

An aerial photograph of a city street grid, showing buildings, roads, and a river. A white rectangular box is overlaid in the center, containing the title and author information.

# **BICYCLING UNDER THE INFLUENCE OF ALCOHOL**

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# CYCLING UNDER THE INFLUENCE OF ALCOHOL IN SWEDEN

- No specific limit for BAC
- Can be cited for recklessness in traffic (regardless of BAC)
- More than 40% cycled under the influence of alcohol at least once during January-August 2018



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# ACCIDENTS

- Roughly 15% of cyclists killed in traffic 2006-2015 was under the influence of alcohol
- Their mean BAC was 1.78‰
- Roughly 40% of cyclists (in Umeå) who had suffered skull injuries were under the influence of alcohol



# ABILITIES: EXPERIMENT

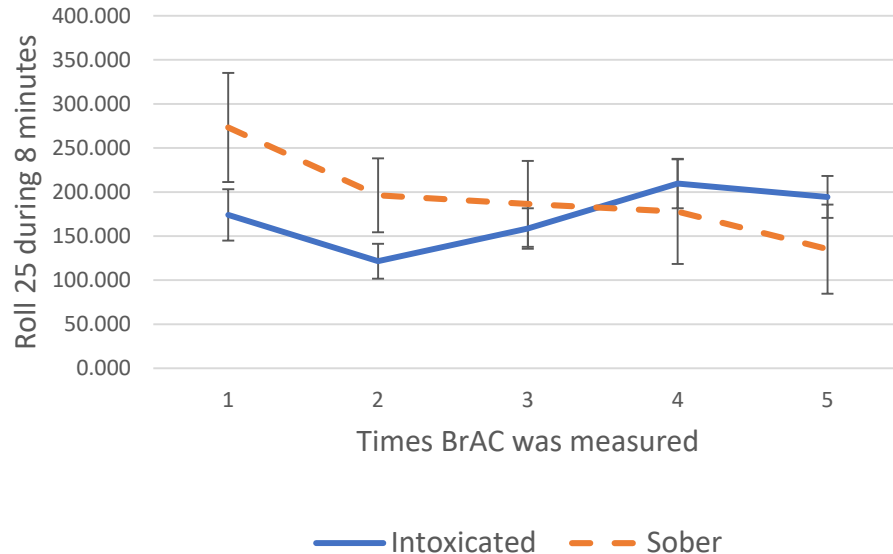
- 18 (+4) cycled on a 3.5 meters wide treadmill
- Started sober and was given doses of alcohol up to 0.8‰
- Cycled 5 x10 minutes
- Measured:
  - Stability
  - Cognitive ability
  - Self-reported cycling ability
  - Intention (tpb), background etc.



Foto Louis Lo, Unsplash

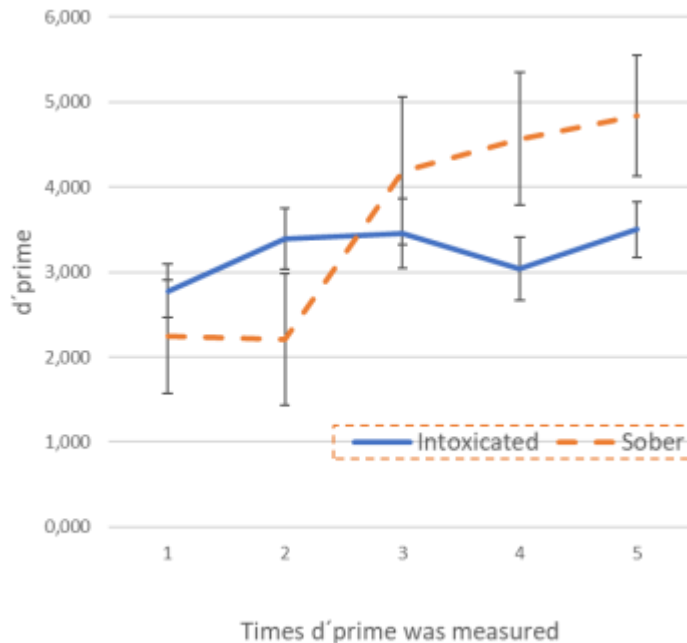
# ABILITIES: STABILITY

- