Beyond Disruption

How Tech Shapes Labor Across Domestic Work & Ridehailing

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Executive Summary

This project examines the promises and practices of labor platforms across the ridehail, care, and cleaning industries in the US. Between Spring and Winter 2017, we conducted over 100 qualitative, semi-structured interviews with ridehail app drivers, in-home child and elder care workers, and housecleaners who use platforms to find work in primarily in New York, NY, Atlanta, GA, and Washington, DC. During this period, we also observed the online communities that these workers have formed to discuss occupational or platform-based issues. Although there is a growing body of research on platform-based work, few ethnographic studies exist, and public understanding of this area is shaped largely by journalistic and corporate-produced narratives about who workers are, what motivates them, and how they understand their work. This study contributes new insights on the operation of labor platforms in different low-wage industries and raises new questions about the role of technology in restructuring work. A summary of our findings can be found below:

IT'S NOT ALL ABOUT "UBERIZATION:"
The dominance of Uber in public understandings of on-demand labor platforms has obscured the different ways technology is being used to reshape other types of services – such as care and cleaning work – in the "gig" economy. In particular, the Uber model doesn't illuminate differences in regulation, workforce demographics, and legacies of inequality and exploitation that shape other industries.

LABOR PLATFORMS DON'T ALL DO THE SAME THINGS:
Labor platforms intervene at different points in relationships between workers and clients. We identify two main types of platforms: "on-demand" and "marketplace" platforms. While on-demand platforms (like Uber) indirectly manage workforces through "algorithmic management" to rapidly dispatch them to consumers, marketplace platforms (like many care services) primarily impact the hiring process through sorting, ranking, and rendering visible large pools of workers. Some platforms (like many cleaning services) mix elements from both types.

PLATFORMS SHIFT RISKS AND REWARDS FOR WORKERS IN DIFFERENT WAYS:
Marketplace platforms incentivize workers to invest heavily in self-branding, and disadvantage workers without competitive new media skills; meanwhile, on-demand platforms create challenges for workers by offloading inefficiencies and hidden costs directly onto workers.

PLATFORMS CREATE HARD TRADE-OFFS BETWEEN SAFETY AND REPUTATION:
Workplace safety is an important issue for workers across care, cleaning, and driving platforms. While some labor platforms provide helpful forms of accountability, company policies also exacerbate risks for workers by placing pressures on them to forego their own safety interests in the name of maintaining reputation or collecting pay. Race and gender shape workers' vulnerability to unsafe working conditions, but platform policies don't account for the ways that marginalized workers' face different challenges to their safety.

ONLINE COMMUNITIES CREATE WEAK TIES IN A FRAGMENTED WORKFORCE, FOR SOME: Workers on labor platforms use social media and other networked communication to find one another, share pointers, laughs, complaints, and to solve problems. However, while these groups excel at ad hoc problem solving, they struggle to address larger structural challenges, and may exclude significant populations of workers.

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Introduction

In the past decade, the huge commercial success of Uber, a labor platform that organizes ridehailing work, has become emblematic of the "gig economy." At Uber, drivers are governed by "algorithmic management," which automates dispatching, enacts the rules Uber sets for driver behavior, and automates feedback and communications between drivers and the company. Similar labor platforms are now mediating many different types of work besides ridehailing, but these practices don't translate across different kinds of work in the same way. While some of Uber's practices appear across platforms, "Uberization" is an insufficient framework for explaining the different contexts and practices of technology across platforms.[1] As labor platforms begin to mediate work in industries with workforces marked by centuries of economic exclusion based in gender, race, and ethnicity, it is a crucial time to examine the ways technologies are shifting the rules of the game for different populations of workers. In particular, a focus on Uber has excluded women's experiences from public understandings of the gig economy; this is particularly troubling as they make up more than half of platform workers.[2] This report presents three case studies from ridehailing, care, and cleaning work in order to begin disentangling assumptions of the gig economy as a uniform phenomenon.

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[1] Scholz, Trebor. *Uberworked and Underpaid: How Workers Are Disrupting the Digital Economy*. Cambridge: Polity Press, 2017.

[2] Pew estimates that women make up 55% of labor platform workers, without including carework platforms which would likely increase this proportion. Smith, Aaron. "Gig Work, Online Selling and Home Sharing." Washington, D.C.: Pew Research Center, November 17, 2016. http://www.pewinternet.org/2016/11/17/labor-platforms-technology-enabled-gig-work/.

Labor platform companies often frame their value by appealing to the democratizing potential of technology to connect people with entrepreneurial work.[3] At the same time, critics have pointed to the ways these platforms casualize employment and degrade working conditions.[4] However, the frame of this debate assumes that platforms are intervening into sectors of the economy where formal, regulated employment is the norm, or where platforms are creating altogether new kinds of work. Domestic work – comprising in-home care and cleaning services – is a paradigmatic example of "invisible" work, typically performed off-the-books with little documentation of work agreements. Historically, domestic workers have faced formal exclusion from many federal workplace protections and have been subject to contingent and informal employment relationships that take place behind the closed doors of clients' homes.[5]

For care and cleaning work, the relationship between stability, precarity, and professional identity has always been complex. Even professionalized roles such as nannies, elder care companions, or full-time housecleaners can be unstable and precarious; they may include both short-term "gigs" and longer-term relationships with clients, but often with little job security. And while the archetype for babysitting work (which is exempt from federal minimum wage laws)[6] is a teenage girl earning pocket money, many adult American women rely on babysitting as crucial income. And yet, domestic work has largely been missing from conversations about gig work, just as its workers – a labor force dominated by women – have often struggled to be seen as part of the economy at all.[7]

Some of the labor platforms of the future may more closely resemble Care.com, an online marketplace for domestic work, than they will Uber, given that much of the service industry more closely resembles the work of caring for others than it does transporting and delivering people and goods. Transportation, moreover, is being affected by automation efforts in major industries such as trucking, where self-driving vehicles may displace large

3 Gillespie, Tarleton. "The Politics of 'Platforms.'" *New Media & Society* 12, no. 3 (May 1, 2010): 347–64.
   https://doi.org/10.1177/1461444809342738.

4 Cherry, Miriam A., and Antonio Aloisi. "'Dependent Contractors' in the Gig Economy: A Comparative Aproach."*American
   University Law Review* 66, no. 3 (January 1, 2017). http://digitalcommons.wcl.american.edu/aulr/vol66/iss3/1.; Scholz,
   Trebor. *Uberworked and Underpaid: How Workers Are Disrupting the Digital Economy*. Cambridge: Polity Press, 2017.;
   See also, Pasquale, Frank. "Two Narratives of Platform Capitalism." *Yale L. & Pol'y Rev.* 35 (2016): 309.

5 Glenn, Evelyn Nakano. "From Servitude to Service Work: Historical Continuities in the Racial Division of Paid Reproductive
   Labor." *Signs* 18, no. 1 (1992): 1–43. https://doi.org/10.1086/494777

6 "Youth & Labor: Wages." *United States Department of Labor*, December 9, 2015. https://www.dol.gov/general/topic/
   youthlabor/wages.

7 Folbre, Nancy, ed. *For Love and Money: Care Provision in the United States*. New York: Russell Sage Foundation, 2012.

numbers of workers.[8] Meanwhile, home health and personal care aides are among the fastest-growing occupations, with the Bureau of Labor Statistics projecting over a million new jobs by 2026.[9] And housecleaning is a $16 billion industry in the US.[10] In recent years, large actors such as Amazon (via Amazon Home Services) and IKEA (which recently acquired TaskRabbit) have begun to broker home services, raising new questions about the expansion of corporate power into yet more areas of the economy.[11] Online "marketplaces" are also emerging that are blurring the lines between gig economy platforms and traditional job boards, such as companies like Nomad Health, which matches health care professionals to short-term, free-lance clinical work.[12]

With this project, we ask, how do labor platforms shift the rules of the game for workers? Who is advantaged or disadvantaged? How do workers ensure their own well-being and safety, and what forms of accountability do labor platforms generate or foreclose? How do workers find ways to navigate individual and collective problems? In our fieldwork, we found that the answers to these questions are not uniform, either within or across the workforces that were the focus of this study. Uber has become emblematic of the ways that technology shapes the organization of work across different fields. While in some ways, Uber's model has shaped labor platforms across ridehailing, carework, and cleaning services, this report will also illustrate the limits of this influence. Technological systems of work don't necessarily create similar experiences of work across different cultural contexts; rather, different professional norms and historical legacies of work can lead workers to divergent experiences of similar technologies.[13]

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[8]   Dougherty, Conor. "Self-Driving Trucks May Be Closer Than They Appear." *The New York Times*, November 13, 2017. https://www.nytimes.com/2017/11/13/business/self-driving-trucks.html.

[9]   "Home Health Aides and Personal Care Aides: Occupational Outlook Handbook." *U.S. Bureau of Labor Statistics*. https://www.bls.gov/ooh/healthcare/home-health-aides-and-personal-care-aides.html.

[10] Soper, Spencer and Josh Eidelson. "Amazon Takes Fresh Stab at $16 Billion Housekeeping Industry." *Bloomberg*, March 28, 2018. https://www.bloomberg.com/news/articles/2018-03-28/amazon-takes-fresh-stab-at-16-billion-housekeeping-industry.

[11] Chaudhuri, Saabira, and Eliot Brown. "IKEA Jumps Into 'Gig Economy' With Deal for TaskRabbit." *Wall Street Journal*, September 29, 2017. https://www.wsj.com/articles/ikea-to-acquire-online-freelancer-marketplace-taskrabbit-1506618421.

[12] Mukherjee, Sy. "This Startup Is Bringing the Gig Economy to Health Care With Virtual Doctor Visits." *Fortune*, November 15, 2017. http://fortune.com/2017/11/15/healthcare-telemedicine-nomad/.

[13] Christin, Angèle. "Counting Clicks: Quantification and Variation in Web Journalism in the United States and France." *American Journal of Sociology* 123, no. 5 (2018): 1382–415. https://doi:10.1086/696137.

Through a comparative study of labor platforms in ridehailing, carework, and cleaning, this study rejects back against a framework that understands labor platforms as "Uberizing" work across different industries. While we find that some elements of Uber's model of "algorithmic management" have been implemented in platforms for different types of services, they don't necessarily shape the meaning or consequences of this type of work in a uniform way. Instead, the different contexts of driving and domestic work influence the ways that workers use platforms and experience their work.[14] We outline two distinct types of labor platforms: on-demand and market-place platforms. These two types of platforms share features such as measuring worker performance through ratings and reviews, penalizing workers through deactivation, and channeling communication through in-app systems. However, they intervene differently in the relationships between workers and clients. While on-demand platforms (like Uber) indirectly manage the entire labor process – from hiring, dispatching to clients, payment, and surveillance of services provided – marketplace platforms (like Care.com) primarily target the hiring process through sorting, ranking, and rendering visible large pools of workers. Several platforms (like TaskRabbit) combine elements of both types. On-demand and marketplace platforms shift risks and rewards for workers in different ways. Marketplace platforms incentivize workers to invest heavily in self-branding and disadvantage workers without competitive new media skills; meanwhile, on-demand platforms create challenges for workers by offloading inefficiencies and hidden costs directly onto workers.

Despite these notable differences, the workers we interviewed across all labor platforms described the ways that all platform-based work pushed them to make difficult trade-offs concerning their personal safety. While some labor platforms provide helpful forms of accountability, company policies also exacerbate risks for workers by placing pressures on them to forego their own safety interests in the name of maintaining reputation or collecting pay. Race and gender shape workers' vulnerability to unsafe working conditions, but the universal application of platform policies across worker populations doesn't account for the ways that marginalized workers face different challenges to their safety. In part to solve some of these challenges, many labor platform workers use social media and other networked communication tools to find one another and create communities. These

[14] This study is informed by a growing literature in the social sciences that argues for the powerful role of long-standing social institutions in shaping the inequality in new algorithmic and data-intensive technological systems. See See Brayne, Sarah. "Big data surveillance: The case of policing." American Sociological Review 82, no. 5 (2017): 977–1008.; Cottom, Tressie McMillan. "Black CyberFeminism: Intersectionality, Institutions, and Digital Sociology." In Digital Sociologies, 211–32. Bristol, England: Policy Press, 2017.; Levy, Karen E.C. 2015. "The Contexts of Control: Information, Power, and Truck Driving Work." The Information Society 31: 160–174.

groups provide an important collective social space for an otherwise frag-
mented workforce, wherein workers trade pointers, share success stories,
commiserate about common frustrations, and offer support to one another
in navigating often-confusing and information scarce platform work.
However, as central as they've become to the livelihoods of many workers,
these groups struggle to address structural problems such as unfair policies,
raising pay, or harassment.

This report is organized to highlight the critical differences in labor platforms
across ridehailing, care, and cleaning work, as well as draw attention to the
experiences shared by workers across these different industries. In Section
II, "The Contexts of 'Innovative' Platforms", we provide an overview of four
cross-cutting background conditions that shape work across ridehailing,
care, and cleaning work, including gender, race and nationality, regulation
and intermediaries, and market conditions. Section III, "What Platforms
Do and Don't Do", explains the major differences between on-demand and
marketplace platforms, including the different challenges that each type
of platform presents workers. Section IV, "Navigating Workplace Safety",
explores the common challenge of negotiating personal safety facing work-
ers across industries and platforms. Section V, "Communications Networks,"
describes the ways workers use online communities of their peers to buffer
themselves against the uncertainties of this work. Finally, Section VI brings
together the findings across cases and offers our understanding of what is
both new and old about the ways platforms are changing experiences of
work across the economy.[15]

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[15]   For more on the research methods, sample populations, and limitations of this study, see Appendix.

The Contexts of 'Innovative' Platforms

Beyond Disruption

A young white man smiles from the front seat of a sunlit car, accompanied by the tagline, "Freedom pays weekly." In this ad for Uber, the company courts new drivers with promises of a "popular new way to earn extra money," paired with possibilities for autonomy and entrepreneur-ship outside of the constraints of the modern workplace. In another ad, a young white woman is shown reclining on

a grassy lawn, laughing through a game of peek-a-boo with a toddler. This ad for Care.com, the major online marketplace for carework, declares: "Get paid to play. All. Summer. Long," and depicts carework as leisure, outside the realm of "work" at all. Another series of ads for Handy, an on-demand app for housecleaning and handyman services, features profiles of actual "Handy Pros" – almost exclusively black and Latina women – accompanied by quotes expressing, not their attraction to independence or the risks of entrepreneurship, but an appreciation of the stability, service, and professionalism ostensibly facilitated by technology.

