy’s (1979) discussion, these work games and subtle forms of everyday resistance are subject to the techno-normative power of algorithmic management, in part because workers are in a relatively vulnerable position. Under the management’s gaze, creative forms of resistance may sometimes be considered as “misbehavior” (Woodcock, 2017)—or as platforms have accused as “gaming the algorithm” (Petre et al., 2019; Ziewitz, 2019). Yet, work games may still constitute what Ferrari and Graham (2021) termed “fissures”—“moments in which algorithms do not govern as intended” (p. 1). As such, the conceptual emphasis on gamification and work games allow us to consider not only the governance *by* algorithms, but also workers’ governance *of* algorithms.

This study develops a typology of work games that Uber drivers play in response to the platform’s introduction of gamification features. Specifically, we focus on driver-led online forums which generate worker narratives (Qiu, 2016; Schoneboom, 2011). Previous research has demonstrated how online forums and social media networks may enable workers to articulate work-related strategies and literacies (Jarrahi and Sutherland, 2019; Rosenblat and Stark, 2016), provide mutual support (Anwar and Graham, 2020; Gray and Suri, 2019; Ticona et al., 2018; Wood et al., 2018), and express collective feelings of grievances and solidarity (Cant, 2019; Chen, 2018; Lei, 2021; Tassinari and Maccarrone, 2020). For example, couriers in Europe rely on WhatsApp groups to share their work-related concerns and coordinate virtual meetings (Cant, 2019; Tassinari and Maccarrone, 2020). Maffie (2020b) also found a positive relationship between ride-hailing driver’s participation in online communities and their interest in participating in a labor association. As he explained, online networks “provide the most immediate place for these workers to gather” (p. 140) in the absence of a physical shared workplace.

An examination of worker-generated narratives within driver-led online networks, therefore, affords us a context-specific understanding of how Uber drivers collaboratively interpret top-down gamified features and articulate their rules of work games.

Methods

This study is designed to understand how Uber presents work to drivers through gamification and how drivers respond to the company's gamified algorithmic management through labor practices. We employed a critical user interface analysis developed by Sano-Franchini (2018) to understand how Uber presents work to drivers. The method provides scholars with an adaptable framework to critically investigate how design features of an interface, such as color, typography, metaphor, and interactivity convey a technology's underlying value system. For example, when logging into Uber's app, drivers may be nudged with pop-up notifications alerting them to a "high demand area," where there may be "more requests than usual." The area that a driver is being nudged toward may be visually represented in deep red and the notification may also feature the icon of a growing line graph, both that are intended to trigger the driver into action. The digital nudge also removes friction by providing the route the driver can take and allowing them to select the opportunity by simply hitting a large, bright blue button that says "LET'S GO." Together, the gestalt of the parts is intended to align the driver's desire to optimize their earnings with Uber's need to increase the supply of drivers in a high demand area. Uber also uses the contrasting colors green and red throughout the driver app to reinforce the concepts of success and failure. When drivers view their earnings activity page, completed promotional missions, such as "Consecutive Trips," are highlighted in green, whereas incomplete missions are highlighted in red and are accompanied by short text messages reminding drivers of their failure.

The critical interface analysis of Uber's driver application was premised upon the examination of several different streams of data that included promotional materials published by Uber as well as driver-created media, such as screen-grabs published to the UberPeople.net forum and tutorial videos published to YouTube. Considering neither researcher is an Uber driver, it was necessary to assemble multiple streams of data to develop a thorough understanding of how drivers experience using the Uber app. Specifically, we examined 17 pages on Uber's website and 19 blog posts published by Uber employees between November 2016 and December 2019. As Turow and Couldry (2018) argued, the "careful reading of industry trade magazines" and "close analyses of technologies" (p. 422) provide scholars with a useful strategy to "unpack the essential aims and workings" of platforms, such as Uber. Promotional websites and blog posts, notably a ten-post series described by the company as the "Uber driver app series," featured screen-grabs of Uber's driver app, videos, and animated GIF images. A critical reading of these materials provided a context or understanding how Uber employs behavioral insights and surveillance strategies to create gamification features that are intended to shape driver behavior. We examined 44 screen-grab images of Uber's app published by users to the UberPeople.net forum, as a means to understand how drivers respond to the gamification features of the Uber app. We chose to examine images published between April 2018 and September 2020, a timeframe that began with the rollout

