

# Be a better multitasker!

## How a pause in the primary task can turn a rational into an irrational multitasker

Ioanna Katidioti, Niels Taatgen  
University of Groningen



### Introduction



9GAG

People multitask all the time...

... and we are bad at it!

(e.g. Gonzalez & Mark, 2004)

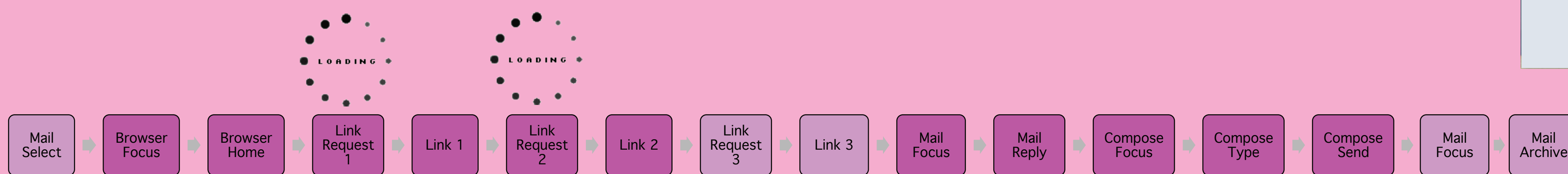
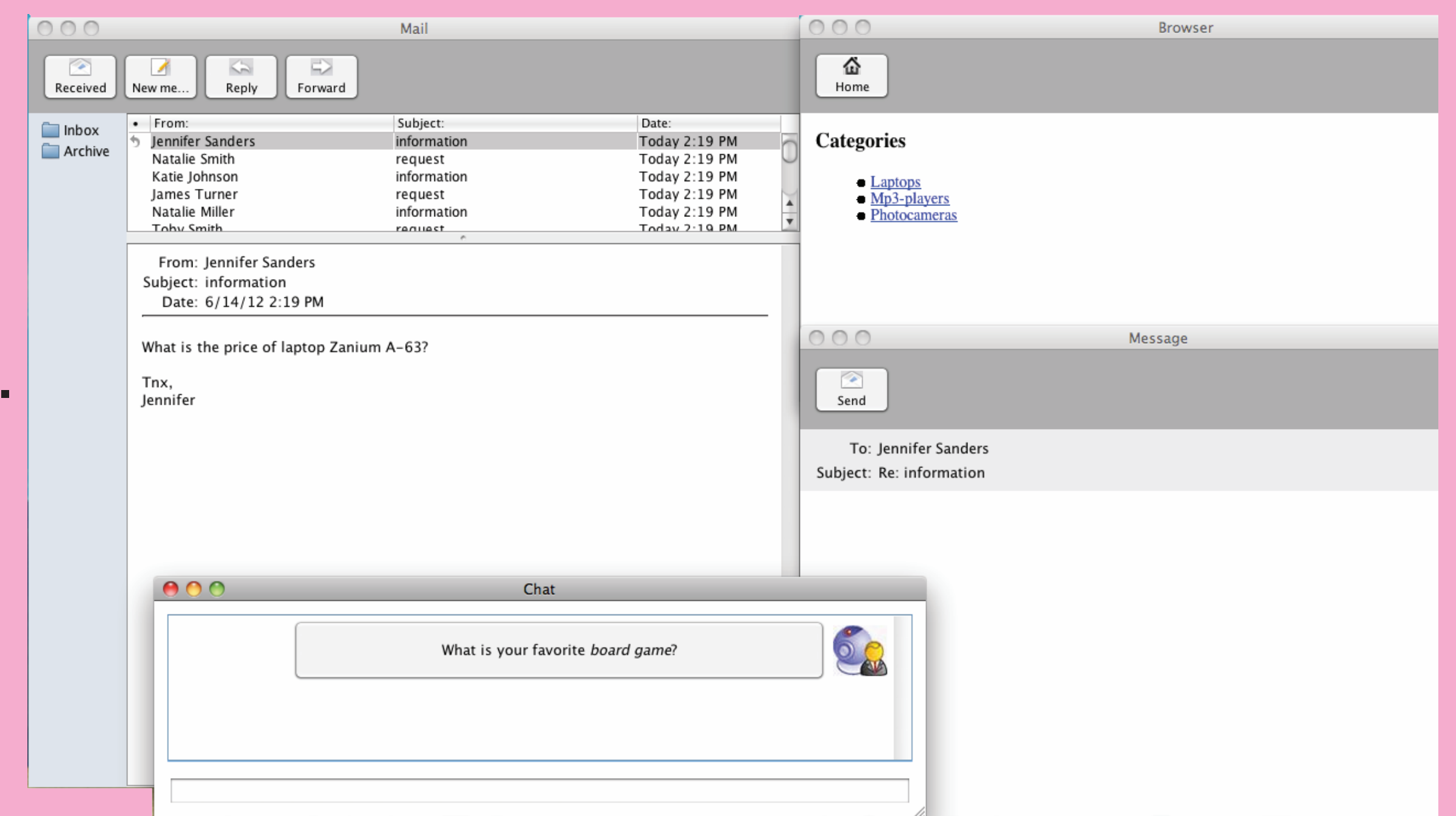