Media coverage has tended to approach the experience of platform-based work as a fairly unified phenomenon, centering on commonalities of technical features across platforms, or on "gig work" as a wholly new category of work imbued with qualities such as flexibility or precarity. A 2018 *Harvard Business Review* article, for example, speaks of a "burgeoning segment of the workforce loosely known as the gig economy," providing a guide on "what it takes to be successful in independent work."[16] As the ads described above show, the fact that platform companies leverage certain assumptions about *who* their workers are belies the fact that the "gig economy" is not a sector unto itself, but rather is embedded in the contexts and histories of particular kinds of work.

Across ridehail, care, and cleaning work, there are four cross-cutting contexts that shape who is doing platform work and how that work is valued:

Gender Many service industries traditionally have been segregated by gender, a fact that defines not only workforce composition but also the nature of the work itself and the kinds of risks and expectations placed on workers. Flexibility and part-time working status are often described as qualities that are *desirable* to women in the workforce. And flexibility, precarity, and largely unregulated working conditions have long been the norm in domestic work.[17] While there are many competing explanations for the social and cultural devaluation of domestic work, care and cleaning workers face poor working conditions, in part because they do what is coded as "women's work" that is typically performed unpaid.[18] Unlike taxi driving, caring for children and the elderly or cleaning homes for a living has never been coded as a "breadwinner" profession. The taxi industry, like the truck-driving

[16] Petriglieri, Gianpiero, Susan J. Ashford, and Amy Wrzesniewski. "Thriving in the Gig Economy." *Harvard Business Review*, March 1, 2018. https://hbr.org/2018/03/thriving-in-the-gig-economy.

[17] Fish, Jennifer N. *Domestic Workers of the World Unite!: A Global Movement for Dignity and Human Rights.* New York: New York University Press, 2017.

[18] England, Paula. "Emerging Theories of Care Work." *Annual Review of Sociology* 31 (2005): 381–99. https://doi.org/10.1146/annurev.soc.31.041304.122317.

industry,[19] is not only dominated by men but is perceived as entrepreneurial masculine labor. While women dominate work through the domestic labor platforms examined in this study, recent research has documented the devaluing of women's work on platforms, even when they're completing the same types of gigs as their male counterparts.[20] However, inequalities facing low-wage service occupations are multi-dimensional, meaning that an exclusive focus on gender may obscure differences within gendered occupations based on class, race, ethnicity, and immigration status.[21]

Race, ethnicity, and nationality Across taxi, care, and cleaning work, people of color comprised around half of the workforces prior to the emergence of labor platforms.[22] In addition, blacks and Latinos are more likely to work through labor platforms than are whites.[23] A majority of domestic workers are women belonging to racial and ethnic minority groups, many of whom are immigrants living in the US without legal documentation.[24] While many types of interactive service work are highly segregated by gender, occupations within care and cleaning are often racialized, thus relegating people of color to lower-paying positions.[25] For example, while a majority of domestic workers are women of color, whites (64%) hold slightly more jobs as nannies, a more professionalized and often-higher paying category of domestic work. Also, undocumented domestic workers report lower hourly wages and more strenuous and dangerous working conditions compared to both citizens and legal residents.[26] Moreover, demographics of these workforces can also vary widely regionally.

19 Levy, Karen E. C. "The Contexts of Control: Information, Power, and Truck-Driving Work." The Information Society 31, no. 2 (March 15, 2015): 160–74. https://doi.org/10.1080/01972243.2015.998105.

20 Barzilay, Arianne, and Anat Ben-David. "Platform Inequality: Gender in the Gig-Economy." Seton Hall Law Review 47, no. 2 (February 28, 2017).): 393-431. http://scholarship.shu.edu/shlr/vol47/iss2/2.

21 McCall, Leslie. Complex Inequality: Gender, Class and Race in the New Economy. 1st edition. New York: Routledge, 2001.

22 "Taxi Drivers & Chauffeurs: Race & Ethnicity." Data USA. Accessed February 12, 2018.. https://datausa.io/profile/soc/533041/; Burnham, Linda, and Nik Theodore. "Home Economics: The Invisible and Unregulated World of Domestic Work." Accessed August 22, 2017: 41. https://www.domesticworkers.org/home-economics-invisible-and-unregulated-world-domestic-work..

23 Smith, Aaron. "Gig Work, Online Selling and Home Sharing." Washington, D.C.: Pew Research Center, November 17, 2016. http://www.pewinternet.org/2016/11/17/labor-platforms-technology-enabled-gig-work/.

24 In their study of domestic workers across the U.S., the National Domestic Workers Alliance found that 47% of their sample surveyed were undocumented. Burnham, Linda, and Nik Theodore. "Home Economics: The Invisible and Unregulated World of Domestic Work." Accessed August 22, 2017: 42. https://www.domesticworkers.org/home-economics-invisible-and-unregulated-world-domestic-work.

25 Duffy, Mignon. "Reproducing Labor Inequalities: Challenges for Feminists Conceptualizing Care at the Intersections of Gender, Race, and Class." Gender & Society 19, no. 1 (2005): 66–82.

26 Burnham, Linda, and Nik Theodore. "Home Economics: The Invisible and Unregulated World of Domestic Work." Accessed August 22, 2017: 32. https://www.domesticworkers.org/home-economics-invisible-and-unregulated-world-domestic-work.

Labor brokers Driving and domestic services are both shaped in important ways by labor brokers such as agencies. Workers in these industries have different relationships to such intermediaries. In taxi and ridehail app work, dispatch performs logistical work that occurs frequently over the course of a work shift. By contrast, care and cleaning workers rely on intermediaries for initial matching to clients, but the process is slower and depends on inter-personal negotiation on the part of workers.

Market conditions The existing dynamics of ridehailing and domestic work have shaped the ways platform companies have positioned themselves to both consumers and workers. Uber, Lyft, and other ridehail platforms promise consumers the speed, ubiquity of service, and efficiency that they claimed the older, stagnating taxi industry failed to provide. To drivers, they promise independence and easy entry into a source of income. Care and cleaning platforms, by contrast, have positioned themselves to consumers and workers as solutions to the uncertainties of navigating informal mar-kets. Care platforms in particular have been responsive to the "care crisis" in the US that has long strained the market for informal paid care.

The cross-cutting contexts above affect ridehailing, care, and cleaning work, albeit in different ways. Next, we detail the unique dynamics of ridehailing and domestic work platforms, including brief backgrounds of the major platforms, important regulations affecting the industries, and workforce demographics.

Ridehail Services

Uber was founded in March 2009, and Lyft was founded in June 2012. Both of these ridehail companies started in San Francisco's Silicon Valley, and both have reached billion-dollar valuations.[27] The recent effects of ridehail platforms on the existing taxi industry are complex, as there have been different periods of secure and insecure work for taxi drivers, and in specific cities, for over a century.[28] From the 1970s onwards, taxi drivers in the US have generally been classified as independent contractors, though there are exceptions and disputes around misclassification that are sometimes resolved through the National Labor Relations Board.[29]

Importantly, this type of labor is highly localized. For example, drivers in more suburban cities might have fewer opportunities for street hails, and consequently will rely more heavily on a central dispatcher to inform them of job opportunities.[30] Regional differences in barriers to entry have also shaped both work in the taxi industry and on ridehail platforms. For example, in New York City, where these industries are regulated by the Taxi & Limousine Commission (TLC), taxi drivers have to acquire specific TLC licenses and pass a variety of barriers to entry, including a fingerprint-based background check. According to the US Department of Labor, taxi, chauffeur, and ridehail drivers do not typically need a specific educational credential or related workplace experience to enter the taxi workforce.[31] Although taxi drivers need a car to drive, the ownership of their taxi, or even of a medallion or license to operate it, may be held by another party. Taxi drivers might, for example, rent the cab for a daily or weekly rate. In ridehail work, by contrast, drivers may bring a non-taxi cab to work; they may already own a car or they may endeavor to lease or purchase a vehicle that meets requirements set by the ridehail employers. Just as regulation and credentialing varies geographically, Uber and Lyft's impact on drivers has not been

27 Schleifer, Theodore. "Uber's Latest Valuation: $72 Billion." *Recode*, February 9, 2018. https://www.recode.net/2018/2/9/16996834/uber-latest-valuation-72-billion-waymo-lawsuit-settlement.; Etherington, Darrell. "Lyft Raises $1 Billion at $11 Billion Valuation Led by Alphabet's CapitalG." *TechCrunch*, October 19, 2017. http://social.techcrunch.com/2017/10/19/lyft-raises-1-billion-at-11-billion-valuation-led-by-alphabets-capitalg/.

28 Dubal, V. B. "The Drive to Precarity: A Political History of Work, Regulation, & Labor Advocacy in San Francisco's Taxi & Uber Economies." *Berkeley Journal of Employment & Labor*, 30, 1 (February 21, 2017): 73-135. https://papers.ssrn.com/abstract=2921486.

29 See e.g. Sentementes, Gus. "Labor Board: Airport Taxi Drivers Are Employees, Not Contractors," *Baltimore Sun Times*, June 11, 2012. http://www.baltimoresun.com/business/bs-bz-bwi-taxi-nlrb-20120611-story.html.

30 "AAA Supplemental Decision and Direction of Election." https://www.scribd.com/document/287737144/Aaa-Supplemental-Decision-and-Direction-of-Election

31 "Taxi Drivers, Ride-Hailing Drivers, and Chauffeurs: Occupational Outlook Handbook." *U.S. Bureau of Labor Statistics*, Accessed May 25, 2018. https://www.bls.gov/ooh/transportation-and-material-moving/taxi-drivers-and-chauffeurs.htm.

uniform across the country. Some cities have entrenched industries with powerful regulatory bodies, like New York City's Taxi and Limousine Commission, which have restricted some ridehail practices (e.g., by requiring fingerprint-based background checks), but ridehail companies are often less regulated in other cities across the US.

While there is no definitive accounting of ridehail driver demographics, though there is some overlap with the older population of taxi drivers. What we know about driver demographics often comes from an arbitrage between different reports by the companies, industry experts, and researchers. A 2014 survey, including 601 interviews with Uber drivers in 20 markets, found that 48% of drivers had college education or an advanced degree,[32] and other studies have made similar findings.[33] Because drivers may work for multiple companies, reports from each ridehail company on their workforce demographics do not give a full picture of the ridehail market overall. For example, Lyft reports in 2018 that 91% of drivers work fewer than 20 hours per week in New York City,[34] but that may simply reflect that drivers who work full-time are putting some of their hours towards competitors, like Uber, Juno, or Via. In the US, as of December 2017, Lyft had about 700,000 active drivers, as of March 2018 Uber about 900,000, although each company defines "active" differently.[35]

Taxi driving is a traditionally male-dominated profession (about 84% male),[36] and the ridehail workforce has largely followed this pattern, although, again, there are no definitive statistics. Ridehail companies have asserted they have a higher population of female drivers than comparable taxi and chauffeur industry competitors.[37] From January 2015 to March 2017, Uber counted 1,877,252 drivers that worked for its UberX and UberPool services (which excludes other tiers of service like UberXL, UberBlack or UberEats) across 196 cities. Of that total, 513,417 (27.3%) are women, although attrition rates are higher among women than men.[38] The demographics of the local ridehail

[32] Levin, Amy. "Uber: The Driver Roadmap: Where Uber Driver-Partners Have Been and Where They're Going," Benenson Strategy Group, January 2015, https://newsroom.uber.com/wp-content/uploads/2015/01/BSG_Uber_Report.pdf.

[33] Schor, Juliet B. "Does the Sharing Economy Increase Inequality Within the Eighty Percent?: Findings From a Qualitative Study of Platform Providers," Cambridge Journal of Regions, Economy and Society 10, no. 2 (July 2017): 263–279. https://academic.oup.com/cjres/article-abstract/10/2/263/2982086

[34] Lyft, "New York City," 2018 Economic Impact Report, https://take.lyft.com/economic-impact/.

[35] Lyft (December 2017, personal communication); Uber (May 2018, personal communication)

[36] "Taxi Drivers & Chauffeurs." Data USA. Accessed May 11, 2018. https://datausa.io/profile/soc/533041/.

[37] Hall, Jonathan V., and Alan B. Krueger. "An Analysis of the Labor Market for Uber's Driver-Partners in the United States." ILR Review 71, no. 3 (May 1, 2018): 705–32. https://doi.org/10.1177/0019793917717222.

[38] Cook, Cody, Rebecca Diamond, Jonathan Hall, John A. List, and Paul Oyer. "The Gender Earnings Gap in the Gig Economy: Evidence From Over a Million Rideshare Drivers." January 2018, p. 9. https://web.stanford.edu/~diamondr/UberPayGap.pdf.

workforce can also vary by city. For example, according to Lyft's 2018 Economic Impact Report, 45% of drivers in Atlanta are female,[39] while only 6% of drivers in New York City are female.[40]

Domestic Services (In-Home Care and Cleaning)

Domestic work is increasingly mediated by platforms. Care.com, which launched in 2006, has been described as an "Amazon.com for caregivers," with more than 9.2 million registered worker profiles in the US[41] and $162 million in revenue.[42] The site and mobile app have become a major clearinghouse for childcare and elder care services, as well as housecleaning and other domestic services such as tutoring and pet care. SitterCity, the next largest online marketplace and mobile app, provides in-home child and senior care, special needs care, and pet care. The platform is available in more than 25 cities in the US, and claims to have more than 2 million registered careworkers.[43] Another site, UrbanSitter, is available in more than 60 cities throughout the US and has more than 150,000 registered careworkers.[44] Other platforms, like CareLinx, specialize in adult in-home care.[45] In addition to the main market-place style services, most of these companies have also created add-on "on-demand" service apps, which quickly dispatch careworkers to consumers on short notice. In 2016, Care.com launched Care@Work, an "on-demand" childcare service app available to employees of the company's corporate clients.[46] SitterCity also operates Chime, a selective on-demand babysitting app. There are also a number of smaller, often locally-based apps such as Hello Sitter and Sittr.

[39] Lyft, "Atlanta," 2018 *Economic Impact Report*, https://take.lyft.com/economic-impact/.

[40] Lyft, "New York City," 2018 *Economic Impact Report*, https://take.lyft.com/economic-impact/.

[41] Care.com does not distinguish "active" careworkers from the total number of workers with profiles (Gavilanez, 2018, personal communication).

[42] "Investor Presentation: August 2017." Care.com: Waltham, MA. Accessed May 1, 2018. http://s1.q4cdn.com/647286967/files/Second-Quarter-2017-Investor-Relations-Deck.pdf.; Farrell, Michael. "Care.com, the big business of babysitting." *BostonGlobe.com*, August 14, 2014. https://www.bostonglobe.com/magazine/2014/08/14/care-com-big-business-babysitting/4Fjpf5q3YUSw3rMn9GraOM/story.html

[43] Rao, Leena. "Sittercity Raises $22.6 Million to Connect Families With Caregivers." *TechCrunch*, April 27, 2011. http://social.techcrunch.com/2011/04/27/sittercity-raises-22-6-million-to-connect-families-with-caregivers/.

[44] "About Us." *UrbanSitter*, https://www.urbansitter.com/about-us.

[45] "About Us." *Carelinx*. https://www.carelinx.com/about.

[46] "Care.com Launches Care@Work App Offering 24/7 On-Demand Access to Family Care Benefits," Care.com, February 24, 2016. https://www.care.com/press-release-carecom-launches-carework-app-p1186-q73514142.html.

Although sites like Care.com offer home cleaning services, other platforms have also entered this market. After on-demand cleaning company Home-joy shuttered in 2015 following several worker misclassification lawsuits,[47] Handy has become the dominant on-demand app for home cleaning, and now operates in 30 cities throughout the US. Multi-service platform TaskRabbit offers home cleaning, and operates in 39 cities in the US, as well as London. Other local app-based platforms provide similar services, such as the Hux and the Maids apps. In 2015, Amazon also began providing on-demand housecleaning services through Amazon Home Services, although it has recently begun to experiment with hiring its cleaners as employees rather than independent contractors in select locations.[48]

Because in-home care and cleaning workers have long been employed within a largely unregulated "gray" economy, they have been excluded from many key federal labor protections. The status and classification of domestic work has been marked by legacies of slavery, racism, and unpaid reproductive work done by women. From the 1850s onwards, middle- and upper-class white American women began to rely on the paid domestic work of women of color, recent immigrants, and the white working poor to facilitate their movement out of the home and into public life.[49] Today, the migration of women from the global South continues to facilitate affluent American women's work outside of the home.[50] Today, estimates place the undocumented domestic worker population at 47%, while 95% of the workforce are women.[51] These legacies mean that domestic work is characterized by two overlapping, but distinct, sets of inequalities: the first is that, because of historical patterns of the gendered division of labor wherein women are responsible for the bulk of unpaid and necessary household labor, paid care work is devalued relative to other types of service work; the second is stratification within the sector, wherein different workers experience unequal conditions of work, marked by "the intersecting inequalities of class, gender, race, ethnicity, citizenship, and disability."[52]

[47] Huet, Ellen. "Homejoy Shuts Down, Citing Worker Misclassification Lawsuits." *Forbes*, July 17, 2015. https://www.forbes.com/sites/ellenhuet/2015/07/17/cleaning-startup-homejoy-shuts-down-citing-worker-misclassification-lawsuits/#12c-c6fa178be.

[48] Soper, Spencer and Josh Eidelson. "Amazon Takes Fresh Stab at $16 Billion Housekeeping Industry." *Bloomberg*, March 28, 2018. https://www.bloomberg.com/news/articles/2018-03-28/amazon-takes-fresh-stab-at-16-billion-housekeeping-industry.

[49] Glenn, Evelyn Nakano. "From Servitude to Service Work: Historical Continuities in the Racial Division of Paid Reproductive Labor." *Signs* 18, no. 1 (1992): 1–43.

[50] Ehrenreich, Barbara, and Arlie Russell Hochschild, eds. *Global Woman: Nannies, Maids, and Sex Workers in the New Economy.* 1st edition. New York, NY: Holt Paperbacks, 2004.

[51] Burnham, Linda, and Nik Theodore. "Home Economics: The Invisible and Unregulated World of Domestic Work." *National Domestic Workers Alliance, Center for Urban Economic Development and University of Illinois at Chicago DataCenter* (2012). Accessed August 22, 2017: 41. https://www.domesticworkers.org/home-economics-invisible-and-unregulated-world-do-mestic-work.

[52] Duffy, Mignon, Amy Armenia and Claire L. Stacey. "On the Clock, Off the Radar: Paid Care Work in the United States." In: *Caring on the Clock: The Complexities and Contradictions of Paid Care Work*. New Brunswick, NJ: Rutgers University Press, 2015: 10.

This history shapes contemporary debates about labor classification as well as working conditions. Along with agricultural workers, domestic workers have long been excluded from federal legislation such as the Fair Labor Standards Act (FLSA) and the National Labor Relations Act (NLRA), which ensured key labor protections including minimum wage, overtime, sick pay, as well as access to social security and unemployment benefits. In 1974, the FLSA was amended to include domestic workers, albeit with some exceptions.[53] In recent years, the federal government and several states (New York, Hawaii, California, Massachusetts) have taken a piecemeal approach to securing basic workplace rights for some types of domestic employees. Moreover, while many domestic workers are considered employees rather than independent contractors, they are often incorrectly referred to as independent contractors by their employers, either due to misconceptions or as a means of intentional tax evasion. A nanny or an elder care worker is considered by the IRS to be a "household employee,"[54] while a person providing housecleaning services or occasional carework may be either an independent contractor or an employee, depending on a combination of factors including schedule control and control over the execution of tasks. However, many workers are paid off-the-books: although there is little data, as many as 74% of US households hire careworkers without proper tax registration as household employers.[55]

In the US, much discussion has emerged around a nationwide "care crisis" —catalyzed by both increased life-spans among the baby boomer generation and a lack of support structures for childcare. Nearly half of US adults (47%) are "sandwiched" between these twin care crises—with a child under 18 or an adult child they're helping support financially, as well as at least one parent over 65.[56] Approximately half of Americans live in "child care deserts," or areas of the US where there is a severe undersupply of licensed childcare centers.[57] As a result, many families turn to unlicensed in-home care, but this option has its own drawbacks. In 2016, the typical cost of in-home care from a nanny was $28,353 a year.[58] Most low-income families cannot afford

[53] Glenn, Evelyn Nakano. "From Servitude to Service Work: Historical Continuities in the Racial Division of Paid Reproductive Labor." *Signs* 18, no. 1 (1992): 1–43. https://doi.org/10.1086/494777.

[54] "Hiring Household Employees." *Internal Revenue Service*. https://www.irs.gov/businesses/small-businesses-self-employed/hiring-household-employees.; Carrns, Ann. "Is Your Babysitter an Employee? It Matters to Tax Liability." *The New York Times*, December 21, 2017. https://www.nytimes.com/2015/03/14/your-money/contract-worker-or-employee-tax-liability-rests-on-the-difference.html.

[55] Haskins, Catherine. "Household Employer Payroll Tax Evasion: An Exploration Based on IRS Data and on Interviews with Employers and Domestic Workers." *Open Access Dissertations*, February 1, 2010. https://scholarworks.umass.edu/open_access_dissertations/163.

[56] Pew Research Center (2015) "Parenting in America." Washington, DC. Available from: http://www.pewsocialtrends.org/2015/12/17/parenting-in-america/.

[57] "Mapping America's Child Care Deserts." *Center for American Progress*. Accessed April 22, 2018. https://www.americanprogress.org/issues/early-childhood/reports/2017/08/30/437988/mapping-americas-child-care-deserts/.

[58] Schulte, Brigid, and Alieza Durana. "The Care Report." *New America* (2016). https://www.newamerica.org/in-depth/care-report/.

paid childcare of any kind, as the cost exceeds the salary in most states of a full-time worker in a minimum wage job.[59] Similarly, even while subsidized by Medicaid, adult care services, such as personal care or home health aides, remain low-paying professions where the demand outpaces the number of available workers.[60] These dynamics are important because carework platforms have inherited the disconnect between the widespread need for in-home paid care and its unaffordability, which produces challenges for careworkers in obtaining fair wages.

Unlike the taxi industry, which has relied more heavily on central dispatch as the intermediary, in-home care and cleaning services have traditionally relied on a mix of brokers, such as agencies, and independent means of finding work. For example, housecleaners may rely on a combination of word-of-mouth networks, local advertising, and referrals to attract business. But the difficulty of building a regular clientele base limits the number of housecleaners who can run their own small businesses independently.[61] As a result, many housecleaners instead work for major franchised service companies, such as Merry Maids or The Maids International, or local home cleaning businesses that hire staff. Nanny and home health agencies, which match clients with workers and assume the work of vetting both parties through background checks and interviews, assist in the negotiation process over terms of employment, and provide ongoing support to clients and workers after hiring. Other agencies function more like temp agencies, managing a contingent workforce of flexible workers who are assigned hours on an ad hoc basis. However, there are various reasons why a careworker may not work through an agency: agencies may be highly selective, locally unavailable, or exert too much control over a caregiver's work, pay or schedule. Furthermore, the requirements of legal compliance may deter individuals who prefer to work "off the books" or who may not have legal authorization to work in the US. Recently, online marketplaces have begun displacing agencies' roles as intermediaries. The International Nanny Association's 2017 nationwide survey of nannies found a rise in the use of "online recruiting site[s]," from 29% in 2012 to 34% in 2017.[62] At the same time, the survey found a decline in agency-facilitated job placement, from 35% in 2012 to 23% in 2017, although it is unclear whether this is attributable to the growth of carework platforms.

[59] Hall, Katy, and Jan Diehm. "Child Care Unaffordable For Low-Income Families." Huffington Post, July 12, 2013. https://www.huffingtonpost.com/2013/07/12/child-care-_n_3585752.html.

[60] "Home Health Aides and Personal Care Aides: Occupational Outlook Handbook." U.S. Bureau of Labor Statistics. https://www.bls.gov/ooh/healthcare/home-health-aides-and-personal-care-aides.htm.

[61] Ehrenreich, Barbara. "Maid to Order." *In Global Woman: Nannies, Maids, and Sex Workers in the New Economy*. New York: Holt Paperbacks, 2004: 94.

[62] "2017 INA Salary and Benefits Survey." *International Nanny Association*, December 15, 2017. http://nanny.org/production/wp-content/uploads/2018/01/2017-INA-Nanny-Salary-Benefits-Survey-FINAL.pdf.

What Platforms Do and Don't Do

On-Demand Versus Marketplace Platforms

Labor platforms are capable of exerting control over their workforces, through traditional means such as corporate policies as well as new technologically specific means such as "algorithmic management." Algorithmic management is a term used to describe the ways management functions are redistributed from a human manager to semi-automated and algorithmic systems, as well as to consumers through rating systems.[63] Through these features, platforms promise to reduce friction in transactions between workers and consumers. Platforms like Uber also deploy extensive regimes of surveillance, tracking, and coordination in ways that go beyond neutral mediation; they shape the experience of work itself. However, this model is not uniform across labor platforms, and the ways they exert control over workers is varied.

Platforms like Uber also deploy extensive regimes of surveillance, tracking, and coordination in ways that go beyond neutral mediation; they shape the experience of work itself.

[63] Rosenblat, Alex. "The Truth About How Uber's App Manages Drivers." *Harvard Business Review*, April 6, 2016. https://hbr.org/2016/04/the-truth-about-how-ubers-app-manages-drivers.

We identify two primary types of labor platform organization: "on-demand" and "marketplace" platforms. As marketing terms, "on-demand" and "marketplace" are often used interchangeably to describe platforms in the gig economy. However, we apply "on-demand" to refer strictly to labor platforms that facilitate flexible, *unscheduled* services from floating pools of workers through automated matching between clients and workers. By "marketplace," we refer to labor platforms where work is scheduled, and platforms' role in mediation occurs primarily at the point of job matching and hiring. Some "hybrid" platforms share features of both categories, brokering scheduled services and allowing workers and clients more discretion in job matching in ways similar to marketplace platforms, while also using various metrics to surveil work performance as with on-demand platforms.

	Table: On-demand, Marketplace, and Hybrid Platforms		
	On-demand	**Marketplace**	**Hybrid**
What are some examples of these platforms?	Uber, Lyft, Gett, Via, Juno, Postmates, Instacart, Caviar	Care.com, UrbanSitter, SitterCity, CareLinx, Thumbtack, Fiverr	Handy, TaskRabbit, Hux, Maids, Chime, Hello Sitter
How do workers get jobs?	Workers are "on-call" when logged in to the app; they can receive one service request at a time, which they can accept or reject	Worker profiles or job listings are searchable by criteria such as zip code or service type; users are responsible for applying to jobs or placing service requests	Typically, workers can select from a list of available nearby gigs in advance; on some apps, clients book workers based on their reported scheduling availability
How are workers' performances measured by platforms?	Ratings; reviews; acceptance/cancellation rates; work performance metrics through smartphone data, such as geolocation	Ratings; reviews; typically, metrics based on user account activity, such as on-platform message response rates	Ratings; reviews; wide range of metrics, including work performance and other data such as number of gigs worked
How are workers penalized?	Profile deactivation (e.g. for low rating average or violating Terms of Use); temporary suspension; low ratings	Profile deactivation (for violating Terms of Use, but not for low rating average); temporary suspension; low ratings	Profile deactivation; temporary suspension; penalty fees
How are pay rates determined?	Rates are set by platform companies; typically, fares are dynamically priced based on multiple fluctuating variables chosen by the platform	Workers and/or clients set rates; workers and clients can list a desired hourly range in profile; platforms provide suggested rates based on local averages, but pay rate is negotiated between clients and workers	Varies; on some platforms, pay rate is determined by workers' rating average and other performance metrics; on others, workers set their own rates (minus platform commission)
How do workers communicate with clients?	Workers typically can text or call passengers via anonymized phone numbers	Users are encouraged to use on-platform messaging/calling features; private phone numbers and email addresses are censored in in-app messaging	Workers can only contact clients via in-app messaging prior to booking; workers are penalized for taking communications off-platform

Ridehailing apps are on-demand platforms that set rates and take a commission every time a service is provided by drivers, who are classified as independent contractors. Importantly, they act as automated dispatchers, coordinating pick-up locations and communicating times of arrival. There are important consequences associated with use of the on-demand infrastructure. First, because workers use in-app coordination to perform services, they are subject to deep forms of surveillance. Drivers have the freedom to log in or log out of work at will, but once they're online, their activities on the platform are heavily monitored. Uber has long monitored drivers' acceleration and breaking habits through their phones, and in February 2018, the company implemented a new policy of tracking drivers' working hours and suspending their access to the platform after a 12-hour period of activity (the exact cut-off can vary by city).[64] Lyft has a similar policy with a threshold of 14 hours.[65] These digital modes of workplace surveillance are part of a broader infrastructure of algorithmic management by which drivers are monitored at work. For instance, the passenger-sourced rating system is used by the companies as an "enforcer" for behaviors the companies suggest drivers should perform. An average is created from passenger ratings, and if drivers fall below a certain threshold set by the companies, they risk being suspended or fired from the platform. Uber and Lyft monitor other metrics as well, such as ride acceptance rates and ride cancellation rates.

Another major consequence is that on-demand platforms take on a large percentage of the coordinative labor of matching workers with clients. At Uber and Lyft, a dispatching algorithm automatically matches drivers with passengers, and this matching is "blind," meaning drivers are not shown the destination of their passenger before they accept the trip. Importantly, the automation of matching locks workers out of decision-making. In our field interviews, we found that while these practices increase efficiency and profits for platform companies, they create difficulties for workers who may feel compelled to engineer workarounds to ensure "seamless" service.

[64] Griswold, Alison. "Uber Limits Driver Hours in the US to Reduce Crashes From Drowsy Driving." *Quartz*, February 12, 2018. https://qz.com/1204615/uber-is-getting-serious-about-keeping-drowsy-drivers-off-the-road/.

[65] "Taking Breaks and Time Limits in Driver Mode." *Lyft Help*. Accessed November 9, 2017. http://help.lyft.com/hc/en-us/articles/115012926787-Taking-breaks-and-time-limits-in-driver-mode.

Unlike on-demand platforms, where workers are dispatched interchangeably, marketplace platforms position themselves as tools that allow consumers to make hiring judgments about individuals offering their services. These platforms do so by making those individuals visible through profiles, rating systems, background checks, and other metrics. In their marketing rhetoric, they frame older, informal hiring practices as opaque and risky for consumers. These platforms are similar to job search engines, such as Indeed or CareerBuilder, which are designed to supply abundant consumer choice and provide little direct coordination. They provide a standardized template for workers and clients to create profiles and job listings and create a set of criteria by which potential clients can compare workers. They use these same criteria to present workers in pre-sorted and non-random lists. Clients can search worker profiles using criteria such as zip code or service type. Both workers and clients browse profiles or job listings within a larger pool, communicating and coordinating with each other, as well as negotiating pay rates and terms of employment.

While marketplace platforms provide tools such as integrated payment interfaces, contract templates, and guidelines for adhering to federal and state labor laws, the onus is on clients and workers to establish the terms of employment, either through oral agreement or written contract. Marketplace platforms intervene in the matching and hiring process but play little role in managing workers' performance of services or in enforcing clients' adherence to federal or state labor laws when hiring a worker.

The business models of marketplace platforms rely on attracting an abundance of users. Unlike on-demand platforms, which take a cut from workers' pay, these platforms rely on a paid subscription model that monetizes access to work opportunities. Consequently, they are less incentivized to match workers or to intervene in work performance than they are to keep their users on-platform. However, marketplace platforms are more than simply subscription-based job boards. They also share similarities with on-demand platforms by incorporating rankings, rating systems, and payment tools, in addition to incentivizing worker flexibility and responsiveness through metrics.

Finally, "hybrid" platforms, such as TaskRabbit, Handy, and others, are positioned somewhere between on-demand and marketplace platforms. Like marketplace platforms, workers do not "log in" to specific shifts but have their services booked in advance, and they can opt to work regularly for specific clients, building longer-term professional relationships if they choose. These platforms also exert control over workers in ways that are more comparable to on-demand platforms, such as surveilling work

performance, in some cases fixing workers' hourly rates, taking commissions, or leveraging penalties against workers by charging them fees for actions such as cancelling appointments. Like on-demand platforms, these platforms take on much of the logistical work by streamlining and standardizing client worker communication, and by generating time and cost estimates for services.

Standing Out in the Crowd on Marketplace Platforms

Camila,[66] an Afro-Caribbean woman in her 30s who works as a nanny in New York, described how starting with a new employer family always feels "like marrying someone." The online marketplaces she uses to find work reminded her of online dating sites like Match.com. The hiring process, she explained, is very personal. Camila has put out considerable information about herself in order for her profile to stand out among the dozens of pages of search results for available caregivers in her area. Comparisons to dating sites were common in our interviews, and the structure of these online marketplaces bear this out: they use biographically-oriented profiles designed to allow prospective clients to make quick judgements of character based on personal narratives and profile pictures. Workers fill out sections on their experience, why they're passionate about children, caring for the elderly, or keeping a house tidy, as well as personal hobbies, education, and additional qualifications (such as CPR or first aid training). Some even include a short video clip introducing themselves to prospective clients. Workers are often encouraged to add personal details to "stand out" and "make a connection" to families.

Interviews with careworkers who regularly rely on these platforms to find work revealed that these platforms compel a form of "individualized visibility" that has shifted the skills workers need in order to find work.[67] Firstly, we argue that marketplace platforms have heightened the imperatives of self-branding and online impression management practices, as well as workers' attentiveness to metrics, such as message response rates, that do not reflect their skill or experience with the work itself, but are nevertheless incorporated into new status markers like profile badges (e.g., Care.com's "CarePros"). Secondly, although workers do not have specific times when

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[66] All interviewee names are pseudonyms.

[67] Ticona, Julia, and Alexandra Mateescu. "Trusted Strangers: Carework Platforms' Cultural Entrepreneurship in the On-Demand Economy." *New Media & Society*, Online First, 2018. http://journals.sagepub.com.proxy.library.nyu.edu/doi/abs/10.1177/1461444818773727.

they are "logged on" to a shift, these platforms place new pressures on workers to be constantly digitally connected and responsive. These competitive dynamics reward a set of skills and resources that differ from older ways of finding work, based on family-sourced referrals or brokerage through agencies. While the heightened visibility of workers may be comforting to consumers, these new demands exacerbate the intersectional inequalities that shape the domestic work industry.

> *While the heightened visibility of workers may be comforting to consumers, these new demands exacerbate the intersectional inequalities that shape the domestic work industry.*

The relational nature of carework makes hiring and workers' reputational dynamics on marketplace platforms different from other labor platforms. Hiring judgements for carework are typically based on intangible qualities of workers' perceived "cultural matching" or "fit" with employers—soft criteria which often are biased by stereotypes about a worker's race and/or immigration status.[68] White, US-born careworkers, for example, are regarded as "class peers" by their employers and typically have access to higher paying and higher status jobs.[69] For careworkers with marginalized identities – including but not limited to race, ethnicity, age, sexuality, nationality, and disability – online visibility creates an additional burden to ensure that their presentation of self is broadly appealing to wide audiences. While marketplace platforms give the impression of an open and equal market where anyone can view and apply to any job, some of our interviewees were aware that only some work opportunities, usually lower paying, were available to them. In our interviews and in careworker-hosted events we attended over the course of our fieldwork, women of color – both immigrant and US-born – expressed feeling *hyper visible* in their work. Specifically, they felt they were held to a higher levels of scrutiny than their white counterparts in public spaces.[70] Many of these dynamics are replicated online, where women of color expressed feeling self-conscious about how they present

MacDonald, Cameron Lynn. "Ethnic Logics: Race and Ethnicity in Nanny Employment." In: *Caring on the Clock: The Complexities and Contradictions of Paid Care Work*. New Brunswick: Rutgers University Press, 2015: 153–164.

Wu, Tina. "More than a Paycheck: Nannies, Work, and Identity." *Citizenship Studies* 20, no. 3–4 (May 18, 2016): 295–310. https://doi.org/10.1080/13621025.2016.1158358.

There is a rich body of literature on the ways that ethnic/racial stereotyping shapes the experiences of paid careworkers. See, for example, Brown, Tamara Mose. *Raising Brooklyn: Nannies, Childcare, and Caribbeans Creating Community*. New York: NYU Press, 2011.

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themselves. For example, Amanda, a black woman in her 20s who uses Care.com to find childcare work, spoke in detail about how she chose to present herself in her profile picture. She described her usual hairstyle as "big, puffy, fro-y hair," which she had decided was not how she wanted to present herself in her profile: "I don't know if someone is gonna judge me based off of that. You know? So, I try to keep it as universal as possible. So I'll have my hair in a ponytail or I'll have my hair braided in a neat style." Marketplace platforms also provide clients with guidelines on scrutinizing the online identities of careworkers. For example, SitterCity urges them to look for online "clues" to their "personality and hobbies," searching specifically for any "red flags."[71] As a result, marketplace platforms encourage prospective clients to incorporate careworkers' broader online footprints into the hiring process as a form of vetting beyond the reputation systems managed by platforms.[72] While careworkers have long been subject to scrutiny from employers in ways that blur the boundaries between work and personal life, platforms heighten these dynamics.[73] Karen, a black careworker in her 40s working in Atlanta, returned to seeking work through an agency after feeling frustrated by her experiences on marketplace platforms, remarking, "I felt like I was just too exposed.

Job seekers on these platforms need to possess not only digital "literacy" but what Papacharissi and Easton call digital "fluency." That is, they need not only understand the technical features of the platform, but also how to navigate the unspoken cultural norms that shape activity on these platforms. These include transparency about one's private life, the appearance of a compelling employment history, and the ability to simultaneously present to diverse audiences.[74] UrbanSitter's guidelines for creating a video encourage workers to "be themselves" and "personally connect" with families but warns that videos containing "irrelevant political, religious, or social commentary" will be removed.[75] UrbanSitter provides links to exemplary videos, in which young women speak in unaccented English about the colleges they attend and their experiences caring for children. These platforms are structured around the assumption that workers will employ "self-branding,"

[71] "Steps to Selecting the Right Caregiver." *SitterCity,* Accessed November 9, 2017. https://www.sittercity.com/parents/find-child-care/selecting-the-right-caregiver

[72] Additionally, workers' profiles on marketplace platforms like Care.com are publicly visible through search engines like Google, meaning that anyone, even people who aren't members of these platforms, are able to view the personal information posted to individual profiles, including a workers' zip code, age, school, and schedule availability.

[73] For a deeper exploration of how marketplace platforms intervene in hiring norms within the field of paid care, see Ticona, Julia, and Alexandra Mateescu. "Trusted strangers: Carework Platforms' Cultural Entrepreneurship in the On-Demand Economy." *New Media & Society* (2018): 1461444818773727.

[74] This distinction between digital "literacy" and "fluency" is drawn from: Papacharissi Z and Easton E (2013) In the Habitus of the New. In: Hartley, John, Axel Bruns, and Jean Burgess. *A Companion to New Media Dynamics*. John Wiley & Sons, 2015: 167–84. Available at: http://onlinelibrary.wiley.com/doi/10.1002/9781118321607.ch9/summary (accessed February 24, 2018).

[75] "UrbanSitter Video Guidelines." *UrbanSitter*. Accessed December 12, 2017. https://www.urbansitter.com/profile_video/content_guidelines.

to present themselves in a way that is both flexible enough to appeal to many potential clients, but also, in the words of labor scholar Ilana Gershon, "stable and distinctive enough to be recognizable and coherent."[76] These norms

norms lead some careworkers to opt out of certain kinds of visibility all together. Linda, an Eastern European careworker in her 40s who found UrbanSitter after being laid off from full-time government work in 2013, chose not to upload a video. She explained that at her age, a video would not give the same positive impression that a "bubbly 20-something-year-old" might be able to achieve. Although Linda was able to find three families for whom she worked regularly, she contrasted herself to younger, more social-media-savvy careworkers who are more attuned to cultivating online reputations.

The demands to be simultaneously inoffensive, broadly appealing, and individually distinctive may be familiar for those who use other social media platforms. However, these "networked publics" operate with culturally specific expectations for users that may create systematic disadvantages for some populations of workers. Although our interviewees were all fluent in conversational English, many of them were not native English speakers and/or were born in other countries with different norms about publicly sharing personal details, or about interactions between workers and employers. Just as it is possible to be literate in a language but not fluent in the style, slang, and cultural references of a particular regional or subcultural group, some of our interviewees discussed ways that they were unfamiliar with the implicit expectations of marketplace platforms.

For non-native English speakers, these difficulties were compounded by language barriers. Denise, a black woman in her 50s, struggled to apply for caregiving jobs via Care.com's mobile phone app. Formerly a nanny and elder care companion, she was currently employed full time as a housekeeper at a major hotel chain in New York, but she could no longer keep up with the job's physically strenuous demands as she got older. She hoped to transition soon to in-home childcare work that would also give her more free time to take ESL classes. However, as a West African immigrant and native French speaker, she struggled to write a biographical narrative, and found much of the language on the app to be confusing, such as unfamiliar job categories like "Date night" or the differences in job expectations of "nanny" versus "babysitter" positions. Thus far, she had had little luck in communicating and receiving responses from families she contacted, even though she was applying to jobs daily.

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[76] Gershon, Ilana. Down and Out in the New Economy: How People Find (or Don't Find) Work Today. Chicago: University of Chicago Press, 2017: 34.
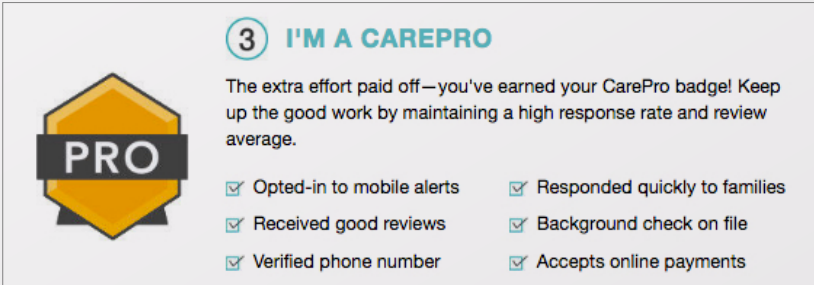
Digital "fluency" was particularly a barrier for older careworkers. Gloria, a young woman who had very recently arrived from Cameroon to join her family in Washington, DC, split her time between a full-time office job and working for a family as an elder care companion on the weekends. Besides running an active profile on various carework platforms, she also acted as an online proxy for her mother and aunt who also worked as elder care companions, but who were recently unemployed. Gloria managed their profiles, applying to jobs, and responding to messages on their behalf. Her mother and aunt were native English speakers (English is an official language in Cameroon), but they still found online marketplaces Care.com and Carelinx to be difficult to navigate without Gloria's help. Frustrated after her mother had uploaded a "bad" profile picture, Gloria took the reins, explaining:

> I mean, my mom is like 60-something. She didn't grow up in this technology age, so she's not that familiar with it. So I do most of it for her, I put her information, take her picture, upload it, I fill in everything. When [prospective clients] contact me, most of the initial contact goes through me unless when it gets to that stage when they have to call her and they call her and then she talks.