of Uber's new driver app and concluded once salient themes had emerged from our analysis. As Rosenblat and Stark (2016) explained, Uber drivers use digital forums to share images about their recent earnings, collaboratively make sense of the opaque algorithmic management, and to alert other drivers to potential earnings opportunities. The images in confluence with text messages published to the UberPeople.net forum provided crucial insight about how Uber drivers consent and resist algorithmic management. Developing upon Chan's (2019a) strategy to study media created by Uber drivers, our critical interface analysis was also guided by 16 tutorial videos produced by Uber drivers, which were published between August 2018 and December 2019. These tutorial videos may signal "algorithmic expertise" (Bishop, 2020; Chan, 2019a)—not only technical know-how, but also speculations about how algorithms work. In contrast to the screen-grab images shared by drivers on UberPeople.net, tutorial videos include screen recordings that reveal how a user experiences Uber's app in real-time. The analysis of these videos, therefore, provided insights into the tensions between the app's functionality and the ways that intended users (i.e. driver) interact with it.

Our typology of work games is developed through the qualitative textual analysis of 157 threads or conversations between 2018 and 2020 on Uberpeople.net. Previous research has studied conversations on Uberpeople.net and similar forums to understand how Uber drivers cultivate shared spaces for knowledge sharing, strategizing, and complaining about workplace conditions (Chan and Humphreys, 2018; Ma et al., 2018; Rosenblat and Stark, 2016). Using a purposive sampling strategy (Coyne, 1997; Ma et al., 2018), we identified conversations of at least 50 comments, in which drivers specifically discussed the updated Uber app, the Uber Pro program or new promotions, such as "Quests" and "Consecutive Trips." The sampling was conducted in September 2020. We searched for conversations within existing sub-forums on the site, such as "Advice" and "Ratings," and conducted keyword searches to identify conversations about specific new features, such as Uber Pro.

Methodologically, algorithmic opacity is a key challenge for studying algorithmic governance: how might we study something that is seemingly inscrutable (e.g. Christin, 2020; Ziewitz, 2016)? Analyzing the driver-led online forum allows us to observe how drivers articulate their "algorithmic imaginaries" (Bucher, 2017) in a rather naturalistic and interactional situation. By considering the forum as an occupational community, the threads and conversations represent collective resources for socialization and mutual support. Throughout the research process, we acted as "lurkers" (Hine, 2000) to observe, scrap, and analyze the discussions. Although the forum discussion could be archivable, identifiable, and searchable (Markham, 2012), the identities of forum participants remain hidden from the researchers and the public. Hence, compared to other qualitative methods, such as in-depth interviews, this method shall partly overcome the challenge of social desirability bias. Moreover, the multi-modality of the forum allows forum participants to post images (e.g. the screenshots of their ratings) and videos during the conversations, which provides important contextual information for the analysis. Meanwhile, we acknowledge that in-depth interviewing—a common qualitative method that researchers have adopted to analyze algorithmic governance—is productive for understanding the cultural frameworks that people use to justify their practices (Lamont and Swidler, 2014). Indeed, these methods can be used together for complementing

overlapping yet distinct facets of algorithmic governance (e.g. Rosenblat and Stark, 2016). We opted to focus on the driver-led forum primarily because these discussions afford opportunities for exploring interpretive processes through which drivers collectively initiated and reshaped work games.

Despite the fact that the forum is “public,” one may reasonably question the ethics of exposing driver-initiated work games that could potentially circumvent, subvert, and disrupt the rules of algorithmic governance. While worker-led online discussions can be considered efforts to promote public accountability of platforms by exposing unfair policies and algorithmic management (Ticona et al., 2018), workers who engage in such online discussions are at risk of being punished. Hence, our analysis removed all personally identifiable information (e.g. strategies that were directly linked to a particular working time and location) and followed the practice of “fabrication” (Markham, 2012) to reproduce direct quotes as “representational dialogue” of participants on the forum.

