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The Next Mobile Office: Safe and Productive Work in Automated Vehicles

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Gesture and Voice Commands to Interact With AR Windshield Display in Automated Vehicle: A Remote Elicitation Study

Problem: We don't know how people expect to interact with AR windshield display of automated vehicles in the future.

Research Questions:

- How do drivers *expect* to use gestures and voice commands to interact with windshield displays?
- How do drivers *prefer* to interact with windshield displays of automated vehicles?



Figure: Popular gestures proposed by the participants.



Figure: Percentage of voice commands in each category along four dimensions

"I need to respond to this" – Contributions to group creativity in remote meetings with distractions

Problem: There is limited research on the effect of remote meetings on group performance.

Research Questions:

- How do groups perform in creativity tasks during remote meetings?
- What are the effects on individual and group performance when one individual is frequently interrupted?

Method: Groups of 4 individuals participated in creativity tasks. One member of the group was also engaged in a secondary task.

Findings:

- Distracted participants seemed to contribute less than other members of the group.
- Preliminary evidence suggests that even while engaged in non-meeting tasks, people can give meaningful contributions to a creativity task.

Virtual Nature Experiences and Mindfulness Practices while Working from Home during COVID-19: Effects on Stress, Focus, and Creativity

Problem: Working remotely during COVID-19 pandemic can negatively affect stress, focus, creativity of the workers.

Research questions: How do daily virtual nature experience and mindfulness practice effect stress, focus, and creativity of remote workers over an extended period?

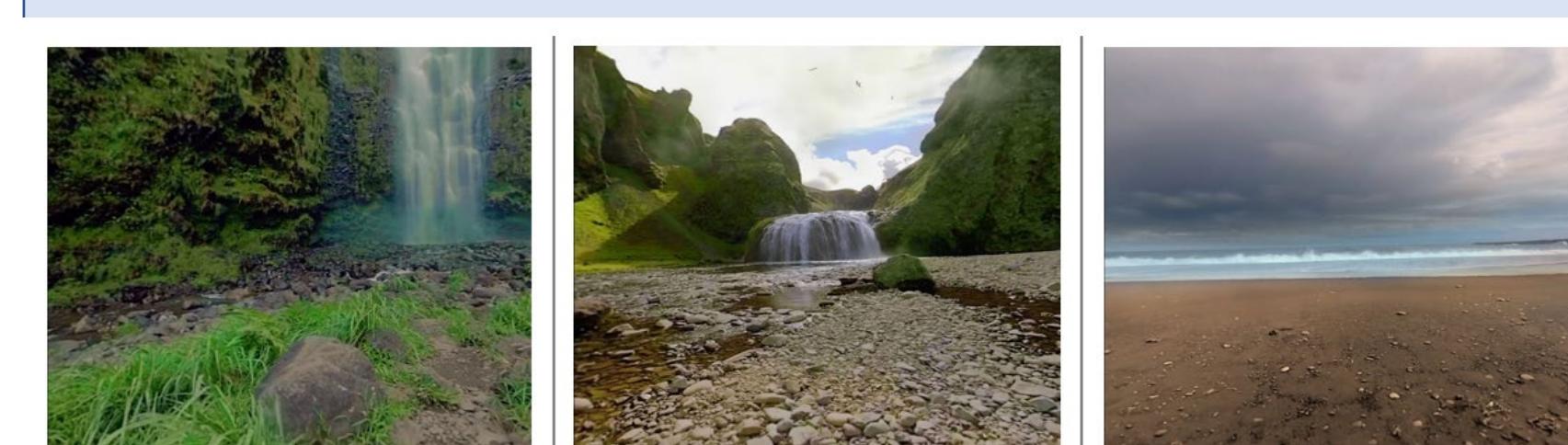


Figure: Nature scenes experienced by participants using virtual reality headsets.

Findings:

- VR nature experience improved stress but no significant improvement when mindfulness practice was added
- VR nature experience improved focus but no significant improvement when mindfulness practice was added
- Interventions had mixed effects on different aspects of creativity (Convergent and divergent thinking).

Multitasking while Driving: A Time Use Study of Commuting Knowledge Workers to Assess Current and Future Uses

Goal: To understand how future automated vehicles can support the work and wellbeing of knowledge workers.

