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# **The role of music characteristics on drivers' anger regulation**

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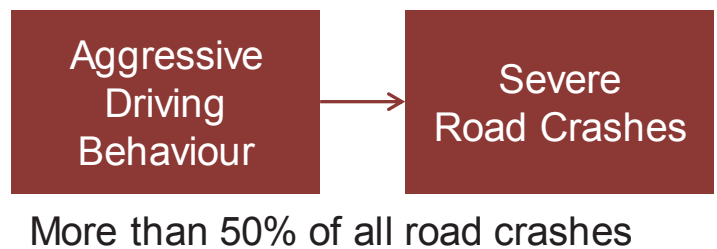
**Sabine Wollstädter, Hans-Rüdiger Pfister, Rainer Höger**  
Leuphana University Lüneburg, Germany

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## Research Project: Anger Regulation

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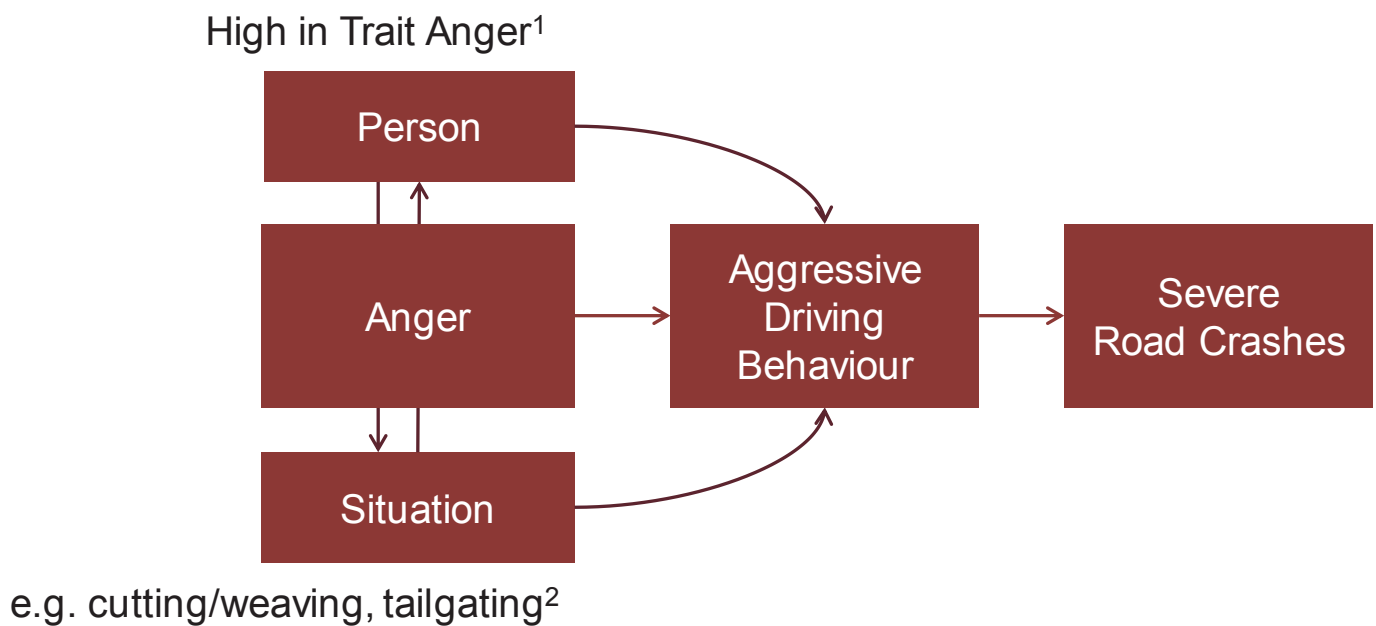


(<sup>1</sup>e.g. AAA, Foundation for Traffic Safety, 2009; Destatis, 2012)

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## Research Project: Anger Regulation

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<sup>1</sup>e.g. Deffenbacher et al., 2001

<sup>2</sup>e.g. Wickens et al., 2013; Ellison-Potter, 2001

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## Research Project: Anger Regulation

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## Research Project: Anger Regulation