Findings

Our analysis of Uber’s mobile driver app and forum threads on the UberPeople.net website revealed that drivers responded to Uber’s attempt to garner consent through gamification in two distinctive ways—the player modes of *grinding* and *oppositional play*. *Grinding*, a term borrowed from video gaming literature (Kim and Werbach, 2016), refers to a mode of working in which drivers’ interests align with Uber’s, evidenced by their participation and consent of gamification features, such as Uber Pro. *Oppositional play*, on the contrary, refers to a mode of working in which drivers actively resist Uber’s gamification and develop work games that are collaboratively developed and result in individualized rewards. This re-articulation of Uber’s affordances to create and play work games from an oppositional vantage point offers a renewed context for understanding Shaw’s (2017) adaptation of Hall’s (1973/1980) construct of encoding/decoding. Specifically, Shaw (2017) argued how video game players resist the dominant or hegemonic reading of a game’s affordances by employing them from an oppositional or negotiated position. An essential component of Shaw’s (2017) adaptation is centering how a user *experiences* an interactive technology. Our analysis of oppositional rather than negotiated play is premised upon the fact that Uber drivers actively appropriated the affordances of the platform’s app for “unexpected uses” (Shaw, 2017: 598) as a form of resistance to algorithmic management. We identified three distinctive types of games that drivers play by leveraging the affordances of Uber’s app: (1) games that appropriate the affordances of Uber’s driver app; (2) games of skill, speed, and control (see also Sherman, 2007); and (3) sensemaking game (see also Jarrahi and Sutherland, 2019). In the concluding section, we articulate how both modes of play ultimately consent to Uber’s rules of engagement.

Player modes: grinding and oppositional play

Algorithmic management is deeply contextual in which people’s algorithmic imaginaries (Bucher, 2017) can shape their reactive responses. As Manriquez (2019) argued, modes of play contribute to understanding how a driver’s strategy either sustains or diverges

from the “firm’s entrepreneurial ideology” (p. 167). Developing upon this premise, our findings reveal two distinctive player modes, grinding and oppositional play, which, respectively, articulate consent to gamification and resistance through the creation of work games.

Uber’s gamification features, such as its Uber Pro program and weekly promotions (e.g. Quests), are designed to encourage what Kim and Werbach (2016) described as “grinding,” a term used to describe how players of video games spend considerable time “doing repetitive tasks as a condition” for an eventual reward (p. 162). By rewarding drivers for grinding, Uber aligns their work practices with the company’s primary goal of maintaining a frictionless marketplace. For example, promotions, such as Quests and Consecutive Trips, encourage drivers to complete a certain number of requests in a specified amount of time to earn bonus pay. However, as one driver explained on the forum, achieving these goals is grueling work, “I just accomplished a Quest and it was really tough. I spent nearly the whole week working towards completing it and couldn’t do anything else.” Echoing Mason’s (2019) experience driving for the Lyft platform, drivers described that after they completed bonus challenges, their subsequent promotional offers required more effort for less pay. Responding to a discussion about this topic, one driver—or as we describe as a grinder—explained, “It’s still possible to make a living by grinding even more. Yes, you do have to accept more pay and spend more time on the road, but no one said this is an easy job.” This is illustrative of how Uber’s “entrepreneurial ideology” (Manriquez, 2019; Rosenblat, 2018) manifests in grinders’ belief that their ability to earn money on the platform is predicated upon their self-efficacy.

Prior to the redesign of the Uber driver app, a significant cause of frustration among drivers stemmed from their inability to make calculative decisions because of the limited information they received with trip requests (Rosenblat and Stark, 2016). In Uber’s redesigned app, drivers can now “unlock” information about “trip duration and direction,” by participating in the tiered Uber Pro program that requires drivers to earn a specified number of points during 3-month periods to maintain their rewards. Describing the benefits of this reward, one driver explained,

I usually would not accept rides that are more than ten minutes away from me. But as a Pro driver I can see how long the trip is and recently accepted a few of them because they were profitable. Uber Pro is valuable to me.

The Uber Pro program encourages drivers to grind by requiring them not only to provide their labor within Uber’s specifications, but also to acquiesce to the idea that having full information to make “rational” decisions is a reward that is earned.