### Experiment



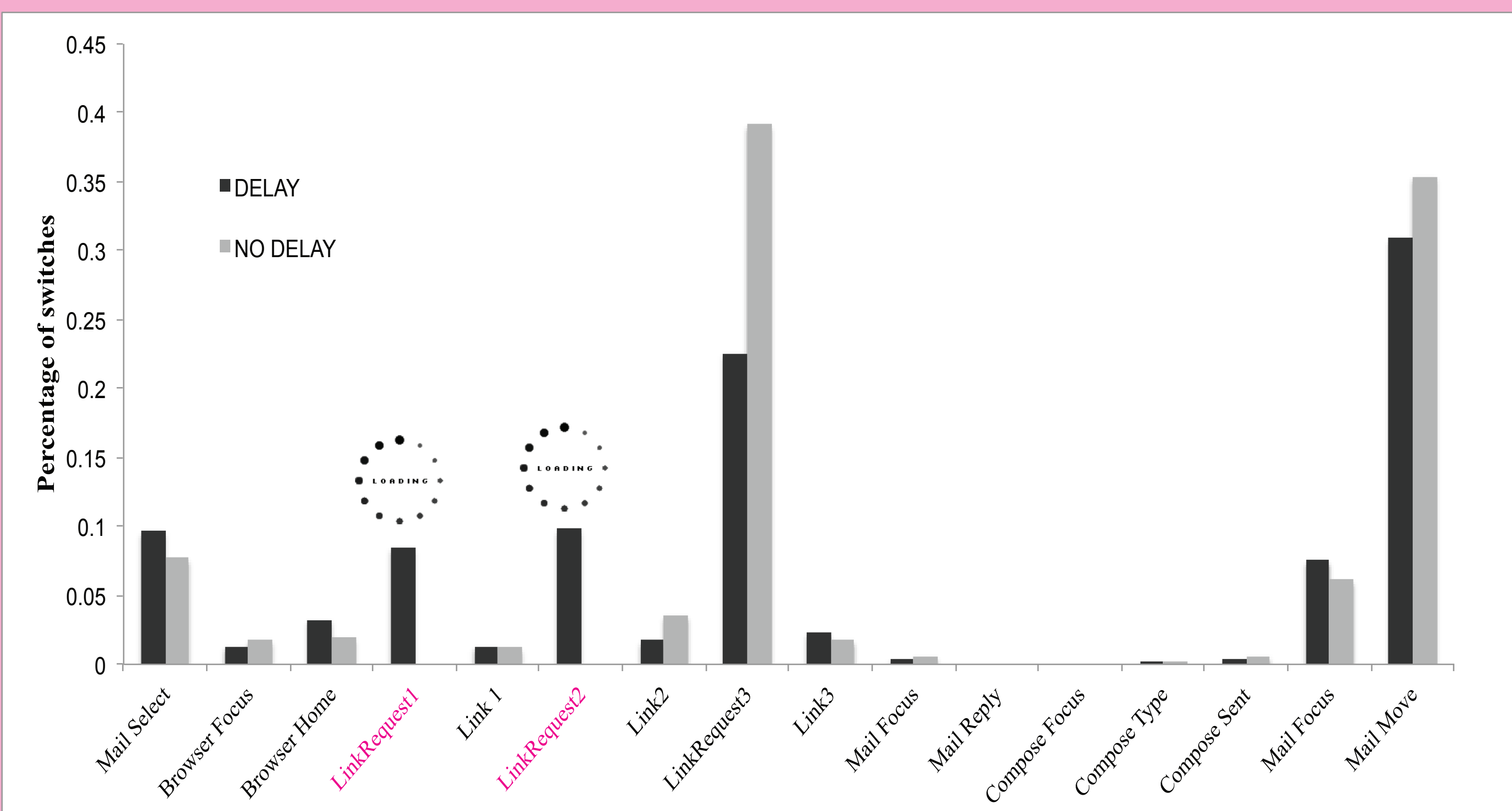
26 Participants answered emails by searching information on a web browser, while being interrupted by chat messages. They were free to switch to the chat task whenever they wanted. Participants did both Delay and No Delay conditions. In the Delay condition, there was a 3 second delay on 2 high-workload moments.