In addition to the kinds of fluency that are needed to successfully engage in online impression management, marketplace platforms have also produced new categories by which workers are sorted and ranked. While marketplace platforms don't perform direct matching of clients and workers that is common to on-demand platforms, they still exert significant influence in the process. Marketplace platforms have embraced features of on-demand platforms—promising an abundant pool of workers rendered transparent to clients, and determining which metrics are displayed and prioritized. They, in turn, contribute to the placement of workers' profiles in searches and therefore shape access to potential clients. UrbanSitter's profiles display information about how many times careworkers have been hired by the same family, their average response time to messages, and whether the prospective client viewing the profile has any contacts that have hired a particular careworker. Care.com identifies some careworkers as "CarePros," designated by a badge on a worker's profile that indicates that they have met criteria such as opting in to mobile alerts, maintaining a high-star rating, and responding to 75% of messages within 24 hours (See Fig. II below). Crucially, this type of transparency is not symmetrical; Care.com and other platforms don't allow workers to post reviews of families or display metrics about how responsive families are to messages, how many other workers they've hired, or other safety verifications.

*Care.com and other platforms don't allow
workers to post reviews of families or display
metrics about how responsive families are to
messages, how many other workers they've
hired, or other safety verifications.*

Features like "Carepro," which reward workers for being constantly con-
nected and immediately responsive to messages, make it so that consistent
and high-speed mobile internet access is important to maintaining a suc-
cessful profile. Many low-income workers struggle to maintain this kind of
connectivity. Sobi, a black woman in her 50s in Atlanta who was relying on
temp work to supplement her income while caring for her elderly mother,
recalled having a two-week gap without any work that prompted her to seek
out internet access at her local library to look for other options. She quickly
became frustrated when – without a smartphone or internet access at home
– she wasn't able to respond to clients' messages on Care.com quickly
enough to secure a position. Care.com allows workers to see how many peo-
ple have applied to a single job listing: many of our interviewees complained
that even a one-day babysitting gig could quickly receive as many as 50
applications. Sobi tried to go to the library often but felt overwhelmed by the
competitive pace of responses and dismayed by how quickly her metrics fell.
In US households making less than $30,000 a year, 7 out of 10 adults own
smartphones, but nearly half of those same adults don't have home broad-
band internet, leaving them to rely on expensive and often unreliable mobile
data packages, or free and unsecured Wi-Fi networks, or otherwise go
through prolonged periods of being unable to maintain consistent connection
to the internet and data-intensive apps like labor platforms.[77]

Fig. II: Description of criteria
workers must meet to receive
Care.com's "Carepro" badge
displayed on their profiles.

[77] Anderson, Monica. "Digital Divide Persists Even as Lower-Income Americans Make Gains in Tech Adoption." *Pew Research
Center* (blog), March 22, 2017. http://www.pewresearch.org/fact-tank/2017/03/22/digital-divide-persists-even-as-low-
er-income-americans-make-gains-in-tech-adoption/.; On inequalities in maintaining connectivity, see also: Gonzales,
Amy. "The Contemporary US Digital Divide: From Initial Access to Technology Maintenance." *Information, Communication &
Society* 19, no. 2 (February 1, 2016): 234–48. https://doi.org/10.1080/1369118X.2015.1050438.

Marketplace platforms don't exert direct matching of customer and workers like on-demand platforms. However, they still exert significant influence on the process of matching and hiring by creating a classification system with the power to shape workers' success or failure in their search for work.[78] Marketplace platforms construct standard templates and encourage a particular style of personal disclosure and personal visibility, and then subsequently algorithmically rank and sort workers' profiles according to the content of these profiles, as well as a number of other attributes that require workers' fluency with the norms of digital communication and social media culture. This creates a mutually reinforcing relationship that rewards workers who are digitally fluent and disadvantages those who aren't, effectively shifting the skills necessary to find work.[79]

Working Around Inefficiencies on On-Demand and Hybrid Platforms

On-demand platforms take care of most of the coordination of matching workers to clients,[80] but they do so by locking workers out from many aspects of decision-making. The opacity of many on-demand platform policies also creates power imbalances that can have consequences for workers, such as penalties, deactivation, or lost income. In response, many workers devise creative workarounds for managing contingencies. In some cases, workers respond by leaving platform work altogether, or by working across multiple platforms as a strategy for hedging against these risks.

Workers in on-demand and hybrid platforms often must navigate the difficulties of working around opaque policies and partial or incorrect information from platforms. Rosenblat and Stark have pointed out how companies like Uber strategically withhold information from drivers through design

[78] Marketplace platforms are powerful intermediaries that not only classify people but also produce what Fourcade & Healey call "classification situations," which they define as positions in a market that are "consequential for one's life-chances, and that are associated with distinctive experiences" (560). While they use the term to describe the determining effects of consumer credit markets, similar dynamics are evident in labor platforms, which, like credit rating agencies, have access to individual-level data they leverage to produce fine-grained assessments of workers that in turn shape their economic opportunities. Fourcade, Marion, and Kieran Healy. "Classification Situations: Life-Chances in the Neoliberal Era." *Accounting, Organizations and Society* 38 (2013): 559–72.

[79] Marketplace platforms act as institutional authorities that recognize and reward some job skills and not others, transforming them into "cultural capital" that workers can use toward economic advancement. Although these platforms treat all workers in the same ways, it is through this process that the raced and gendered context of carework informs whether and how workers can leverage platforms to find work. See, Bourdieu, Pierre. "Cultural Reproduction and Social Reproduction." In *Power and Ideology in Education*, edited by Jerome Karabel, London, UK: Oxford University Press, 1977: 487-511.

[80] See Appendix for a list of the ridehail platforms included in this study.

features that allow them to exert soft control over workers.[81] For example, Uber, Lyft, and others have blind passenger acceptance policies, such that drivers don't know how much they will earn before they accept a trip. If they opt not to accept dispatches or to cancel them, they can be penalized by being put on a "time out," or even deactivated (suspended or fired) from the platform. In this way, ridehail platforms indirectly compel drivers toward certain decisions by withholding information. Platforms sometimes also supply workers with incorrect information—for instance, a passenger who isn't standing at the pick-up address in a large condominium complex, or a passenger who is delayed in reaching the pick-up point. It is gaps like these that prompt drivers' invisible work strategies. For example, many drivers learn that they need to notify the Uber app that they have arrived when they are actually a block away, in order to prompt passengers to come outside earlier.

These communicative roadblocks, while advantageous for platform companies, create constant problems for workers, such as making it difficult to assess safety risks and catalyzing miscommunications or conflicts with clients that can lead to penalties or deactivation from the platform.

For platforms like Handy and TaskRabbit, that arrange for on-demand cleaning services, the restriction of communication flows has a specific rationale: unlike ridehail platforms, these platforms must worry that cleaners will take their relationships with clients off-platform, cutting them out of the loop. Platforms like Handy and TaskRabbit consequently try to stymie workers' attempts to cut them out through technology and policy restrictions. For example, Handy fines cleaners a $100 fee if they arrange cleanings off-platform.[82] They also restrict communication to in-app messaging, and only make chat messaging available within short time windows, such as just before jobs. TaskRabbit similarly penalizes workers for off-platform work by suspending or deactivating worker accounts. These communicative roadblocks, while advantageous for platform companies, create constant problems for workers, such as making it difficult to assess safety risks and catalyzing miscommunications or conflicts with clients that can lead to

81 Rosenblat, Alex, and Luke Stark. "Algorithmic Labor and Information Asymmetries: A Case Study of Uber's Drivers." *International Journal of Communication* 10, no. 0 (July 27, 2016): 27.

82 "Service Professional Agreement." Handy, Accessed December 14, 2017. https://www.handy.com/pro_terms.

penalties or deactivation from the platform. For example, communicating time of arrival given the uncertainties of public transportation, gauging from an unresponsive client whether or not to bring a vacuum cleaner, or negotiating scheduling on bookings can quickly become complicated when the only point of contact with a client is through a platform's messaging system.

Santana, a Latino man in his 20s, used TaskRabbit and Handy to find house-cleaning work for nearly three years, together with doing courier work through Postmates and UberEats. While working on multiple apps has been helpful, coordinating between apps has been complex. In one instance, he became double-booked when someone booked his services on TaskRabbit at the same time as an appointment was booked on Handy. Canceling the Handy appointment would have resulted in a penalty fee, so Santana contacted customer service, who advised him to wait until the time window when the app would allow him to communicate with the client and sort out the situation then. When the time came, Santana messaged the client about rescheduling, since cleaners can't reschedule bookings themselves; the client agreed, but didn't log the change in the app, resulting in a $50 penalty fee against Santana for failing to show up for his appointment. These types of miscommunications were common among cleaners we interviewed, often resulting in workers bearing penalties taken out of future earnings (See Fi. III). After having accumulated over $150 in penalty fees on Handy, Santana planned on shifting more of his income to TaskRabbit and other apps.
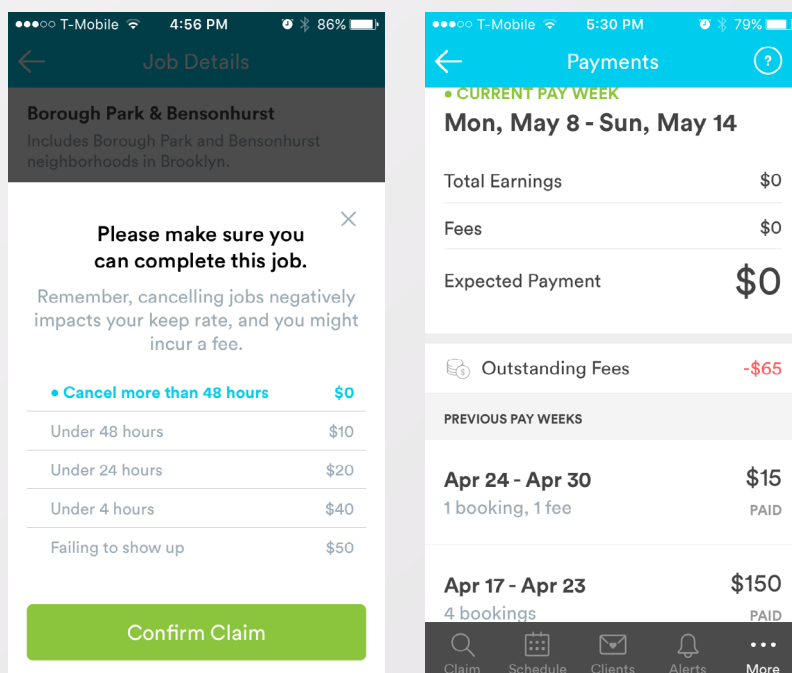

Fig. II: A screenshot of Handy's cancellation policy for workers (left); A screenshot of a Handy worker's pay log (right), including $65 in outstanding fees. Penalty fees are subtracted from workers' future payments—as seen, for example, in the payment for a cleaning booking ("Apr 24-Apr 30") which, minus an outstanding fee, amounts to $15 take-home pay.

The combination of restricted client-worker communications, cancellation fees, and the pressures toward maintaining a flexible schedule in on-demand work often accumulate into debt that workers pay off through future earnings, or they may face the risk of being deactivated for minor mistakes. Tye, a Latina woman in her 20s, started working as a Handy housecleaner after quitting her food service job because of harassment she faced. Although she liked working through the app, being unable to directly clear up a small issue with a client resulted in a two-month long suspension. After realizing she forgot to return a house key to a lockbox, Tye hoped to return the key as soon as possible, but Handy no longer allowed her to see the client's home address. By the next day, Handy had already terminated her account in response to her client's report that the key had not been returned. Tye spent the next two months emailing with Handy to re-activate her account, and had to find alternative income in the meantime, including turning to an app for dog-walking services.

The unreliability of labor platforms leads some workers to seek out work across a wide array of platforms as a strategy to ensure alternative sources of income in case of contingencies. Lulu, a Latina woman in her 30s who works in New York, depends on more than five different on-demand apps to find work. Lulu began working on TaskRabbit when her hours at her full-time job in the tourism industry were cut. In 2015, she was laid off and unsuccessfully looked for higher-paid, higher-skilled work in the field of her college degree. She continued to rely on gigs from TaskRabbit and soon added other platforms as well: finding housecleaning work on Craigslist, doing food delivery, on-demand photography, and dog-walking—all through apps on her phone. Along with her live-in boyfriend, she was able to piece together a livable income, but not without considerable effort and a savvy sense of timing. She observed that apps have a tendency to "drown" as the supply of workers overtakes client demand—in such cases, "you can't use it as a main income anymore. You have to jump." As a result, she responds quickly to the volatile ebbs and flows of demand across many platforms, rotating from one to another as work becomes available.

On-demand platforms create challenges for workers in the same ways that they create value for consumers—by offering "seamless" services in short-time frames. Through a lack of information and opaque policies, platforms conceal the amount of "invisible" labor that workers must do to deliver "seamless" service.

Navigating Workplace Safety
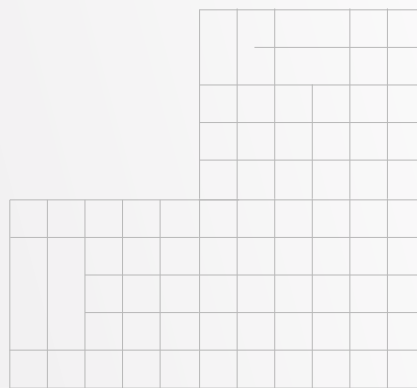
Many advocates and policymakers have become concerned about the implications of short-term gig work for health insurance and other benefits.[83] The Affordable Care Act galvanized these concerns and has provided a way for many gig economy workers to get coverage. However, the workers that we interviewed did not mention health coverage as a foremost concern. This may be because lack of benefits has been normalized in independent contract and informal work, to the point where workers rarely expect much from platforms; in turn, labor platforms don't make any promises to workers about protecting their health, and workers are expected to seek their own health insurance. Within our fieldwork, workers obtained health care coverage through the Affordable Care Act, or, particularly for care and cleaning workers, via a parent or spouse who received coverage through an employer (particularly for care and cleaning work), or through programs such as Medicaid.[84]

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[83] Kessler, Sarah. "US Legislators Proposed a $20-Million Experiment That Could Bring Benefits to Gig-Economy Workers." *Quartz*, May 25, 2017. https://qz.com/991270/us-senator-mark-warner-proposed-a-20-million-fund-to-experiment-with-portable-benefits-for-freelancers-gig-economy-workers-and-contractors/.