While describing the process of grinding, drivers described the emotional space they enter to endure long, grueling shifts, which resembles Schüll’s (2014) description of the “zone,” the habitual mental state that video gambling addicts experience. Articulating this point, one driver explained, “The repetition puts you into this headspace where you don’t notice the time passing and then all of a sudden, you’re done working.” However, as another poster explained, drivers shared their concern that grinding was inhibiting what Kim and Werbach (2016) described as “rational self-reflection” (p. 164). Expressing this sentiment, a driver explained, “The experience of this job feels like an addiction because

it feels nice at first then it's really bad. Suddenly, you are accepting Quests that aren't worth the work and Uber Pool trips you normally would not take." The concern in this post reflects that while Uber garners consent by gamification by encouraging grinding, some drivers are aware that their behavior is being shaped against their best interest.

In sharp contrast to grinding, oppositional play is illustrative of how some drivers resist Uber's gamification features by creating and playing work games. The need to invent their own strategies stems from a deep distrust of Uber and what Burawoy (1979) described as a "legitimation crisis" or the existence of too much or too little unpredictability to winning a game. Expressing this viewpoint, one driver explained, "Uber screws us over every day and so we have to find creative ways to work around this to make it fairer for drivers." In the following sections, we examine how oppositional play takes place through work games that drivers play to retain their autonomy, maximize their earnings and garner social recognition among other drivers.

Games that appropriate affordances

Workers craft tools and strategies to gain a competitive advantage while playing work games (Burawoy, 1979; Sherman, 2007). We found that drivers appropriated the affordances of Uber's app and reoriented its purpose as an "agent of production" (Burawoy, 1979: 82) to play work games. Specifically, we identified three games that drivers engage in to resist Uber's gamification, maximize their earnings and maintain control over their labor. We explore three of these games below: Mario Karting, long hauling and shuffling.

Surge pricing, according to Rosenblat and Stark (2016), is a way Uber asserts "soft control" (p. 3768) over drivers, by drawing their attention to a heat map that is designed to signal the potential for higher earnings. In 2018, as part of its rollout of new features, Uber began piloting "flat surge" pricing that paid out a fixed dollar amount in comparison to the previous "surge multiplier," that paid drivers multiples of their base rate. In addition, drivers who earn surge pricing by accepting a trip while in a surge area or accepting a request from a passenger in a surge area, would only receive the additional earnings if they accepted the next trip they received. In its messaging to drivers, Uber explained that the change to surge pricing was to make it "more reliable" and a "consistent earning opportunity for drivers." In several posts, we examined, drivers discussed how the new surge would greatly diminish their earnings. In response, as one driver succinctly explained, "We need to study the new surge, acclimate to it and then conquer it." One way drivers sought to conquer the new surge was by playing a game they described as "Mario Karting," a reference to the popular racing video game, in which a player can optimize their collection of points by attaining "power ups." Drivers described playing the Mario Kart game by entering a surging area, securing the surge pricing, then leaving to neighboring towns where they could apply the surge pricing to a base rate trip. Playing this game, according to several posters, allowed drivers to keep a larger percentage of earnings in contrast to accepting a ride request inside a surge zone. As one driver explained it, "You get nearly the entire fare the passenger pays. You can't count on a real surge trip any longer and you must use games to manipulate the surge whenever you can."

