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Can You Ignore It? – Effects of Album Artwork on Driver Distraction

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Intro



- Large in-car head units make music album art clearly visible
- NHTSA (2013) guidelines on “*non-driving-related graphical or photographic images*”
- Roadside advertisements: semi-naked model distracted about 25 percent of British male drivers (Reuters, 2005)

National Highway Traffic Safety Administration (2013). *Visual-Manual NHTSA Driver Distraction Guidelines for In-Vehicle Electronic Devices*. (NHTSA-2010-0053).

Reuters News Service (2005). Semi-Naked Models Drive UK Motorist to Distraction. Last retrieved May 24th, 2013 from <http://www.chron.com/news/nation-world/article/Semi-naked-models-drive-UK-motorists-to-1948441.php>

Research questions

1. Is searching for music more distracting when (unfamiliar) artwork is presented?
2. Does attractive artwork catch more attention than neutral artwork? Are there gender effects?
3. Drivers' preferences regarding artwork?

Method

- N=24 (12 female, 12 male)
- Experienced drivers, normal vision, 20 to 56 years ($M=27$, $SD=7.6$)
- Conditions
 - Baseline driving
 - No artwork
 - Neutral artwork
 - Mixed (neutral + 10 attractive covers)
- Eye-metrics and search task performance:
gender x artwork [2 x 3]
- Driving performance:
gender x trial [2 x 4 (baseline incl.)]
- Interview



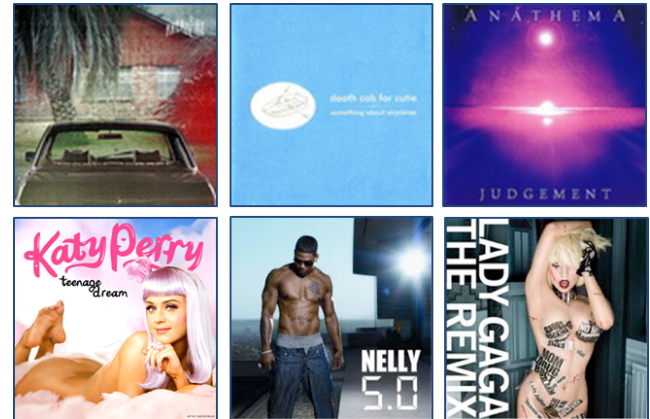
Method (2)

- For each search task (3/condition):
 - 45 music albums on 15 pages
 - Target items between 37th and 45th positions
- Attractive covers (TOP 5 M&F) were selected based on a pre-study survey (N=40)

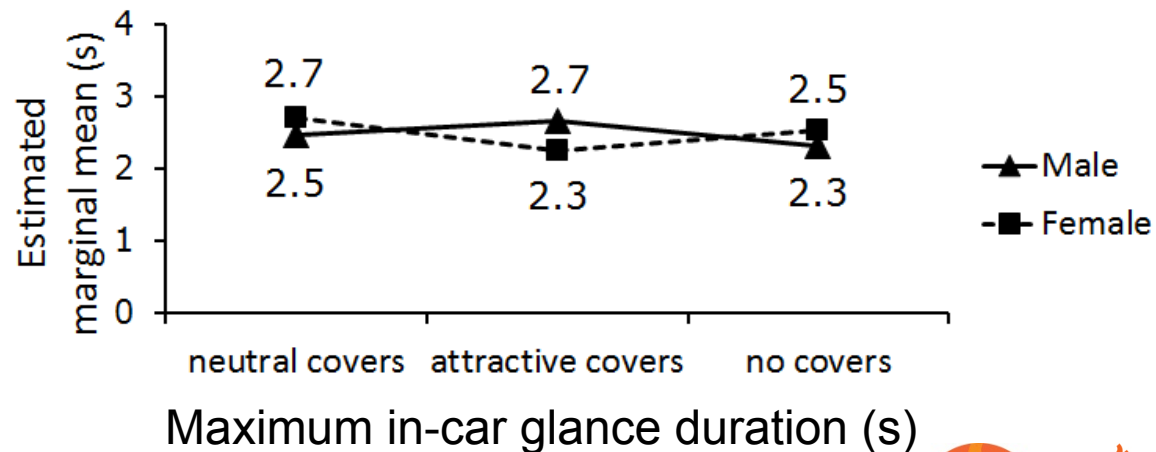
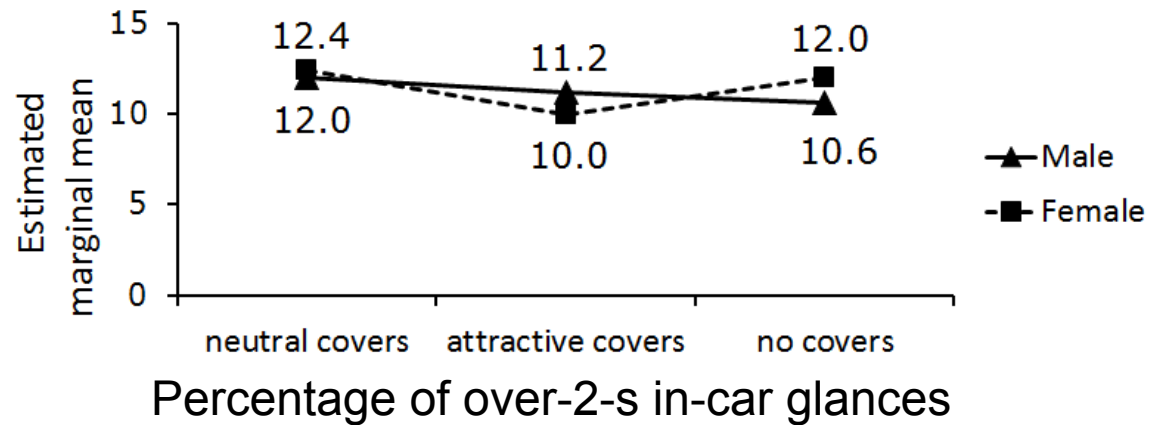


Neutral art

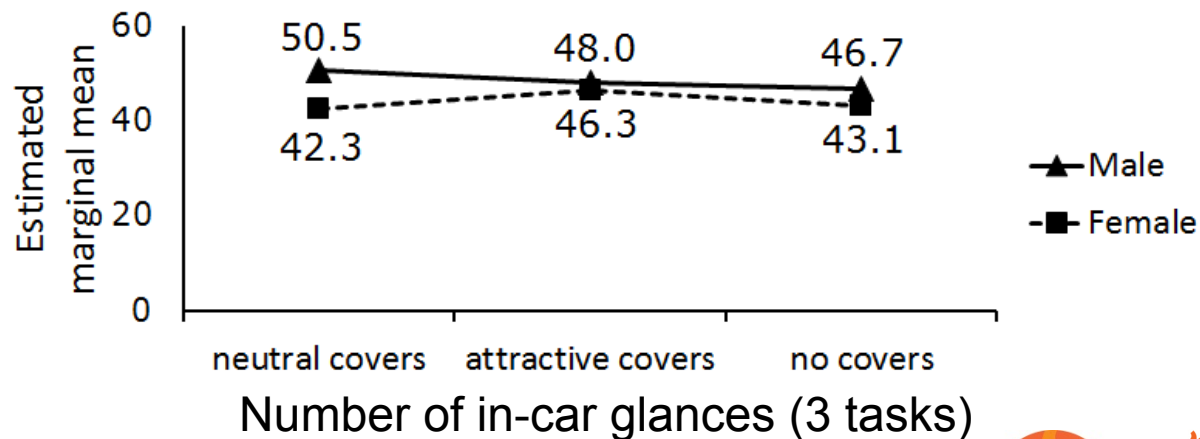
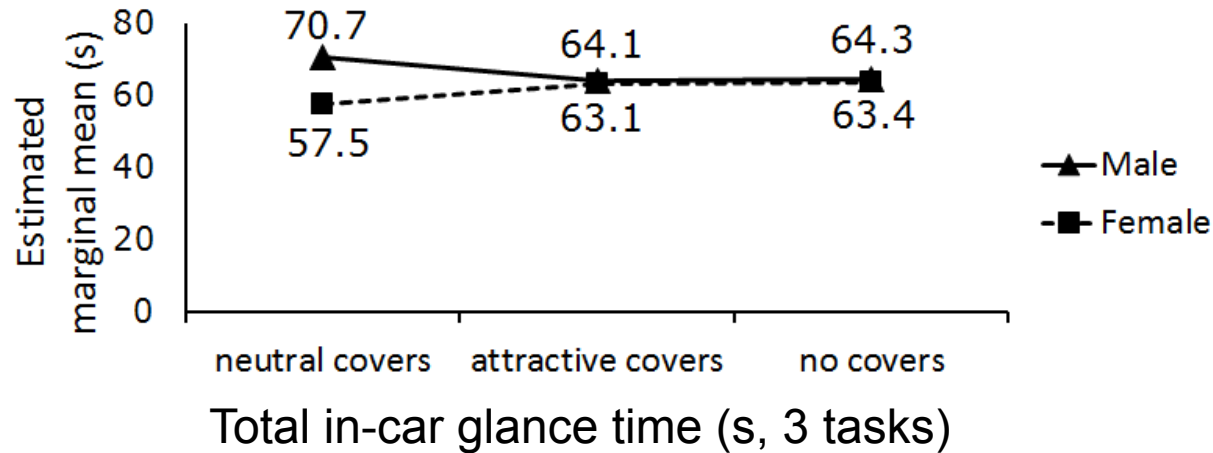
Attractive art



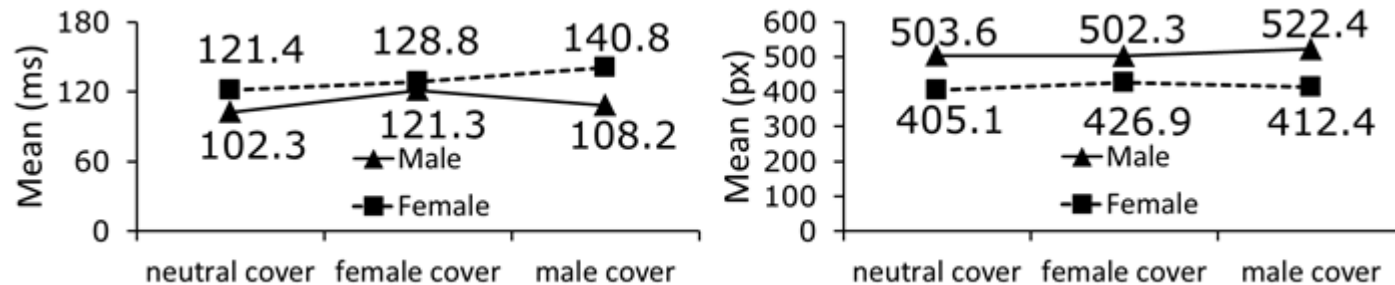
Results – Visual sampling efficiency



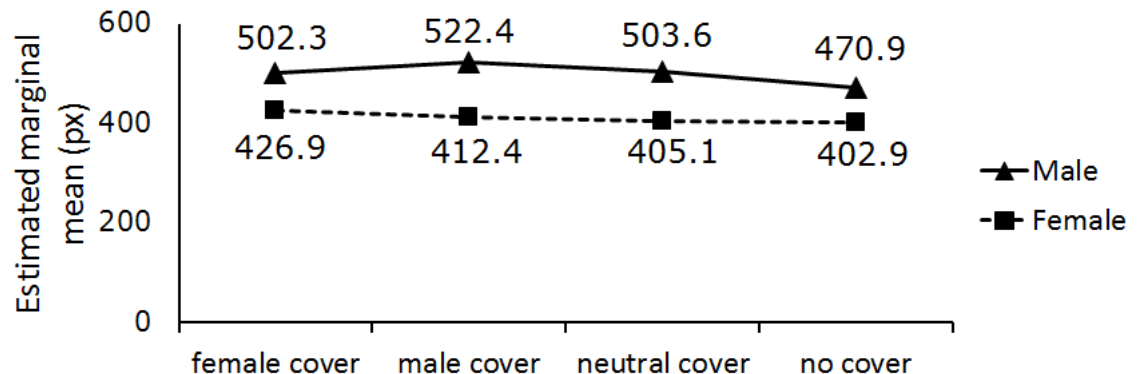
Results – Visual demands



Results – Fixations (N=9)