[84] Among our interviewees, nearly a quarter (24%) of care and cleaning workers did not have health insurance coverage. This study did not ask ridehail drivers about their health coverage. However, some data is available: a study conducted by Uber's Director of Public Policy Jonathan Hall and Princeton economist Alan Krueger based on a survey of 601 active U.S. drivers conducted in December 2014 found that nearly half of Uber's drivers acquired health insurance through another employer or through a spouse or other family member's job. The study did not ascertain how drivers obtain health insurance through other sources, such as health care exchanges. See Hall, Jonathan V., and Alan B. Krueger. "An Analysis of the Labor Market for Uber's Driver-Partners in the United States." *ILR Review* 71, no. 3 (May 1, 2018), p. 12. https://doi.org/10.1177/0019793917717222.

While our respondents didn't often focus on health insurance, they did frequently express concerns about *workplace safety*. Fights for workplace safety have been a staple issue for traditional labor rights activism, with some of the first American labor unions forming to address issues surrounding unsafe workplaces. However, these issues have fallen out of the spotlight in more recent conversations about the spread of gig work. This is understandable, as it is difficult to conceptualize, let alone fight for, workplace safety when workers don't share a common "workplace," and are constantly either moving across platforms, or in the case of careworkers, working for individual households. Many of the occupational hazards of working in these fields are not new: careworkers and cleaners are vulnerable to harassment or abuse from the households they work for, and cleaners face health risks from physical strain and exposure to toxic cleaning chemicals. Likewise, drivers must contend with intoxicated or belligerent passengers who may threaten their safety.

However, we argue that platform policies add a new dimension to these risks by structuring the kinds of decisions workers can make about their own safety. In the following sections, we describe the ways that labor platforms provide workers with little information about clients and jobs, making it difficult for workers to assess the risks they face. These risks can be heightened for certain workers; as gendered violence and racist assumptions of clients can suddenly rear their ugly heads in unexpected ways. These vulnerabilities have always been a part of the inequalities of domestic work. But labor platforms can push workers to comply with clients' demands against their own safety interests, such as by applying pressure to maintain good ratings. Importantly, the consequences of refusing demands from clients are not well-communicated, if at all, by platforms. Some platforms provide documentation such as chat logs or invoicing that can be helpful for ensuring safety. Workers also often collect their own documentation, ranging from taking screenshots to using dashboard cameras, and try to leverage platforms to resolve conflicts, but this can have mixed effects.

Guessing at Safety, Uncertainty, and Optimal Outcomes

Across the labor platforms included in this study, there are limits to what workers can know about a client before they accept or trial a job. Some of this is part of the design of labor platforms, and some of this has to do with managerial features of on-demand work, like rating systems. To the extent that they are able, careworkers (and sometimes housecleaners) often respond to this lack of information about clients by doing their "digital homework" on clients; using the same methods that platforms advise families to use when hiring a careworker. They use Google to search for families' names, check out the location of their home, and find social media profiles and other evidence of online reputation. When going to a new home, care and cleaning workers often send a client's name, address, and details about the time they are scheduled to be there to friends and family with instructions to call or text or check-in if they don't hear from them.

Housecleaners generally felt safer looking for work on platforms like Care.com than older job boards like Craigslist, where cleaners must spend considerable time sifting through listings to distinguish between genuine housecleaning jobs and sexual solicitations or scams. Other platforms like Handy and TaskRabbit, however, withhold information about clients prior to a cleaner showing up to a home, as well as limit the time periods when workers can communicate with their clients in-app. While few of our interviewees reported declining a job or interview based only on the gender of the person who booked them or was contacting them, it did raise their alert levels. Janet, a white woman in her 30s who, after being deactivated from the Handy platform, turned to Craigslist and TaskRabbit for housecleaning work, tries to more thoroughly vet male clients first over the phone: "I try to work for women when possible, but when I'm working for a guy, I just talk to him on the phone." However, she likes that on Craigslist, unlike Handy, she has the power and the discretion to call (using a "burner" phone, never her personal number) and have a conversation with prospective clients to vet them out ahead of time.

At the same time, the specifications of a given job advertised on a platform may not match its material circumstances, and this vagueness creates space for clients to obscure more hazardous requests. On-demand cleaning platforms rely heavily on self-reporting from clients to truthfully describe the services they request. But as many interviewees related, clients often lie. Diana, a Latina woman in her 20s, used air quotes to describe a "moving

job" she was hired for through TaskRabbit: when she arrived at the home, she found herself alone with male client who led her down to the basement where he pointed to a heavily stained mattress where, he explained, his brother had recently died. For Diana, this was beyond what she was comfortable with: "This is totally different than a moving job. I'm expecting to go in there and help him move stuff. I get there . . . and it was the most disgusting thing I've ever seen. I'm talking, it was not sanitary. It was really, really, really bad." She added, however, that to her knowledge TaskRabbit would not penalize her for her decision to refuse to do the job: "If you don't feel comfortable, you have the right to say no, you're not okay with that. Which is what I did. That was the first time I was like, to a client, I'm like yeah, no. I will do this and you do that, but I'm not going to do, I'm not touching any of that, even though I had gloves and everything." While Diana was able to express and assert her limits, the line for what workers can refuse without consequence is often unclearly communicated to workers. There is great uncertainty for workers about the consequences they face from deciding not to deliver all or part of their labor or certain aspects of it if the task or the client is hazardous.

On-demand cleaning platforms rely heavily on self-reporting from clients to truthfully describe the services they request. But as many interviewees related, clients often lie.

This uncertainty is particularly pronounced for newly onboarded workers, and heightened by the high worker turnover that is common to platforms like Uber. Cole is a part-time Uber driver in Atlanta who, on his first week on the job, found himself transporting a heavily intoxicated passenger. The passenger grew belligerent, and Cole vividly recounted, "Out of nowhere, he yells at the top of his lungs and slams his hands on my dashboard. 'Dude, shut the F-up. Seriously, just shut the F-up or I'm going to have to hurt you.'" Stunned at the sudden outburst, Cole quietly adjusted his hands on the wheel, careful to keep them loose in case he needed to ward off his aggressive passenger. When they arrived at their destination, Cole's passenger invited him inside to smoke marijuana. Feeling agitated at this early stage in his

ridehailing job, and eager to keep the peace, Cole wasn't sure how to extricate himself from the situation. He explained: "I didn't know the Uber guidelines then." These guidelines, available online, advise that riders who behave disrespectfully can lose access to the Uber platform.[85] But even knowing the guidelines isn't enough to negotiate all the exigencies of a ridehailing job. He added: "If I knew then what I know now, the second he got out of the car I would have driven off. But I didn't know that. I didn't know the kinds of repercussions that could be caused to me at the time having been only on it for a week."

The "seamlessness" of labor platforms means that important communications with clients are sometimes glossed over, a fact that can place workers in vulnerable situations. The power dynamics of these service interactions are also heightened when racial bias comes into play. Mike, a black man in his 30s in New York, works full-time doing housecleaning work through Handy. However, clients on Handy often schedule cleanings at times when they are not home, or they forget that they left the app setting on for recurring cleaning. In one instance, Mike had shown up for a recurring cleaning, and had let himself into the client's unlocked apartment, as was his agreed-upon routine. Midway through, his client's roommate, who had recently returned from abroad, arrived home and was confused to find Mike, a stranger, in his home. Mike was unable to contact the client through the app to clear up the situation and was left to explain the situation, and his presence, to the roommate on his own. While Mike was able to resolve this miscommunication without incident, the scenario highlights the ways Handy's policies, failing to take factors like racism and power dynamics into account, can place cleaners into potentially uncomfortable or even dangerous social situations. Mike's work involves not only cleaning homes, but also regularly engaging in the emotional labor of smoothing the racial discomfort of his predominantly white clientele: "It's a lot of Caucasians and you have a lot of minorities coming into their homes. You know what I'm saying? And in our atmosphere now, I mean, things are good, but then also they go [wrong]. So I was like, 'Let me start trying to make them feel comfortable.'" In this case, the social contexts in which labor platforms structure professional interactions are important for understanding workers' sense of safety.

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85 "Uber Community Guidelines" *Uber*. https://www.uber.com/legal/community-guidelines/us-en/.

Platform Mediation: Benefits & Trade-Offs

Drivers, caregivers, and cleaners perform their services in isolated work-places – inside cars and behind the closed doors of private homes – that bear certain risks regardless of whether the work is secured through a platform or not. In some cases, the design and features of a given labor platform provide a level of support and security they would not have otherwise. For drivers who have previous experience in the taxi industry, the benefit of Uber and Lyft is that their mediating role creates an additional level of safety. Quiang, a former taxi driver who now drives for Uber in New York City, explained, "For Uber, I don't have problems. But before Uber, I was doing local car service in Queens, that's where I live. At that time, I really scared to go to Brooklyn and Bronx. Some parts of Brooklyn I will never go, and the Bronx don't even think about it, I just don't go." Asked what happens if he gets a request from a passenger to go to a neighborhood he doesn't like, he prevar-icated before adding, "Right now, I don't know. I not scared because Uber has all the information from the passenger. Second, I don't have cash with me, they know it." Because Uber tracks and monitors passengers as well as drivers and implements cashless transactions, he feels more comfortable providing rides in neighborhoods he might have avoided in his previous car service job.

For some, the mediation of platforms is reassuring, as it adds a meager layer of accountability to work that would otherwise be riskier. Kalinda, a black woman in her 60s, started looking for part-time work after retiring from her job as a public schoolteacher in Washington, DC, but soon found that most jobs discriminated against her because of her age. Eventually she found work as a part-time housekeeper through Care.com. She explained that without the platform, she would have been too cautious to seek out this type of work: "Without [Care.com], I wouldn't have done it. I wouldn't have given it a second thought. It shows you so much of an issue it is, when I told my brother that I had gotten a job as a housekeeper, he was like, 'What? Where? I want to know the address, I want to meet who you're working for. I want to know when you have to be there.' He was really scared." But Kalinda felt re-assured by the measures Care.com took to monitor both text and voice com-munication with clients through the site and app: "That's what I like about it, it's very secure. You can chat with people, and they monitor everything. Even if they call you, they even monitor the phone calls. Everything's monitored,

which is great." In general, she expressed skepticism about finding work over the internet; when asked if she had ever looked for housekeeping work on Craigslist, she emphatically responded that she would never consider it, after reading many news stories about people being killed by strangers they met through the site.

However, there are trade-offs to platform mediation; client-sourced ratings serve to validate how workers assess the job they've done and how platforms assess their work, but they also create an incentive for workers to perform well even when faced with hazardous situations. While on some platforms, rating and reviewing systems are reciprocal, meaning that both clients and workers can rate one another, other platforms lack that function. For example, Uber and Lyft generally operate with reciprocal ratings, but Care. com does not. Workers are highly aware of how their interactions might impact their ratings because they understand how those ratings can impact everything from their visibility in searches to their rates of pay. Workers must weigh saying "no" to a request, turning a job down, breaking a platform rule, or engaging in other self-protective behaviors against the potential negative consequences for their livelihoods.

Dora is a black woman in her 20s who has been regular finding housecleaning gigs on Handy while finishing a graduate degree in New York City. While most of her clients have been pleasant, others made her feel uncomfortable: "I had this one creepy guy client that kind of just watched me the whole time I was cleaning to the point I was just, 'I think I'm just gonna leave.'" But making the decision that is best for her safety can have consequences down the line; Dora described receiving bad ratings on numerous occasions in retaliation from clients who made her feel uncomfortable. She added: "And I think that's what really upsets me, because I realize how sensitive I am because of this app. It's almost a lot of pressure to keep up a [good] review cause that's how you would get more gigs. And that determines your pay." Because a Handy Pro's hourly rate is based on payment tiers determined in part by average customer rating, cleaners have a strong incentive to be compliant with clients' demands.[86] Besides rating systems, other platform policies can place pressures on workers. Takarah is a black woman in her mid-30s who works full-time cleaning homes in New York City. She started working full-time through Handy after the franchised cleaning company she previously worked for suddenly, and without warning, stopped giving her hours. While she liked the time flexibility that the app afforded so she could better manage her time around caring for her young daughter, some of Handy's policies

[86] "Payment Tiers." *Handy Professional Help Center*. http://prohelp.handy.com/hc/en-us/articles/217290407-Payment-tiers.

frustrated her. Handy requires cleaners to remain in a client's "area of resi-
dence" (defined as within 500 feet of their home) for 30 minutes after being
unable to contact a client and before an appointment can be cancelled in
order to receive payment. She explained the way that race affects her expe-
rience of this policy, particularly when she is working in wealthy, predomi-
nantly white neighborhoods like the Upper East Side:

> I've been in situations where I went to the person's house, text, called,
> rung the bell . . . nobody responded. I still have to wait in the rain,
> sleet, snow for 30 minutes . . . they [Handy] know you standing there
> because if you walk too far, it won't show . . . It's very stressful . . . It's
> uncomfortable because I am black and I do be in a lot of rich areas
> and I stand out, so I don't like to be in that situation . . . I do tell Handy
> like 'Listen, I don't feel comfortable staying in this area' . . . and I will
> leave. Sometimes I don't get paid for that and I don't think that is fair.

Handy's wait policy does not take into account the way racism shapes the
kinds of scrutiny and risks that people of color may face in public space.
Consequently, Takarah was placed in a difficult situation of choosing
between her comfort and safety and receiving pay for a gig that she had been
counting on.

Leveraging Weak Accountability

Across both on-demand and marketplace platforms, we found that workers
strategized to leverage weak forms of accountability via platforms to ensure
their safety or to resolve challenges in everyday work. Platform companies
occupy an important position between clients and workers when disputes
arise. Workers often prefer not to take transactions off-platform, even as
platforms like TaskRabbit periodically raise their commissions,[87] because
they would lose the ability to leverage the weak forms of accountability
available to them in case things go wrong.

In practice, however, the security offered by labor platforms can be volatile.
Platforms often act in ways that amplify relatively inconsequential disputes,
sometimes driven by clients' biases, through sudden and opaque decisions
that have difficult consequences for workers. As a result, workers across
platforms hedge against these risks through different strategies to protect

[87] Cassano, Jay. "TaskRabbit Quietly Doubled the Cut It Takes From Many of Its Workers." *Fast Company*, November 29, 2016.
https://www.fastcompany.com/3065993/taskrabbit-workers-fee-increase.

themselves from clients' claims as well as potentially harmful decisions made by algorithmic managers. They turn to their own strategies, from archiving missing pay to using time-tracking apps or dash-cams, to promote their own interests in achieving accountability in dispute resolutions. Although platforms position themselves as mediators because they sit at the center of two-sided marketplaces, clear gaps have emerged on what they can measure or meaningfully resolve.