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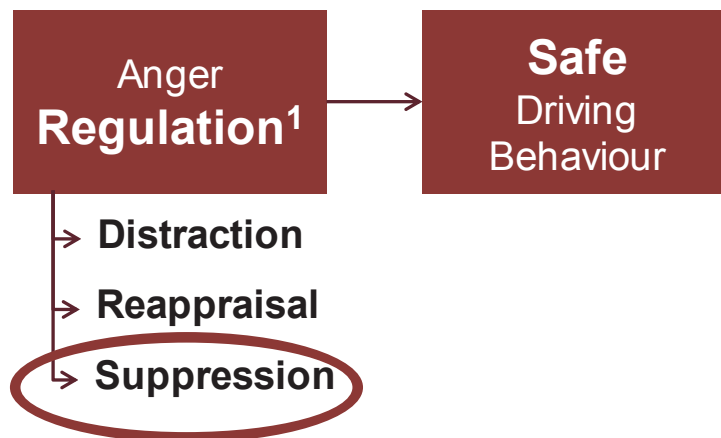


<sup>1</sup>Gross, 2007

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## Research Project: Anger Regulation

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<sup>1</sup>Gross, 2007

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## Effect of Music while Driving

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Disliked Music<sup>1</sup>

High Energetic Music<sup>2</sup>



<sup>1</sup>Cassidy & McDonald, 2010

<sup>2</sup>Cassidy & McDonald, 2010 – van der Zwaag et al., 2011

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## Effect of Music while Driving

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Preferred Music<sup>1</sup>

Positive to moderate level of arousal<sup>2</sup>

Favourite Song<sup>3</sup>



<sup>1</sup>Wiesenthal et al., 2003 – <sup>2</sup>van der Zwaag et al., 2011

<sup>3</sup>Cassidy & McDonald, 2010; van der Zwaag, 2011



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## Research Aim

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Aim 1: Down-regulating anger with music

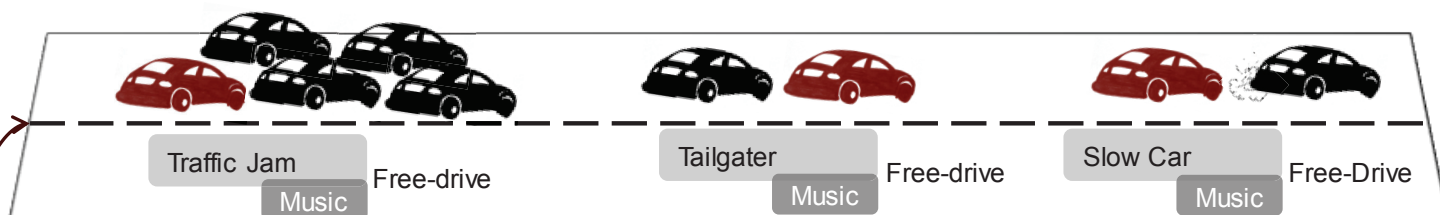
Aim 2: Identifying whether anger regulation is caused by specific music characteristics

Aim 3: Identifying whether anger regulation is due to congruency between music characteristics and drivers emotional state

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## Anger-Provoking Events and Drivers

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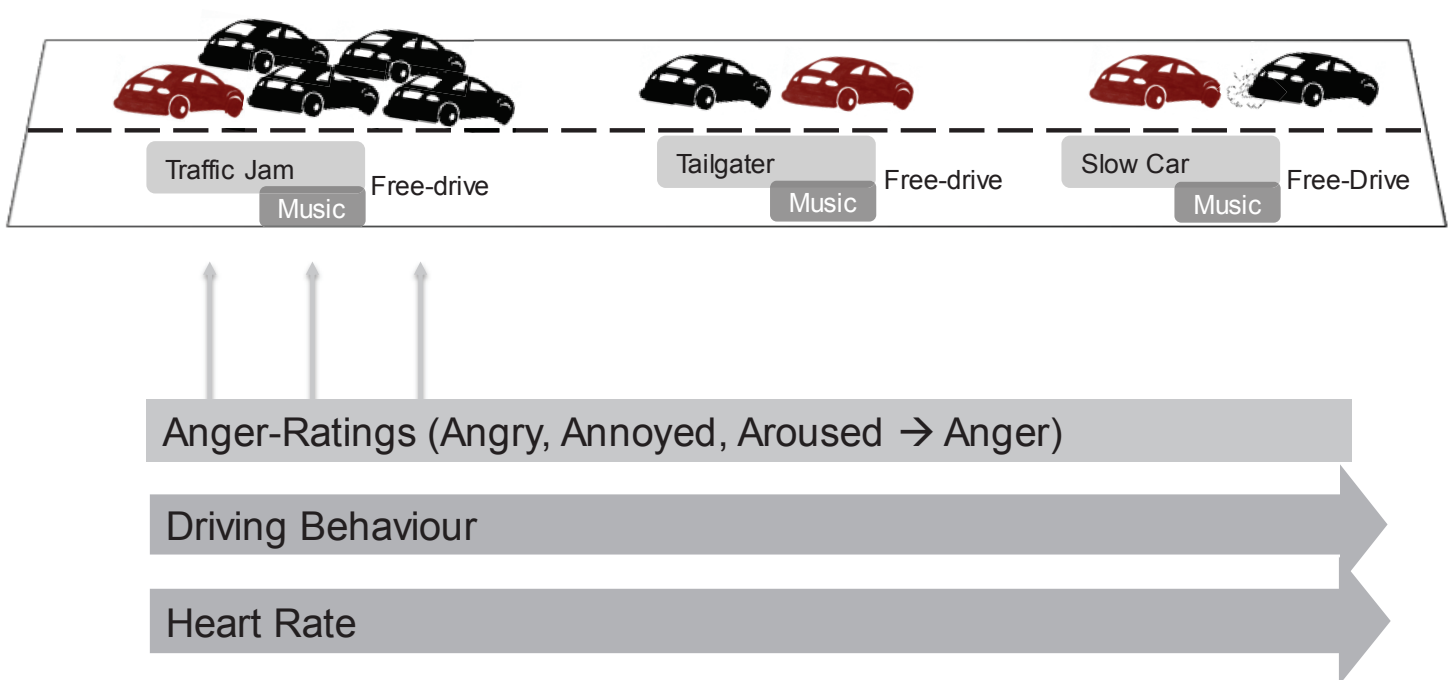
83 participants

*(67,5% female,  
Age 17-39, M=22.9;  
75.9km/week & 4,798km/year)*

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## Measure

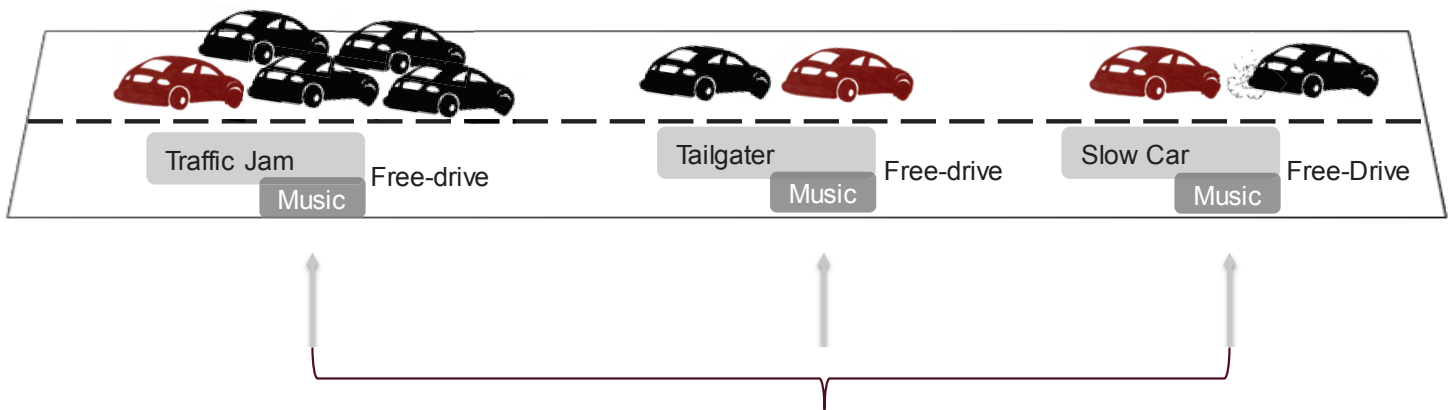
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## Music Treatment

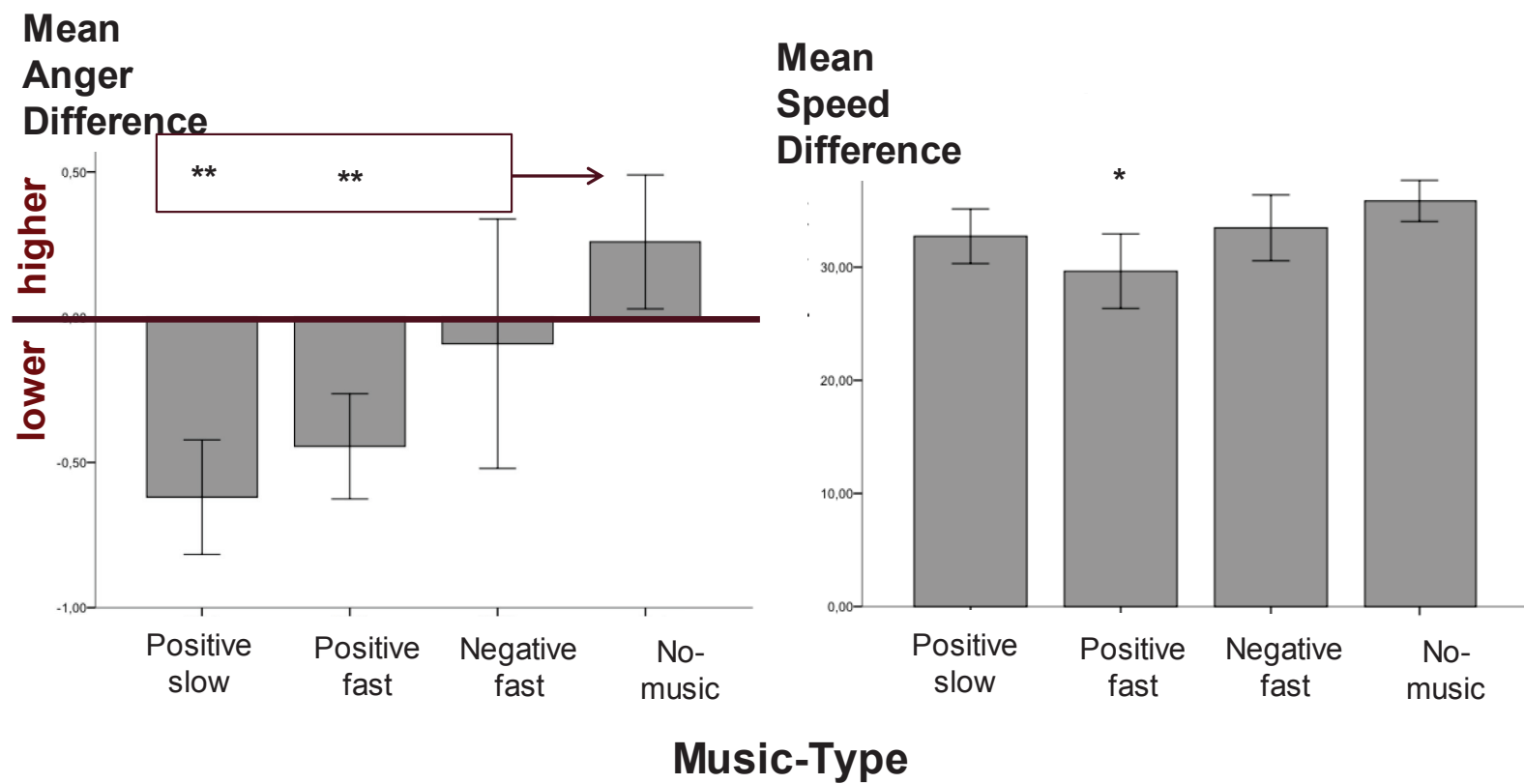
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**A favourite piece of music**

- Positive music – slow
- Positive music – fast
- Negative music – fast
- No music

## Results



\*\* p < .01 | \* p < .05

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## Preliminary Conclusion

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- ➔ Music down-regulated anger and in some extent speed
- ➔ Music type has an important impact on anger regulation and speed

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## **Limitations**

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Objective measures of music's valence (mode) and music's tempo (beat per minute)

Driving Simulator Experiment

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## Future Research

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Including

- Individual Differences
- Driving Behaviour
- Heart-Rate Variability

Examine whether anger regulation was due to congruency between music characteristics and drivers emotional state

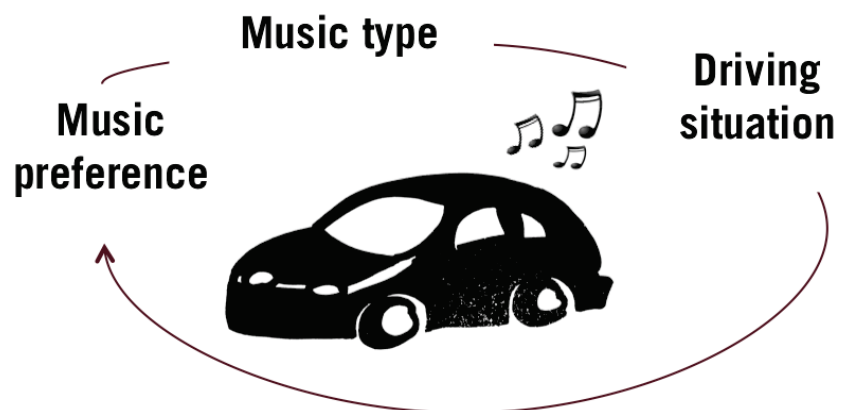


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## The bright side of future cars

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Music presentation in future in-vehicle entertainment will



# Any questions?