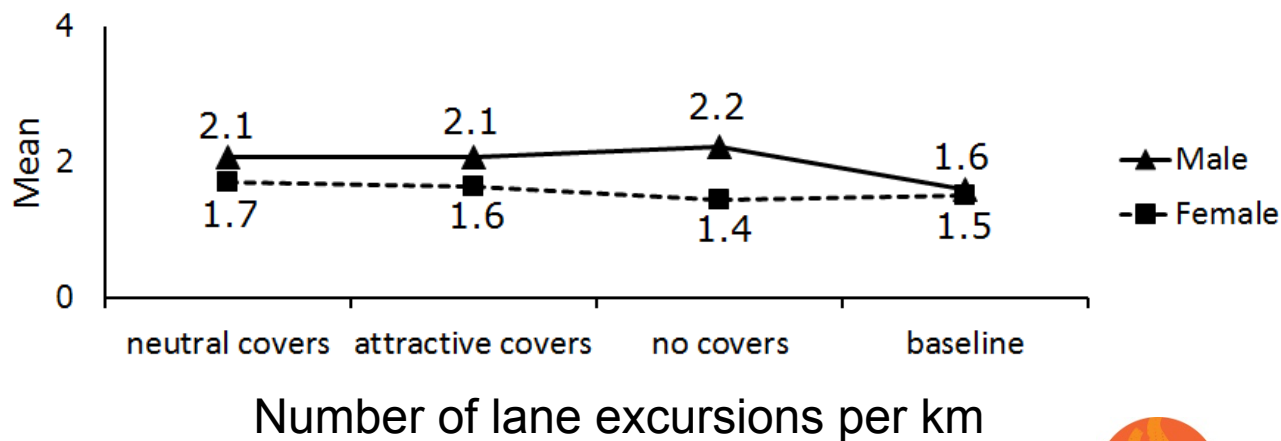
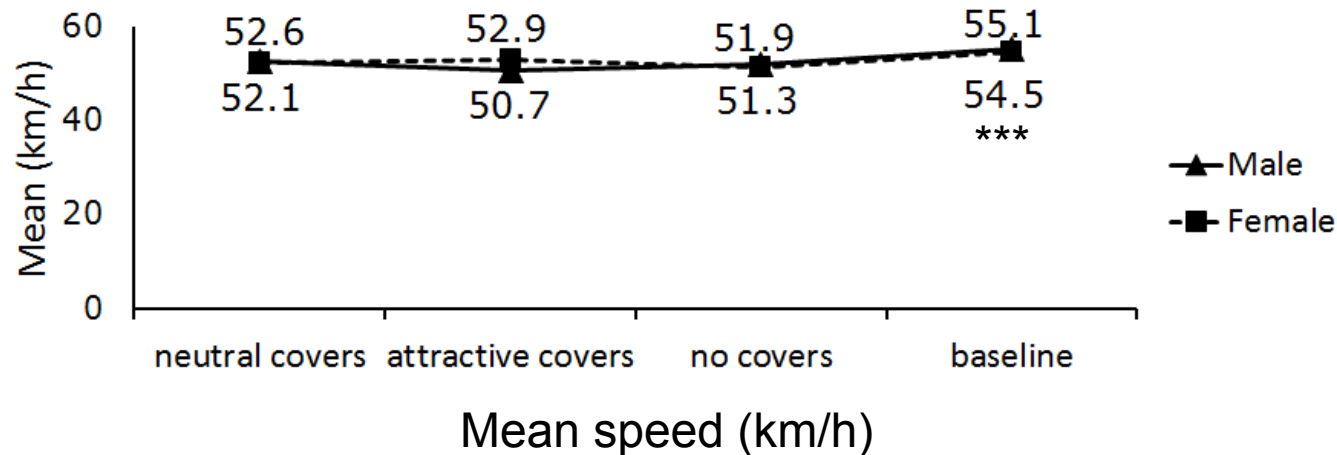


Fixation duration (left) and mean position on x-axis (right)



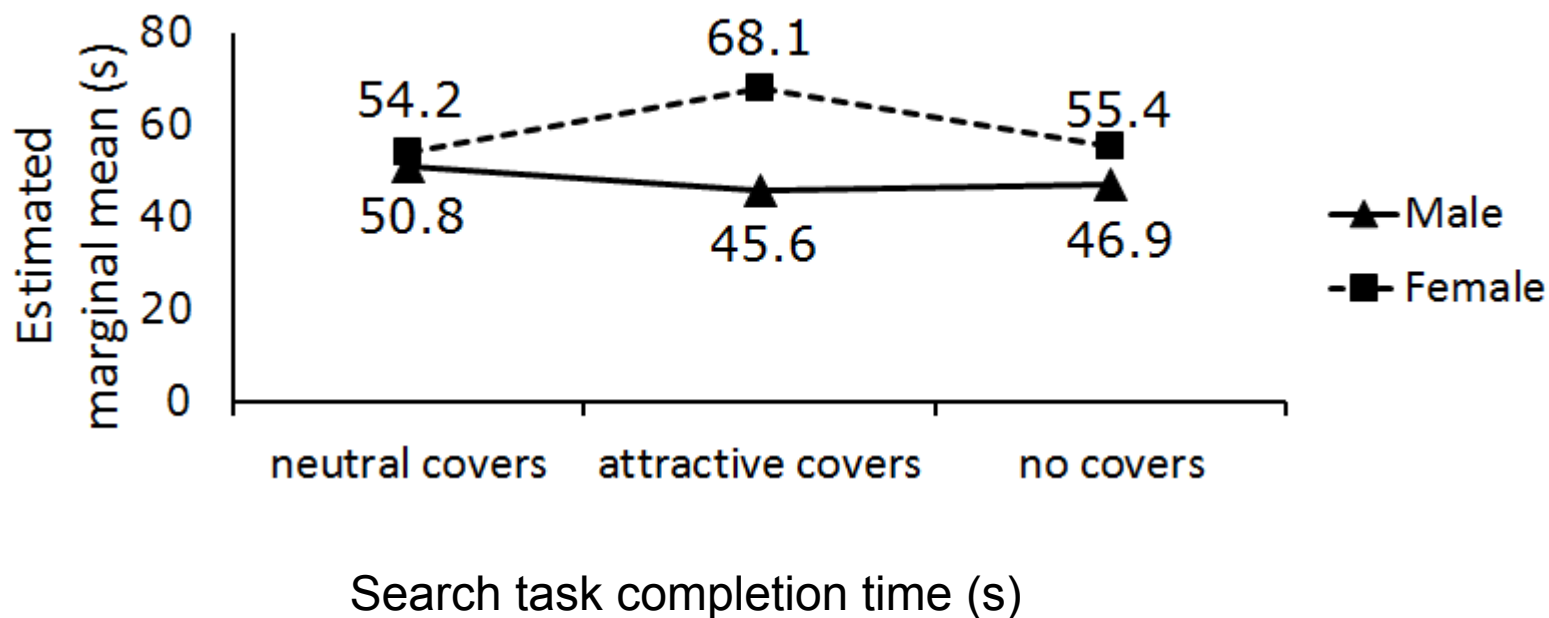
Mean fixation position on x-axis

Results – Driving performance



Results – Search task performance

- Only 2 wrong selections in total



Results – Interviews

- *Have you heard before of the artists you were searching for?*
 - 83.3 % had heard previously of “Paul Simon”,
 - 29.2 % knew “Atmosphere”,
 - 25.0 % knew “Girls Aloud”,
 - The other artists were familiar to only a few or single participants.

- *Did you notice that a half-naked man or woman was shown on album covers in one search set?*
 - All the participants reported to not have recognized these covers.

- *When searching for music do you focus on the artist label or the album cover?*
 - 79.2 % concentrated on the text label.
 - 20.8 %: if they know the look they would focus on the cover.

- *When searching for music do you prefer to see an album cover?*
 - 54.2 % prefer to *not* see an album cover when searching for music while driving.
 - 41.7 % do like to see covers when searching for music while driving, might help to recognize album faster than having to read all the labels.

Discussion

1. Is searching for music more distracting when (mostly unfamiliar) artwork is presented?
 - No support for this.
2. Does attractive artwork catch more attention than neutral artwork? Are there gender effects?
 - Some kind of pull at the fixation level(?), but the data set is limited.
3. What are drivers' preferences regarding artwork?
 - 50 / 50.

Conclusions

- *Distraction* effects of *unfamiliar* album artwork?
 - No effects observed.
- Ignorability of attractive album art?
 - Mainly ignorable in this study.
- For future studies!
 - The positive search facilitating effects of familiar album art?
 - A follow-up study on the distraction effects should be run in less search-oriented settings



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Thank you for your attention!



Questions?

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