Background: The gig economy has engaged a growing number of workers. Digital matching services in the gig economy are changing power dynamics for these contingent workers while forgoing traditional employer-employee relationships. How this impacts the occupational health of on-demand workers has not been extensively researched. Additionally, financially dependent gig workers are more likely to be non-white. Gig workers of color are at risk of discriminatory employment practices and the effects of gig work on workers of color need further evaluation.

Method: In this study, we assess self-reported occupational health and safety-related concerns for on-demand workers. We used a constant comparison method to qualitatively analyze one year of candid discussions from publicly accessible online forums used by on-demand drivers and couriers regarding on-demand worker's health and safety concerns while working for digital matching services. We additionally analyzed a subset of discussions in which on-demand workers related their occupational health and safety concerns to their self-identified race and/or ethnicity.

Results: Workers use the forums to discuss problems and seek and share solutions to challenges they encounter in their work. Many of the topics workers discussed reflect what is already known about this kind of work: they express concerns about musculoskeletal pain, the risks of car crashes, and dangers from interacting with the public. However, these digital matching services create a work environment that increases susceptibility to health and safety hazards. These discussions also reveal coping strategies which themselves represent occupational health risks, from self-medication to fatigued driving to carrying weapons. Additionally, workers related several safety concerns to their race or ethnicity. These include accusations of trespassing

while delivering packages, being stopped by police for looking out of place, and being harassed for their perceived ethnicity.

Conclusion: We found that gig workers utilizing digital matching services are more susceptible to safety hazards found in those who partake in similar work. Additionally, the coping mechanisms that these workers resort to may introduce new and different occupational health risks. As more contingent workers are engaging in on-demand work in the gig economy, interventions and policies need to be developed to protect this rapidly growing underserved subset of workers. Additionally, gig workers of color utilizing digital matching services were concerned about and encountered situations that could expose them to workplace violence. In addition to the dangers associated with interacting with the public, the reported frequency of police interactions potentially puts black workers at risk of facing police violence. Policies need to be developed to protect this growing underserved population of workers. For minority workers, specific interventions are needed to address the racial disparities in safety and working conditions.