The ability to correct unfair negative reviews, suspensions, and other sanctions often requires persistence, considerable free time (to sift through platform policies and plead one's case with customer service), and resources to make up for lost income. Angela, a black woman in her mid-20s in New York City, had gotten into housecleaning work through her mother, who is a home health aide and housecleaner, and was referred to TaskRabbit through a friend. At one point, her account as a cleaner on TaskRabbit was put on temporary hold after a client falsely accused her of "snooping." Suddenly out of one source of income, Angela was able to make up the gap on short notice by picking up a part-time job, and by taking on more housecleaning gigs through Handy. After two months of challenging the suspension with Task-Rabbit, she was able to have the hold removed. But the experience "left a bad taste in [her] mouth." Her sudden disappearance had confused many of her regular clients, and she wished that TaskRabbit had at least asked for her side of the story. In recounting this incident, she underscored that with platform-based work, it was important to have a "back-up plan"; since 2015, she had built a wide range of clientele across more than five different platforms – including TaskRabbit, Handy, Care.com, Thumbtack, and Prefer – as well as through word-of-mouth referrals.

Some workers take an indirect route to resolving disputes, hedging against possible injuries to dignity. Nicole, a black woman in her 20s who relies on both Handy and a local on-demand cleaning app to find work in Atlanta, was booked to clean for a client who instructed her to keep his dog in a room she was supposed to clean. The client subsequently left her a negative review through the app, claiming that she "left dog hair" in the room, which resulted in the client being refunded his money and small amounts being deducted from her subsequent pay until the client had been paid back. She speculated that this client was gaming the system to get a free cleaning, and while acknowledging the unfairness of her situation, Nicole didn't take any steps to dispute the fine. She explained, "[O]verall, I had good experiences. I have not had a problem, except for that one experience with that person, so it wasn't worth doing anything about it." In this way, Nicole let the dispute go by, depersonalizing this client's treatment of her and attributing it to a gambit for a free cleaning.

Similarly, some ridehail drivers don't dispute small discrepancies. Quiang, an Uber driver in New York City, reflected, "It's happened to a lot of people, and it's happened to me too . . . it's not really a big deal . . . it's a system issue," adding that sometimes drivers get paid less, other times more, and drivers should "[f]ocus on the big part, not just like, 'this passenger paid you know $2, I will sue this that.' No no." For Quiang, small discrepancies would eventually even out. In order to resolve disputes and negotiate the inaccessibility of algorithmic management through on-demand platforms, workers like Nicole and Quiang personally absorb the risks of unfairness by deploying strategies in which they contextualize and depersonalize small injuries. Weighed against the often considerable amount of time and effort needed to contest unfair pay, penalties, or disputes, some workers avoid conflict with platforms.

Platforms collect data about various aspects of transactions between workers and clients, but they are not set up to, nor do they have the capacity to, measure all aspects. As a result, workers strategize to collect their own documentation. Uber drivers are tracked through geo-location, and everything from their passenger-sourced rating to their use of the car's breaks is monitored by the platform. But other factors, such as a passenger who advises the driver to take a less efficient route, cannot be as readily measured. Drivers can therefore face wage loss if passengers report that they took an inefficient route, even if they were simply responsive to passenger requests. Some drivers use dash-cams to record the interactions in their car to guard against such situations. Similarly, Rob, a 23-year-old Latino TaskRabbit cleaner, reported his strategy: "When you clean, take pictures of the cleaning. You can send before and after pictures to the client in the chat itself...[or] just to have them on file because down the line if there's any sort of discrepancy . . . if the client says that toilet wasn't cleaned, you have the ability to say 'well look at the transcript,' it's date stamped . . . even a picture can tell you the location."

However, the extent to which workers can leverage accountability varies by platform. Care.com, which does not monitor transactions or work agreements unless made through its optional payment system, leaves the negotiations of a gig up to workers and clients. Navi, a young white woman who works over 80 hours a week between a nonprofit job, bartending, and cleaning homes as she pays off student loan debt, once found herself trapped in a difficult situation with a client she found through Care.com. She had been hired for what was supposed to be a two-day cleaning gig but was pressured into working for three weeks cleaning out a severely cluttered five-bedroom home. While the client kept promising increasingly large sums of money if Navi stayed on longer, she would not pay her for work she had already done. Several days in, the client also began sending threatening text messages

to her if she didn't show up, and Navi began struggling to move around her work shifts from her other jobs to accommodate the client's erratic demands. Afraid that she wouldn't get paid at all, she exchanged numbers with another Care.com cleaner the client had also hired and began documenting as much information as possible. But while she gathered this evidence as a precaution, Navi was still aware that Care.com had little liability to take any action if the client had, in the end, refused to pay her. Still, she felt frustrated that the platform did not have a feature to be able to review the client, adding: "I want something to be like 'don't ever work with this lady again.'"

Certain features of labor platforms, such as one-sided reviews, strict consumer-favoring dispute policies, and sluggish support for workers create conditions where workers are left to cope with unfair, prejudiced, or vindictive actions on the part of consumers. Similar to precarious workers throughout the labor market, platform workers are on the receiving end of increasingly individualized risks of work under contemporary capitalism.[88] While platforms provide some forms of protection, their incentives and policies force workers to walk a tightrope between their maintaining their dignity, building their reputation, and receiving fair payment for their work.

While platforms provide some forms of protection, their incentives and policies force workers to walk a tightrope between their maintaining their dignity, building their reputation, and receiving fair payment for their work.

[88] Hacker, Jacob. *The Great Risk Shift: The New Economic Insecurity and the Decline of the American Dream*. New York, NY: Oxford University Press, 2008.; Pugh, Allison. *The Tumbleweed Society: Working and Caring in an Age of Insecurity*. Oxford, UK: Oxford University Press, 2015.
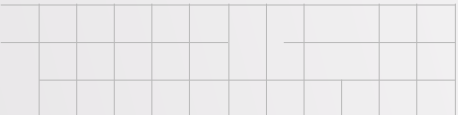
Communications Networks

Many workers buffer themselves against the instability of their jobs by seeking help online and through peer groups to help manage the gaps between what platforms promise and what they deliver. Notably, many labor platforms promise worker autonomy through independent contracting arrangements and little human oversight. In reality, the difficulties of navigating frequently changing and often opaque platform policies lead many workers to become *interdependent*, seeking each other out to cultivate community, find information, and solve collective problems.

The particular ways that labor platforms intervene across different kinds of work shape how these communities orient their efforts, as well as the forms of redress available to resolve workplace issues. In the case of ridehailing, drivers on forums focus on crowdsourcing information about policies that affect them platform-wide, such as rate changes. For careworkers, the fragmented nature of their employment situations – governed by private households – means that collective efforts such as advice-sharing are very individualized.[89]

Ridehail drivers use forums to crowdsource intelligence on new pricing schemes, to dissect companies' policies, to commiserate over bad passengers, to compare wages and ratings, and even identify incidents of potential wage theft.[90] This information may in turn disseminate from forums into mainstream media coverage, shaping public discourse on platform companies, and occasionally spurring efforts to hold platform companies to account. A feedback loop emerges as news coverage of Uber and Lyft's practices inform drivers' understandings of their own work experiences and shared grievances. Careworkers, and the platforms they use to find work, are not in a comparable media spotlight. Forum dynamics instead turn inward, with these spaces serving both as places to share knowledge and as a form of surveillance, social sanctioning, and governance.

Yet despite their everyday usefulness for many workers, these networks remain limited in scope. For one, they serve only a small part of the larger workforce. Moreover, they are mostly effective in addressing immediate, ad hoc threats to workers' well-being, rather than larger systemic problems.

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[89] This section focuses on communities of careworkers and drivers, as researchers found cleaners' groups were far-fewer and less active.

[90] Rosenblat, Alex. "How Can Wage Theft Emerge in App-Mediated Work?" *The Rideshare Guy Blog and Podcast*, August 10, 2016. https://therideshareguy.com/how-can-wage-theft-emerge-in-app-mediated-work/.

Knowledge Work, Mutual Aid, and Information Sharing

Careworkers have long created their own informal communities of practice—usually fostered by meeting one another at playgrounds and other child-centric spaces, or through immigration and ethnicity-based social networks.[91] However, in recent years, Facebook, Twitter, and other social media platforms have allowed these groups to drastically increase their scope and scale, and while many online groups remain localized, others with city-wide or even national followings boast large memberships. For example, one of the largest national groups has over 7,000 members, while a NYC-based group has over 4,000, and one Seattle-based group for both parents and careworkers has over 18,000 members. From offering practical negotiation advice and emotional support, sharing photos, and finding one another jobs, nanny Facebook groups are an important hub for many careworkers. However, while many of these groups tend to have very active participation among their members, they are also only a small subset of professional careworkers, comprising those already active on social media.[92] Similarly, driver-led forums are found across Facebook, on message boards, and in chats on apps like WhatsApp or Zello. Along with media coverage of Uber, Lyft, and others, as well as in-person conversations with other drivers, these sources serve as vital hubs of information and community for a growing number of workers.

Some of our interviewees did not join or create online groups in response to a specific issue, but rather simply to find a space to talk freely and candidly about their day-to-day work. Mae, a black woman in her 30s working as a full-time nanny in a DC suburb, found other careworkers by interacting with them through #nannyproblems, a hashtag commonly used by nannies on Twitter. Together, they formed a Facebook group in order to have a more closed community. She described,

> I'm here [in my employer's home] 12 hours a day with no adult that speaks. My babies are nine months old. They don't talk. So it is isolating, and you're alone. And not only do you want to talk to somebody,

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[91] See, for example: Brown, Tamara Mose. *Raising Brooklyn: Nannies, Childcare, and Caribbeans Creating Community.* New York: NYU Press, 2011.

[92] Some care platform companies actually leverage Facebook as a community gathering space and have created closed Facebook groups for careworkers using their platforms. UrbanSitter maintains a nationwide Facebook group (over 15,000 members) that's monitored by the company to informally poll workers about their needs or platform changes, to answer questions, and to allow for mutual aid.

but you want to talk to somebody that gets it. It's like, I can go home and tell my fiancé, but he doesn't get it, because he's around adults all day. And he gets to take a lunch break and walk outside or call somebody and have a little chat.

Similarly, Doberman, a driver who is also an administrator of a forum group for Uber and Lyft drivers in Louisiana, clarified: "I didn't create the group to learn something from somebody, but to get together with some people." He emphasized that his goal is to foster an environment where drivers can coach each other: "I want caring and more sharing when someone has a problem, not just to look over it." While the bulk of the discussions on driver forums center around challenges drivers face, much of it also revolves around being positive and supportive of fellow drivers' high ratings, complimentary passenger feedback, humor, and appreciation.

But these groups also serve practical purposes, such as circulating advice and information relevant to many of the challenges of seeking work, both on- and offline. For example, online groups are used to disseminate screenshots of private messages that individual careworkers have identified as "nanny scams," which are endemic on marketplace platforms.[93] Typically, scammers will pose as prospective employers, with the goal of defrauding careworkers or housecleaners.[94] Through these groups, careworkers acquire a sense of skepticism about platform communications and online job listings. Kate, a white woman working as a full-time nanny in New York, found out about scams on Care.com through a national Facebook group: "By being on the forum . . . I've heard people talking about it, like, 'Oh, Care.com is a sham. You've got to be careful in there.' I'm like, 'I don't really think that's true.' But, then reading horror stories . . . people saying, 'I got scammed out of money,' or, 'I got my identity stolen', or who knows what happened . . . it made me be very vigilant, hypervigilant."

For careworkers, online groups allow workers to surface individual issues that come up in the course of fleeting conversations with employers in ways that enable them to draw on collective wisdom. In one posting to a Facebook group, a careworker asked for advice on how to respond to an email in which

[93] Wilson, Michael. "'The Nanny Scam.'" *The New York Times*, September 14, 2012, sec. N.Y. / Region. https://www.nytimes.com/2012/09/15/nyregion/the-nanny-scam.html.; "Fake Checks: The Nanny or Caregiver Scam." *Consumer Information*, January 13, 2015. https://www.consumer.ftc.gov/blog/2015/01/fake-checks-nanny-or-care worker-scam.

[94] Care.com has safety tips on their website urging care providers to "be extra cautious if they receive messages offering employment and advance payment by check without an interview with the family or even a phone call," with several tips on practices to avoid being scammed. Often, these guidelines are inadequate; in practice, there is often a thin line between a scam and a misleading job description. See "Safety FAQs." *Care.com*. https://www.care.com/c/stories/8859/safety-faqs/en-gb/.

her employer, in violation of the terms of her contract, suggested that she should be paid less for overtime hours she worked because she will be taking vacation days the following week, an illegal practice known as "banking" hours. There were 115 comments and responses to this original post, suggesting specific wording for e-mail responses, citing US labor law, updates from the original poster about how the situation was unfolding, suggestions to amend her contract, and offers to find her a new employer family.

Accountability Informal Networks in Online Forums

Importantly, the forms of accountability that workers are able to elicit, if at all, by participating in online communities are different for ridehail drivers than they are for careworkers. While driver forums are occupied with routine workplace matters, the inequities they discover often expose unfair practices from platform companies. In careworker forums, individual nannies and employers are subject to exposure, as both groups may mutually surveil each other within these online communities. Moreover, these groups often work more like informal networks where workers share information about their employers and experiences – focused on immediate and ad hoc harm reduction or emotional support rather than more organized efforts to effect change for the industry.

Drivers are the primary audience of driver forums, but they also influence how journalists report on Uber. Drivers in this research study were often familiar with the online forums, though only a minority of the ridehail driver workforce may be active in them—and many of them are simply readers. Even for drivers who have never used them, forums can shape their workplace. In 2017, drivers used forums to discuss and debate a new policy Uber was testing months before it became official.[95] Passengers were being charged a higher fare than drivers were being paid, in a controversial pricing scheme that Uber calls "up-front pricing": the company charges riders when they book a ride by guessing what a trip will cost, but it calculates a driver's pay based on the actual miles and minutes they drive.[96] That means that a driver may earn a little over $30 even when a rider pays over $90 for a ride.[97]

[95] Griswold, Alison. "Uber Drivers Are Using This Trick to Make Sure the Company Doesn't Underpay Them." *Quartz*, April 13, 2017. https://qz.com/956139/uber-drivers-are-comparing-fares-with-riders-to-check-their-pay-from-the-company/.

[96] Rubin, Joel. "Lawsuit Accuses Uber of Ripping off Drivers, Paying Them Smaller Fares than What Passengers Pay." *Los Angeles Times*, April 28, 2017. http://www.latimes.com/local/lanow/la-me-uber-drivers-lawsuit-20170429-story.html.