Method: We conducted an online time-use study in which 616 knowledge workers participated.

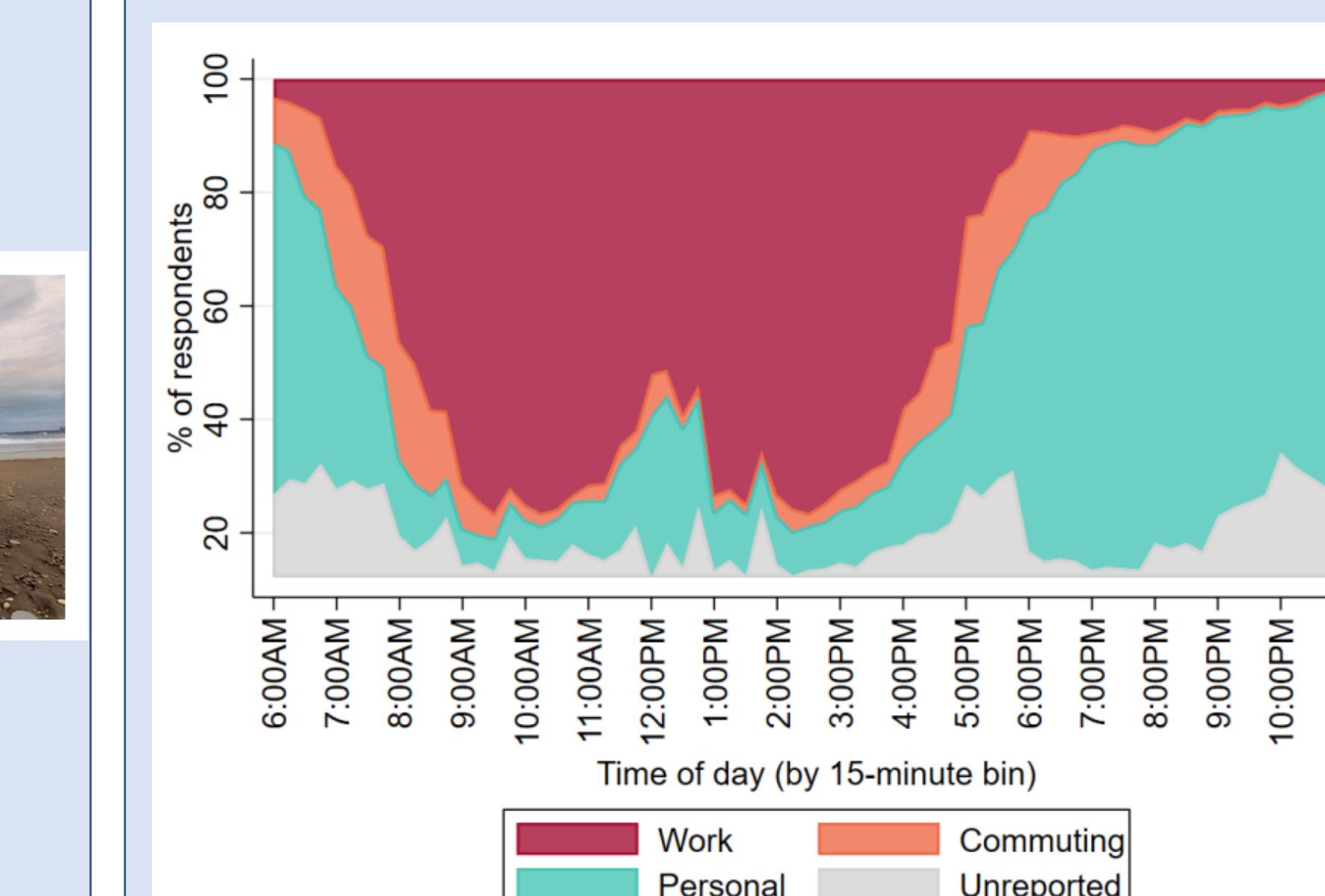


Figure: Time-Use of 400 knowledge workers who commute by driving a car.

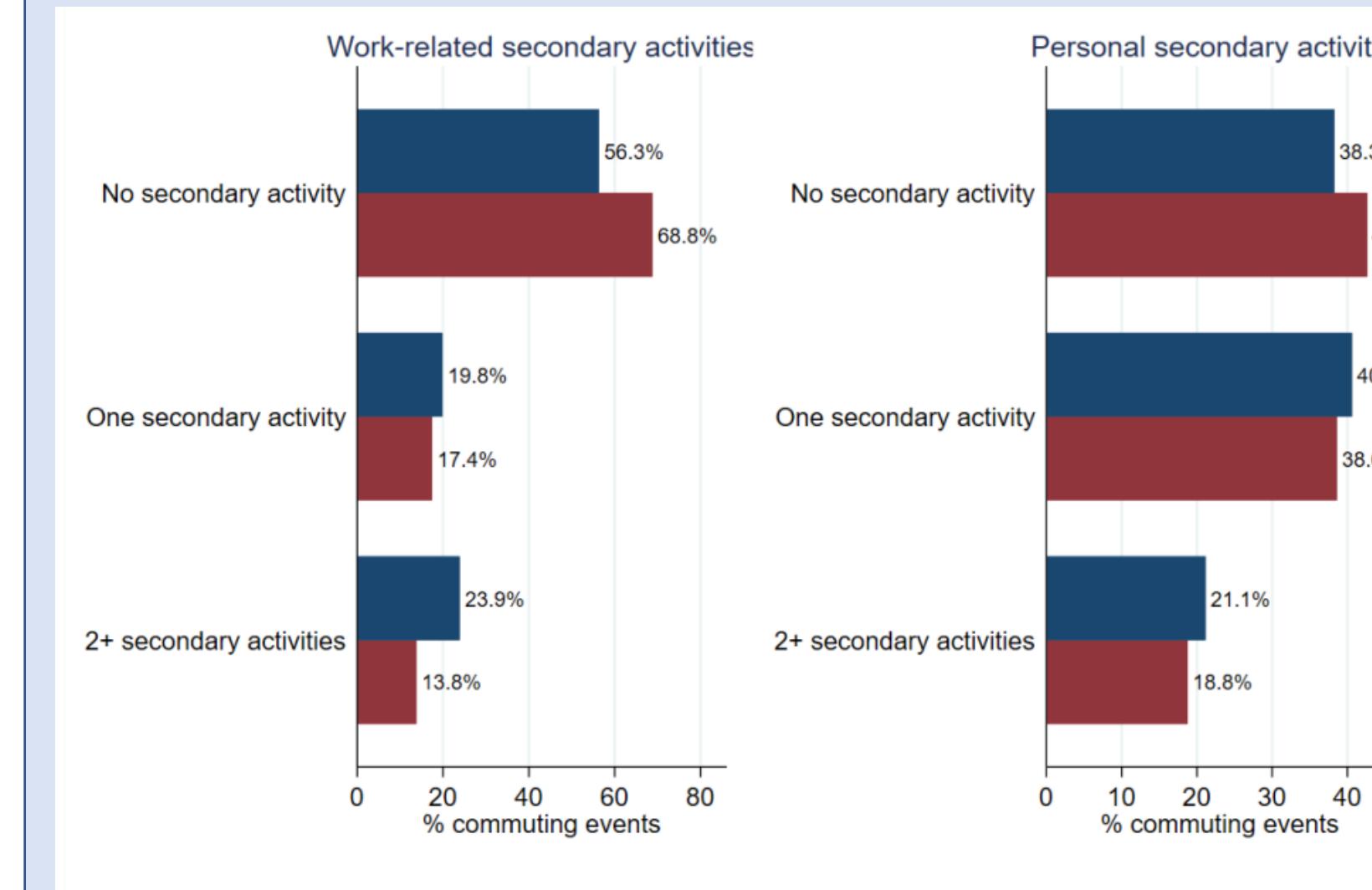


Figure: Share of commuting events by intensity of work-related multitasking behavior.

How does working from home during COVID-19 affect what managers do? Evidence from time-Use studies

Goal: To understand how managers used their time while working from home.

Method: We analyzed pre-pandemic and post-pandemic data from an online time-use survey with data on 1,192 knowledge workers.

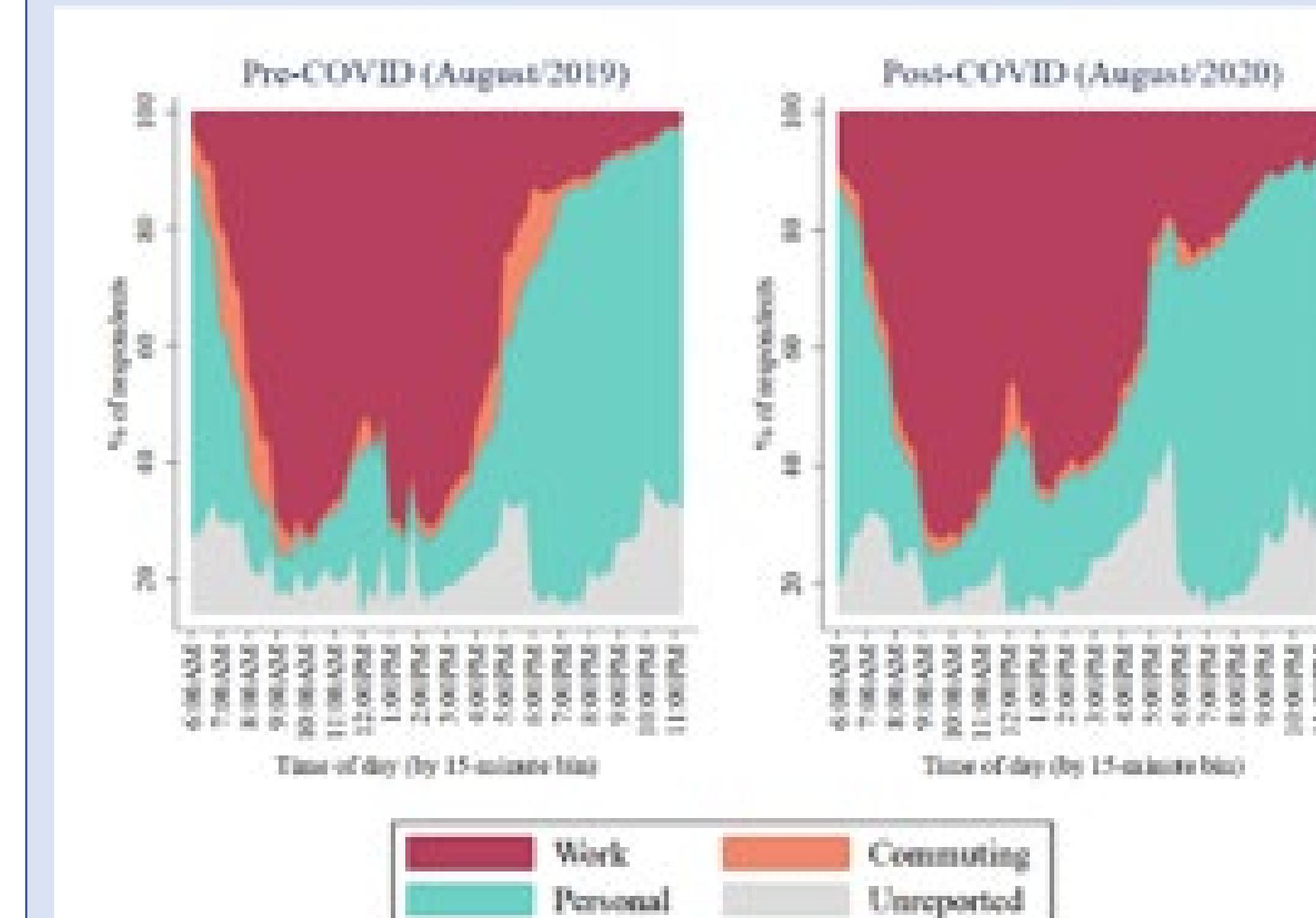


Figure: Time-Use Map: share of respondents commuting, working, engaging in personal activities, or with unreported activities by time of day.

Findings: The transition to working from home due to the pandemic caused a drastic reduction in commuting time for managers, but also an increase in time spent in work rather than on personal activities.