Prior to the deployment of flat surge pricing, drivers described how they relished taking long trips with the surge multiplier pricing, as they would multiply on an already desirable trip. However, when flat surge pricing was implemented, drivers explained that they would only use it to take “shorties,” or short trips using methods, such as Mario Karting. To make long trips valuable to them, drivers described playing a game called “long hauling.” This game catalyzes once a driver has picked up a passenger and received a notification from the Uber app about the length and estimated duration of a trip. Drivers described immediately comparing Uber’s route with their personal knowledge of the surrounding area or with other mobile navigation apps, such as Waze and Google Maps, to see whether they could get to the final destination in equal or less time. By adding several miles to the base rate of the trip, drivers greatly increase their earnings, as we saw in screen-grabs shared by drivers. However, longhauling requires the cooperation of passengers and drivers use emotional labor to gauge if the game can be played. To this point, one driver explained, “Since I live in a large metropolitan area, the first thing I ask passengers is about how many years they’ve lived here. If they are tourists or haven’t been here long, I’m longhauling.” However, other drivers described using emotional labor to garner consent from passengers to longhaul, such as by supplying riders with games they can play to pay less for trips, which one driver explained, “helps me get more tips.” Drivers defended the game by arguing that it allows drivers to increase their pay at no cost to passengers, as they have already locked in a rate through Uber’s upfront pricing, while the game cuts into Uber’s earnings for the trip. Likewise, drivers frequently shared earnings screen-grabs, in some cases, boastfully circling the negative amount Uber received on the trip. As one poster explained, “It’s a double win, because it increases my pay while taking a chunk out of Uber’s earnings.” This comment is illustrative of how drivers view Uber as an in-game opponent that needs to be defeated.

Uber’s app allows drivers to collect a US\$5.00 “no show” fee if a passenger fails to arrive at the designated pickup location or is more than 5 minutes (2 minutes for Uber’s Express Pool service) late to the designated pick up location. Our analysis reveals that drivers appropriate this affordance by playing a game called “shuffling.” This game is played to boost earnings and to retaliate against customers. Shuffling is played when a driver arrives close to the designated pickup location and evades the customer until 5 minutes elapsed and the driver can collect a US\$5.00 fee, charged to the customer. Describing the game of shuffling one driver explained,

When you get a request at the airport and notice the passenger is at the curb rather than across the street at the ride-hailing staging area, I will wait four minutes then contact the passenger to ask where they are. I’ll tell them where to go, but by the point the arrive, I’ve shuffled the trip and gotten my cancellation fee.

Drivers also described playing the shuffling game to make Uber Pool—Uber’s carpooling service—a worthwhile endeavor. Drivers described Uber Pool as “Uber poop,” resembling how factory workers that Burawoy (1979) studied described bad jobs as “stinkers” and good jobs as “gravy.” The Uber Pool shuffling game is played by picking up the first passenger then subsequently shuffling the following requests and collecting “bonus” pay from cancellation fees. To reverse the impact of

undesirable Uber Pool rides, one driver explained, “by shuffling on Uber Pool trips, I essentially make it a better paying UberX trip. It’s like creating a surge.” Drivers also described shuffling passengers for a variety of other reasons, that we do not describe as games, but are rather retaliatory measures to protect drivers’ dignity and time. For example, several drivers described shuffling passengers who were not standing at the pickup location as a way of disciplining passengers for wasting a driver’s time. The shuffling game was among the most contentious games debated on the UberPeople.net conflict, leading to what Burawoy (1979) described as “lateral conflict” among drivers. Drivers who criticized the practice of shuffling described it as unfair to honest drivers and put all drivers at risk of being disciplined by Uber. Proponents of shuffling defended the game, arguing it leveled the playing field against Uber’s unfair remuneration policies.

Games of control, speed, and skills

While games such as Mario Karting and longhauling are illustrative of short-term strategies that react to in-the-moment market conditions, drivers also devise games that require longer investments of time to reap potential benefits. Echoing Sherman’s (2007) discussion of work games among hotel workers and Manriquez’s (2019) analysis of Uber drivers’ game of “earning coins,” (p. 167) the second type of games—games of control, speed, and skills—focuses on drivers’ efforts to control unpredictability and optimize their earnings.

Before discussing strategies of the game, it seems worth noting how Uber’s gamification techniques generate unpredictability of earnings. As Uber promises, the updated app is designed to increase “earnings and ratings transparency,” while enabling drivers to “manage their own finances and personal business concerns,” through the elicitation of video game vernacular and metaphor. For example, drivers begin work by hitting a “GO” button and each time they receive trip requests, their phones begin to flash and play sound effects that prompt them into action. A crucial change to the driver app was the introduction of “Trip Planner,” which allows drivers to view scheduled on-demand promotions, such as “Quests” and “Consecutive Trips.” The “Quest” promotion, for example, is accompanied by a flag emblem, a common gaming visual rhetoric to denote a completed mission. By completing a “Quest,” drivers can “unlock” rewards, such as lower service fees. There are other unpredictable opportunities like real-time surges. Besides monetary bonuses, the Uber Pro program creates variable rewards as drivers may earn additional points during promotions, such as “3-point hours” and alerted areas toward their goal. Echoing Mason (2019), such variable rewards reproduce “the players’ commitment to playing and tier consent to the rules of the [platform-initiated] game” (see also Van Doorn and Chen, 2021). On the contrary, variable rewards, by design, are unpredictable³ and dependent upon Uber’s algorithms, because drivers do not know when they would have bonuses.