[97] "The Rideshare Guy," Facebook, December 1, 2017 https://www.facebook.com/TheRideshareGuy/photos/pcb.771276086403599/771274943070380/?type=3&theater.

Drivers learned of the scheme in part by comparing screenshots of their passengers' in-app receipts with their own wages, and these comparisons spread through forum comparisons and public blogs, such as The Rideshare Guy, which created another feedback loop.[98] Despite criticisms that the policy was unfair to both drivers and passengers, Uber made it official in May. Late last year, Lyft quietly adopted a similar practice.

The public accountability journalists generate also affects how drivers make sense of their work. In July, *The New York Times* found that Uber allegedly deducted hundreds of millions of dollars inappropriately from drivers' paychecks through faulty tax calculations;[99] the New York-based Independent Drivers Guild alleged that Lyft had engaged in a similar practice.[100] The news – circulated among drivers inside and outside of forums – validated a much longer institutional memory of pay frustration. These communication flows produce select public knowledge of driver affairs out of the domain knowledge that drivers build about their work. With screenshots of their work proliferating across forums, driver-to-driver comparisons spread across a disaggregated workforce in diverse cities, fueling a systemic sense of disparity and suspicions of unfairness. While some Uber and Lyft drivers shrug off pay discrepancies, others are disturbed by them. But the group dynamics of forums build off of a common sense of the problems that affect all drivers.

Careworkers don't all share the same employer, and therefore can't make apples-to-apples comparisons that are the frequent subject of ridehail forums. However, forums do foster a different type of accountability within these communities, by making employers' unreasonable or abusive requests and actions visible to fellow community members. Careworkers often solicit advice on a course of action for how to handle difficult situations with their employers. They may post about a "dad boss" who makes them uncomfortable with sexual innuendo or inappropriate advances, or collectively think through the consequences of telling a child's parents about another parent or a coach that made them feel unsafe or threatened. Oftentimes, they encourage each other to seek out legal advice. Threads can extend to hundreds of responses that may point the questioner in the direction of relevant state laws, workers' bills of rights, lawyers that offer payment plans, or offers to help the person find alternative employment. Just like in more traditional workplace settings, these interventions aren't uniformly supportive or without contention, as disagreements over whether or not to file police reports,

[98] "A Blog and Podcast For Rideshare Drivers." The Rideshare Guy Blog. https://therideshareguy.com/blog/.

[99] Scheiber, Noam. "How Uber's Tax Calculation May Have Cost Drivers Hundreds of Millions." *The New York Times*, July 5, 2017. https://www.nytimes.com/2017/07/05/business/how-uber-may-have-improperly-taxed-its-drivers.html.

[100] Kunkle, Fredrick. "Lyft Drivers Call for Investigation Into Alleged 'Wage Theft.'" *Washington Post*, May 31, 2017, https://www.washingtonpost.com/news/tripping/wp/2017/05/31/lyft-drivers-call-for-investigation-into-alleged-wage-theft/.

to quit jobs, or even address harassment at all often will be contested between among group members. But these deliberations can also become moments where careworkers reach consensus or contest professional norms around issues such as fair pay or working conditions.

Additionally, reputational control in online forums can have both collective and individual consequences, as different kinds of publics can collide online, where different actors are enmeshed in overlapping networks made visible by social media platforms. Like driver forums, Facebook groups are never fully "private" spaces, even if they are designated as closed groups that require administrator permission to join. While they've created their own codes of ethics for protecting the privacy of the families they work for (such as using code names and blurring faces in photos), their own privacy is tenuous, in part because of Facebook's real name policy, and because, as many interviewees related, employers and nanny agencies sometimes infiltrate these groups to spy or dig up information on individual workers. As a workaround, oftentimes an administrator of the group will post on behalf of a member who wishes to remain anonymous.

The porous boundary between work and social relations limits the extent to which careworkers feel comfortable discussing workplace issues in these forums. Mae, the full-time nanny in Washington, DC, detailed the consequences of not properly scrutinizing who is allowed into Facebook groups, citing the example of nanny agencies that infiltrate Facebook groups:

> I understand it's a market for them, and it's a job. But I have been in nanny groups where agencies are posing as other people. Posing as nannies, to try and . . . "Oh, this nanny applied with us. Let's get some dirt on her." So they join these nanny groups to see, "Oh, well, Mae's posting all day. She must not be working." Or, "Mae said she smoked pot this weekend. We don't want to hire her." That kind of thing.

Lisa, a black and Latina careworker in her 20s who regularly relies on Facebook groups for advice and emotional support, expressed often feeling hesitant about speaking about her experiences in these groups because the posts may bet back to her employer. She described how she often posted and then immediately deleted solicitations for advice to these groups.

Importantly, these activities are limited by parenting groups on Facebook that engage in the surveillance and shaming of nannies, and careworkers may counter this scrutiny by monitoring these groups in return. In one case, a careworker discovered from a posting in a local parenting group that an employer was planning to fire her careworker after discovering the careworker's pregnancy. Bringing back screenshots from the parenting group, the careworker entreated her fellow members to locate and warn the unknown careworker. Commenters advised the original poster to continue taking screenshots of the conversation in case they may be used in a potential discrimination suit.

Communication networks centralize the information that far-flung participants gather about their work, and comparisons of their experiences surface potential inequities. However, multiple audiences are examining how technology affects work; journalists, for example, may investigate the working conditions that ridehail drivers scrutinize too, while careworkers' forums don't enjoy the same publicity. As this section has shown, these communities of practice create a kind of workplace culture for fragmented platform workers.[101] By doing so, they render the challenges and stakes of on-demand work more visible. While this doesn't always prevent exploitation, it can demonstrate nodes of resistance to the demands of platform economies. [102] Communication networks are a remarkable, but insufficient means to address workplace safety and other crucial issues facing workers using labor platforms.

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[101] Companies other than labor platforms experiment with new organizational forms. Increasingly, they manage constantly shifting, geographically distributed and contingent workforces. The ways platform workers utilize digital communication in response to flexible organizations foreshadows broader trends in how other workers build work cultures. See also, Irani, Lilly. "Difference and Dependence among Digital Workers: The Case of Amazon Mechanical Turk." *South Atlantic Quarterly* 114, no. 1 (2015): 225–34.; Orlikowski, Wanda J., and Stephen R. Barley. "Technology and Institutions: What Can Research on Information Technology and Research on Organizations Learn from Each Other?" MIS Q. 25, no. 2 (June 2001): 145–165. https://doi.org/10.2307/3250927.;Rosenblat, Alex. "The Network Uber Drivers Built." *Fast Company*, January 9, 2018. https://www.fastcompany.com/40501439/the-network-uber-drivers-built.

[102] Ticona, Julia, and Alexandra Mateescu. "How Domestic Workers Wager Safety in the Platform Economy." *Fast Company*, March 29, 2018. https://www.fastcompany.com/40541050/how-domestic-workers-wager-safety-in-the-platform-economy.

Conclusion

*Labor platforms often create a lower
barrier to entry for work, but this does
not mean that workers start out on
an equal playing field.*

Many of the inequities discussed in this paper are not new
and have long characterized the risks borne by independent
contractors and those working in the informal economy.
The gig economy largely creates job opportunities for inde-
pendent contractors, who lack the workplace protections
of employees. Legal and popular debates over that model
raise questions about whether Uber drivers and others are
misclassified as independent contractors. But as the case
of marketplace platforms have shown, labor platforms may
affect people's experiences of work in subtle but still
powerful ways.

Platforms are both scaling opportunities for work in these industries and obscuring the invisible authority they wield over job-searching and working conditions through particular infrastructures, like rating systems, individual profiles, and mobile apps. Labor platforms often create a lower barrier to entry for work, but this does not mean that each worker starts out on an equal playing field. Some platforms shift the types of skills needed to find work and create hidden requirements around internet access and flexible scheduling that create barriers for some workers. Compounding these effects are the legacies of the industries we examined, such as the racial and gendered inequalities in the way the work is culturally valued.

While independent workers have always faced risky conditions, platforms exacerbate old issues as business incentives towards efficiency often remove helpful barriers and mediation that protect workers. For example, platforms stymie workers' vetting processes and information flows that allow them to avoid hazardous and unsafe situations. Platforms also often do not provide the necessary resources workers need to understand policies or to manage unsafe situations. As a result, we have shown that labor platforms create uneasy trade-offs for workers, placing new pressures on them in ways that can be harmful, while also providing them with avenues for appealing to weak forms of accountability that may not have existed otherwise in informal work arrangements. Platform policies and practices that create conveniences for consumers may end up amplifying worker vulnerabilities.

It is naive, going forward, to assume that technology can flatten entrenched inequalities through standardization and scale.

Platform companies have been largely successful in distancing themselves from many of the serious issues facing workers described in this study. However, the new communication landscape of platform work means that older, seemingly intractable problems are gaining new visibilities. But visibility does not automatically translate into accountability, and solutions must contend with the ways that different workers within and across worker populations are affected differently by the same technological tools and policies.

Acknowledgments

About Data & Society

Data & Society is an independent nonprofit research institute that advances new frames for understanding the implications of data-centric and automated technology. We conduct research and build the field of actors to ensure that knowledge guides debate, decision-making, and technical choices.

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Appendix: Methods
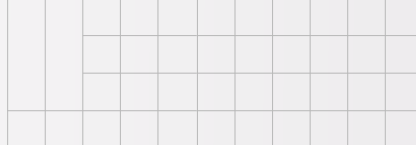
This analysis is based on ethnographic interviews with and observations from 42 careworkers, 28 housecleaners, and 35 ridehail drivers in cities across the US, as well as observation of occupational online forums and Facebook groups.[103] Our main focus areas were New York City, Atlanta, and Washington, DC, although in addition to these cities, driver interviews were also conducted in New Orleans and with one additional driver in Dallas, Texas. This study was overseen by Advarra, Inc. (formerly Chesapeake Research Review, IRB). All participants engaged in a consent process ensuring confidentiality; all names have been altered (unless otherwise requested and/or consented to by participants); and all interviews were audio recorded with the consent of the participants (unless otherwise requested).

Participant Recruitment:

DRIVERS: Lead researcher Alex Rosenblat recruited drivers primarily through the use of ridehailing apps, as well as occasionally through online driver forums, or via referrals from other drivers. While empirical work related to this project began in Spring 2017, this is an extension and addition to an ongoing research project titled "Regional Differences in Ridehailing Work." The study began in Spring 2016 under the supervision of Advarra, Inc (formerly Chesapeake Research Review, IRB) and was extended to supervise interviews for this study. Rosenblat's forthcoming book, entitled "Uberland: How Algorithms Are Rewriting the Rules of Work," evolved from her cumulative research with drivers from 2014-2018. Interviews were conducted in person and via Skype by Rosenblat and lasted between 15 to 90 minutes. Skype/phone interviewees were compensated with $25 Amazon cards (although some drivers declined offers of compensation), whereas interviews that took place over the duration of a ride inside of the driver's car were generally compensated through the cost levied for the trip and tips. Unless drivers gave explicit, written consent to have their real names used, their identities and select details of their experience have been altered to protect their anonymity as well. Although some drivers only worked for one company, they often had some knowledge of other ridehail companies, such

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[103] Spradley, James P. *The Ethnographic Interview*. Harcourt, 1979.

as their reputations, and some knowledge of comparable opportunities and practices among ridehail competitors. Rosenblat recruited drivers through a variety of ridehail app accounts, in part to help protect driver anonymity. Not all of the drivers she took rides with were interviewed. Beyond interviews, Rosenblat engaged in participant observation with drivers. Ridehail platforms generally require drivers to be at least 21 years of age, though UberEats couriers can be at least 18 years of age. Rosenblat did not survey drivers about their age, but participants were assumed to be over the age of 18.

CARE AND CLEANING WORKERS: Beginning in the spring of 2017, lead researchers Julia Ticona and Alexandra Mateescu recruited care and cleaning workers through postings in English and Spanish on Craigslist, e-mail lists, and local occupationally-focused Facebook groups. Posters and fliers in English and Spanish were distributed through partner organizations at worker-facing events (including the National Domestic Workers Alliance, Samaschool, and the locally-organized annual national event, National Nanny Training Day in Atlanta and New York City) and through informal meet-ups organized by careworkers. Interviewees were also contacted through online marketplace platforms, local nanny and cleaning agencies, and through referrals from other interviewees. In order to qualify for the study, participants had to be 18 or older, be working at least part-time, and have looked for work using one of the platforms included in this study. Interviews were conducted in person at locations chosen by interviewees, including coffee shops, public parks and playgrounds. Interviews were also conducted via Skype and Facetime by the authors and lasted between 45 and 120 minutes. Interviewees were compensated with their choice of $20 in cash or an equivalent gift card to Amazon.com, and interviewees were compensated an additional $20 for successful referrals. Interviews included questions about workers' experiences using apps and websites to find work, as well as the ones they didn't use, their opinions of these platforms, interactions with clients, and health-related topics such as scheduling, impacts of their work on emotional and physical health, and experiences of discrimination, harassment, and personal safety. A full interview schedule is available upon request. After the interview, home services workers also filled out a brief demographic survey that included questions about their age, racial/ethnic identification, and country of origin

————— *Summary of care/cleaning worker demographics in this study:* Black (45%), White (25%), Hispanic/Latino (15%), Asian (5%), Multiracial/Other (10%).

Limitations:

CARE AND CLEANING WORKERS: We began recruiting for interviews in Spring 2017 after President Trump's inauguration the prior January. We believe our recruitment efforts, especially in immigrant communities, was significantly impacted by the President's anti-immigration rhetoric as well as increased enforcement (and threats of enforcement) from US Immigration and Customs Enforcement. While we sought partnerships with non-profit community organizations who represent and advocate on behalf of immigrant communities in each of the three cities that were the focus of this study, these organizations were both overburdened with competing priorities and concerned about protecting the privacy of their members and thus were unable to facilitate introductions to their memberships. More broadly, although we circulated fliers and online ads in Spanish, and advertised that we were able to conduct interviews in Spanish, these efforts sparked little interest in our attempts to recruit individual workers. In addition, we didn't provide recruitment materials translated into languages other than Spanish and English, as we were unable to offer interviews conducted in any other languages. As such, while our sample consists of a sizable proportion of foreign-born participants, we likely underrepresent the experiences of primarily Spanish-speaking workers, and significantly under-represent those that primarily speak languages other than Spanish and English. In addition, as we learned in the course of this investigation, because this population frequently encounters scams in their search for legitimate paid work, they tend to be highly skeptical of opportunities that are outside of what they normally encounter—including offers to participate in paid research. As a result, we faced significant obstacles in recruitment of participants.