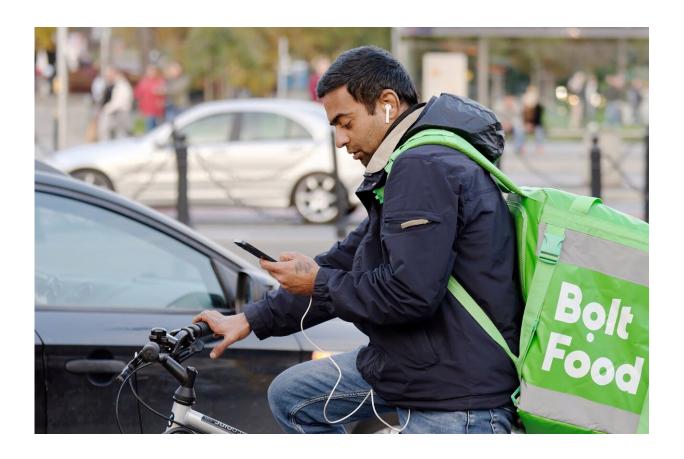# Management-by-algorithm may harm digital platform workers

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An increasing range of services, from car rides to food delivery, are provided by companies that connect workers to customers through digital platforms. These platforms replace most human managers with

algorithms that determine schedules, tasks, work pace, performance and compensation. Yet while digital platforms make ordering dinner fast and convenient, management-by-algorithm contributes to mental and physical health risks for workers, according to an article by a team of researchers led by CUNY SPH doctoral candidate Emilia Vignola.

Focusing on the now-ubiquitous grocery and meal delivery sector, the article reviews the literature on the mechanisms by which algorithms negatively affect worker health: monitoring workers' performance in real time; rewarding or punishing workers based on instantaneous customer feedback, with little recourse; concealing the true costs when offering "gigs," thus domineering workers' decision-making and net pay; using games and variable pricing to get workers to take riskier tasks during peak demand while also intensifying schedule instability and disrupting family life; dispersing and pitting workers against one another in "competitions"; and blurring the responsibility for workers' rights by classifying workers as "independent contractors."

The article, published in the *International Journal of Environmental Research and Public Health*, points out that the negative effects of algorithmic management are likely to be experienced disproportionately by marginalized groups, particularly immigrants and racialized minorities, who are over-represented in platform jobs like food delivery.

One reason is that those dependent on full-time platform work for their livelihoods, who have limited alternative employment opportunities, may experience these impacts more acutely than those for whom part-time, flexible platform work represents convenience rather than precariousness. A second reason is that independent contractor status prevents platform workers from getting benefits of conventional employment and time between paid tasks is uncompensated, driving effective wages far below those of conventional workers.

The authors conclude with recommendations for future research: monitoring the scale and scope of this growing workforce; quantitatively measuring the mental health and physical impacts of algorithmic management; and better understanding the equity impacts of platform labor.

"Understanding the accelerated, deep and consequential shifts algorithmic management has brought to traditional employment relationships, and their repercussions for racial, ethnic, and class disparities in worker well-being is urgent," says CUNY SPH Assistant Professor Mustafa Hussein.

"The mechanisms by which algorithms harm platform-based food delivery workers are spelled out in this study but quantifying these risks will provide labor advocates with evidence to push for policies to compensate platform workers fairly and improve their working conditions," says CUNY SPH Associate Professor Nevin Cohen.

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