Drivers attempted to manage the unpredictability of variable rewards by playing games that filtered “undesirable” rides and controlled their temporal and spatial movement. The first strategy refers to what forum members called “cherry picking,” meaning the practices of profiling and selecting rides that are deemed “profitable” and

“desirable.” As one forum member articulated, “Uber wants us to take rides that do not worth our time and efforts.” Hence, many members suggested that drivers should have “different strategies for different markets.” For example, drivers should avoid accepting Uber Pool and low rated passengers. It may take a long time to complete an Uber Pool request because drivers need to pick up and drop off multiple passengers, especially in densely populated areas. Due to the information asymmetries, drivers must “guess” about the information based on the pickup location. A few of the members claimed that they would accept a ride to know about the information, and then decline less profitable rides.

The discussions also revealed a paradoxical relationship between acceptance rate and Uber Pro. *Ideally*, with their Uber Pro status, drivers can see more information about the ride, which could facilitate their practice of cherry picking. However, drivers must maintain an acceptance rate of 85% for 30 days to have access to the trip information at the accept/decline stage.⁴ Drivers’ location, working time, and preferences also influence their ability to meet the requirement. For example, drivers in small cities and rural areas tended to be less selective about the ride requests than their counterparts in big cities because of the demand for ride-hailing services. It was also difficult for part-time drivers or those who work at times and places with low demand to move up tiers within a fixed 3-month program period.

There were two typical responses to the necessity of maintaining acceptance rates on the forum. First, participants suggested that drivers had to be calculative when accepting rides. As one wrote, “I accept almost everything other than airport rides to keep my acceptance rate, so I can look at the trip information to decline short airport rides.” As noted earlier, “profitable” rides may vary across markets. Therefore, one member suggested that drivers might want to first participate in Uber Pro to tease out the benefits and drawbacks of the program. Second, some participants denied the value of Uber Pro. Instead, they encouraged drivers to reflect on the goal of driving on the platform. A member, for example, stated that drivers drove “for money” rather than “pointless badges and ranks.” In this vein, cherry picking was considered a privileged strategy. Regardless of the views on Uber Pro, their comments reaffirm how work games remain constrained by the rules of Uber’s gamification.

Another strategy has to do with drivers’ prediction of the unpredictable surges. Drivers on the forum suggested that surges could be “suddenly expired” once they accepted the ride, in part because Uber’s surge pricing is reportedly calculated based on real-time demand and supply (see also Rosenblat and Stark, 2016). There were also instances in which participants drove in a surge area, but they could not decline non-surge ride requests. Instead of “chasing surges,” participants suggested that drivers should “educate” themselves about when and where surges would occur, based on their driving history and knowledge about the city. Specifically, skilled drivers not only had to know the schedule and location of large events and concerts in their market, but also where they should “stage” themselves to pick up riders. As one member wrote, “you should learn from your history of good and bad rides and don’t make the same mistakes.” Echoing Shapiro’s (2018) discussion of delivery workers, Uber drivers articulated their “qualified calculations” based on their intuitions, market knowledge, and work experiences.

Sensemaking game

Traditionally, work games in a factory (Burawoy, 1979) or a service workplace (Sherman, 2007) are collective in the sense that workers share the rules and strategies with their peers and newcomers. One may wonder how work games are possible due to the atomized nature of platform-mediate gig work. Sensemaking shows how the online forum becomes an important virtual community for workers to learn and articulate the previous two types of games, or what Jarrahi and Sutherland (2019) call “algorithmic competency.” In playing this game, the forum participants conducted experiments about the working of Uber’s management, articulated the problems of Uber’s gamification techniques, and sought social recognition. First, some forum members calculated the value of driving for Uber. For example, one member looked at the monetary costs and benefits of Uber Pro (e.g. the benefits of Quest, gas discount, and customer support). Others analyzed their earning data, because as one member explained, “a smart driver should learn from their own data, rather than what Uber gives you.”