**Prediction:** They will switch to the chat task during the delays and that will affect their performance

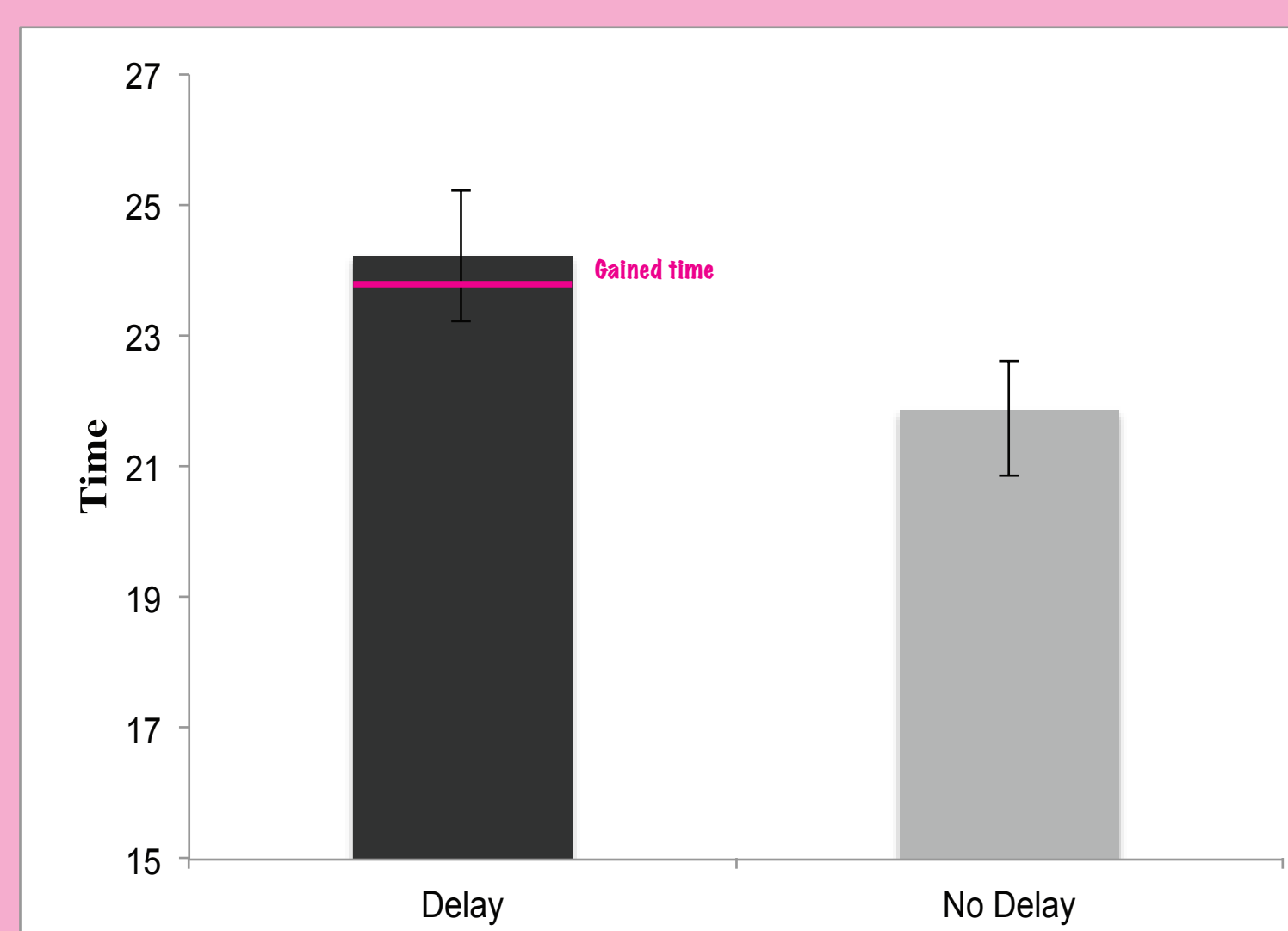


### Results

#### Percentage of switches in every move per email

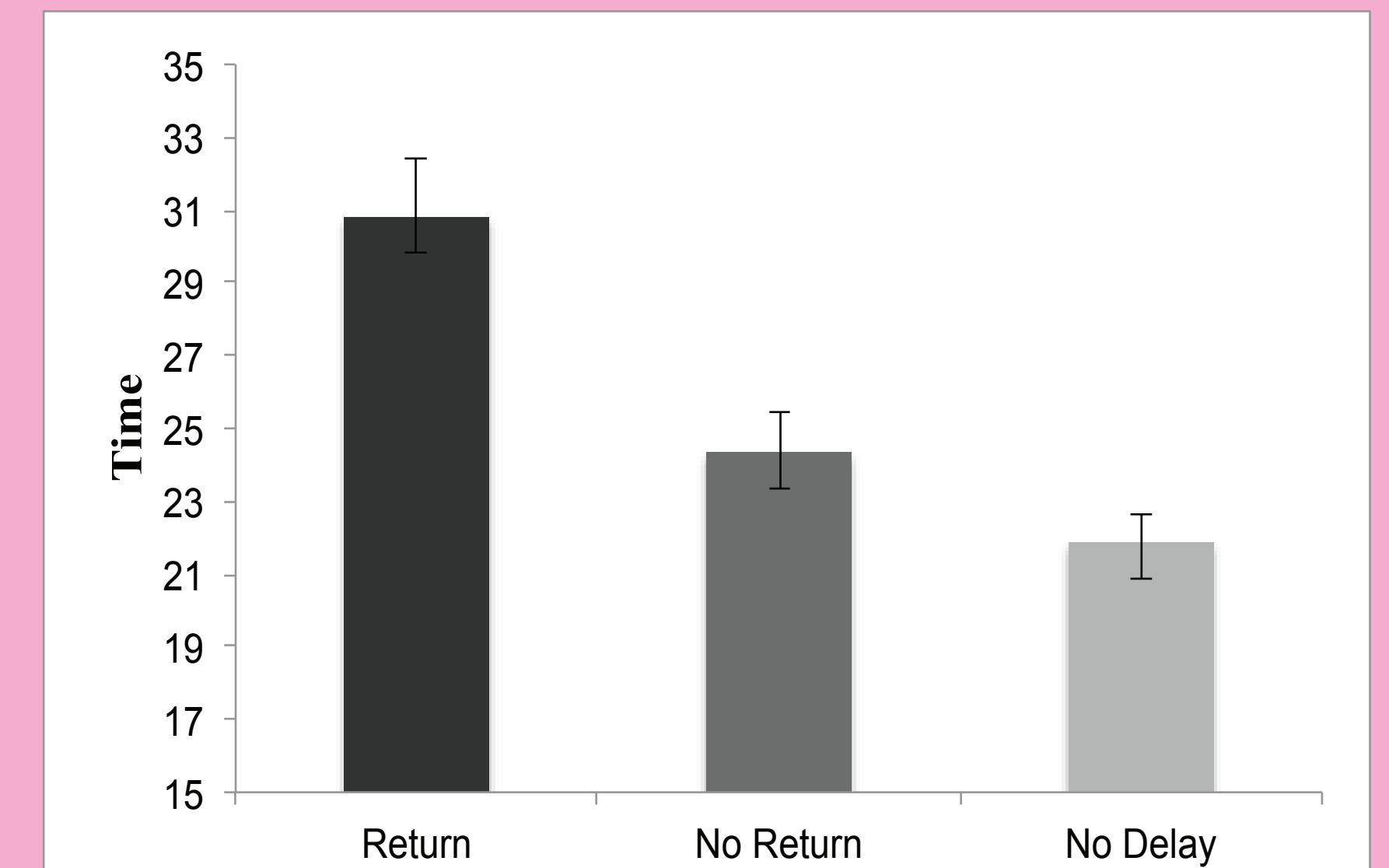


#### Average time per email according to condition



Delay: 24.2 seconds  
No Delay: 21.9 seconds

#### Average time per email according to return/no return/no delay



#### Delay condition:

55% of the time, participants forgot the information and had to return and read it again, which made them even slower.

But even if they didn't forget, they were still slower than the No Delay condition, where they didn't switch on high-workload moments

When there was a delay in the browser, participants switched to the chat task on high-workload moments...

### Discussion

As soon as the resources for the secondary task were free, people were tempted to switch, which affected their performance.

They would be faster if they just waited during the delay: reconstructing the information on their working memory required more time than the time they gained.

... which made them 2.3 seconds slower per email

Switching during a delay rather than waiting seems like a good idea: **useless delay time is being used productively!**

But the results were:  
**Gained time:** 0.51 seconds  
**Lost time:** 2.3 seconds

Contact  
i.katidioti@rug.nl

#### Acknowledgments

This research was funded by ERC-StG grant 283597 awarded to Niels Taatgen. We thank Dario Salvucci for making the code for the experiment available to us.

#### References

- Gonzalez, V. M., & Mark, G. (2004). "Constant, constant, multi-tasking craziness": Managing multiple working spheres. Proceedings of the SIGCHI Conference on Human Factors in Computing Systems: CHI 2004, 113-120.
- Salvucci, D. D., & Bogunovich, P. (2010). Multitasking and monotasking: The effects of mental workload on deferred task interruptions. Proceedings of the SIGCHI Conference on Human Factors in Computing Systems: CHI 2010, 85-88
- Salvucci, D. D., & Taatgen, N. A. (2011). The multitasking mind. New York: Oxford University Press