Second, forum participants explicitly articulated and shared the problems of Uber’s gamification techniques. In a polling thread about Uber Pro, over 75% of the participants considered that Uber Pro is worthless. Although this poll is not statistically representative, it may serve as a reference point about drivers’ opinions on the forum. When discussing the Uber Pro program, forum members used terms, such as “manipulative games,” “mind games,” “psychological ploys,” and “social engineering” to describe how the program nudged drivers to continuously accept rides. In one post about Uber Pro points, a commentator tellingly argued that Uber Pro was parallel to Starbucks’ loyalty program that incentivizes digital engagement, but the former rather exploits drivers because it does not provide any monetary incentives. This is in part because Uber discontinued the pay bonus for Platinum and Diamond drivers after the first program period. As one wrote in another post about tips for drivers, “you don’t get paid by your driver’s metrics and Uber Pro points.” One member shared that drivers should “drive on their own terms and focus on the raw number of earnings” rather than “being manipulated by badges and ratings,” whereas another member stated the name of Uber Pro indicated “it is pro-Uber.” An underlying premise of these comments is that Uber’s app reorients drivers’ attention to variable rewards—which are inherently on-demand and unpredictable—rather than the actual earnings. For these participants, the increased visibility of ride information should be a right—rather than a benefit of unlocking the Uber Pro status—for independent contractors to make “informed independent decisions.” Such comments indicate how the forum members seemed to expose the unfairness of Uber’s gamification techniques, and more broadly, algorithmic management.

Finally, we found that some forum members tracked and shared their gamified metrics, including ratings, acceptance rates, cancelation rates, badges, Uber Pro points, and weekly earnings. To be sure, a small subset of the sampled threads shared obsessions with such metrics, which seemed to seek social recognition of their good standing on the platform. This practice of self-tracking also resulted in the tensions between what some participants called “ants” (i.e. drivers who followed Uber’s instructions) and skilled drivers. The members who identified themselves as skilled drivers denounced that a high rating did not necessarily lead to a high earning. As noted earlier, for some members,

obsessions with metrics might rather enable Uber to disavow its responsibility to increase base fares for drivers to make more money. Nevertheless, the majority of the sampled threads, especially concerning ratings, focused on the opacity and unfairness of ratings. Importantly, the practice of information sharing could also help drivers to mitigate information asymmetries between Uber and drivers. While Uber's app provides drivers with individualized metrics, drivers have limited information about other drivers' performance. A popular forum thread, for example, invited drivers to share screenshots of their ratings as well as the location and experience working for Uber. As the creator of the thread stated, sharing such information could allow drivers to get a better sense of the relationship between drivers' working experiences and ratings.

Taken together, the sensemaking game reveals the efforts of forum members to articulate and inform others about the rules within Uber's gamified environment.

Conclusion

In this article, we employed a context-specific analysis to draw attention to how gig economy platforms seek to garner consent from spatially dispersed workers through gamification. Specifically, our analysis identified two modes of play—grinding and oppositional play—which contributes to understanding Uber drivers' contextual readings of algorithmic management and articulation of work games. Our analysis of the grinding mode reveals how the ride-hailing platform rewards drivers for exhibiting compulsive behaviors. Furthermore, by strategically linking the completion of challenges with the need to maintain a frictionless marketplace, Uber instills its core values within drivers' sense of self-efficacy. Our analysis of drivers' oppositional play adapts and provides a renewed context for Burawoy's (1979) concept of work games to understand how workers strategically leverage the affordances of the worker-facing app to gain a competitive advantage over the outcomes of their labor. The sensemaking game reveals that social spaces remain vital for workers to collectively articulate the rules of work games. While drivers resist gamification by playing work games, they ultimately consent to Uber's "hegemonic regime" (Burawoy, 2012) in which the ride-hailing platform shapes the conditions of labor and can use its constant surveillance of drivers to crush dissent. Drivers who play work games, especially those that may garner customer complaints, such as shuffling, are gambling with the very real possibility they will be deactivated from Uber's platform. Although drivers were critical of Uber and engaged in the sensemaking game, leaving may be the only option for them to opt out of the rewards program, and more broadly, Uber's gamified environment.

Uber's overhaul of its driver app allows us to consider how the changes in algorithmic governance can affect workers' practices. On one hand, the redesign itself signifies Uber's efforts to garner consent from workers in the face of distrust and dissatisfaction. On the other hand, drivers have to reshape their work games to adapt to the evolving rules of Uber's algorithms. This echoes Gillespie's (2014) argument that the entanglement between algorithms and people is "a recursive loop between the calculations of the algorithm and the "calculation of people" (p. 183). As such, the changes in technological design and their associated discourses seemed to redefine the "problems" (i.e. drivers' dissatisfaction as Uber articulated) as a matter of transparency, but Uber did not address

the broader issues about fair pay and algorithmic management. The unified gamification features, such as variable rewards, introduce new sources of unpredictability in algorithmic management, which might potentially exacerbate workers' precarious experiences (Duffy et al., 2021). This study contributes to the literature about gamification and algorithmic management by offering a more nuanced inquiry into the ways that workers encounter, appropriate, and interpret the sources of algorithmic unpredictability. This study suggests the need to critically assess how the continuous redesign of platforms not only manufactures workers' consent in the name of care and "user experience," but also escalates collective grievances in practice.

We suggest that scholars build upon this research and the limitations of this study in the following ways. First, while we ensured that our typologies for player modes and work games were developed from salient themes, we did not focus on the scale at which Uber drivers either grind or game. A large-scale, generalizable study of how Uber drivers use the platform and how they resist through work games, would enrich the current findings. Using online survey data from Uber and Lyft drivers, Maffie (2020a), for example, found that workers might resist platforms' customer evaluations by moving between platforms. This also points to the value of studying cross-platform gamification techniques and work games. Another key arena that Vallas and Schor (2020) have drawn attention to is understanding how contextual factors, such as demographics and platform dependence drive the modes of play and shape workers' willingness to play by the gamified rules in algorithmic management. Developing upon the immersive, ethnographic study of drivers by Manriquez (2019) and Rosenblat (2018), we urge researchers to continue studying how region-specific conditions, such as local regulations inform the experiences of drivers and the types of games that they play. Finally, we encourage scholars to develop upon this context-specific study, to examine how other gig economy platforms, such as Amazon Flex and DoorDash employ gamification to garner consent from workers and how workers resist by playing work games.

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Notes

1. We use the terms "algorithmic management" and "algorithmic governance" interchangeably. The term "algorithmic management" speaks to the scholarly concern over gamification as a form of management technique that governs workers' practices in the gig economy (e.g. Gandini, 2019). We are, however, aware that some scholars use the concept of "algorithmic regulation" which also shares a similar emphasis on "the norms, structures, institutions and practices of social ordering" (Ulbricht and Yeung, 2021: 5; see also Eyert et al., 2020).
2. Note that there is another strand of literature that examines how platforms use the term "gaming" to delimit the moral boundaries between legitimate and illegitimate algorithmic

optimization and manipulation (e.g. Petre et al., 2019; Ziewitz, 2019). To clarify, this article focuses on the tensions between gamification as a top-down logic of algorithmic management and worker-initiated games.

3. There are other sources of unpredictability in Uber's gamified managerial regime, such as customer ratings. Previous research has discussed how Uber drivers play the "rating game" (Chan, 2019b), or maintain their ratings in the game of "earning coins" (Manriquez, 2019), even before the introduction of Uber Pro program (see also Rosenblat and Stark, 2016). However, it would be out of the scope of this article to describe all of these practices in detail; therefore, we focused on how drivers mainly managed unpredictability to optimize their earnings here.
4. After the passing of AB5 in California, Uber has removed the requirement for acceptance rate in California. This requirement, however, still holds for drivers outside of California.

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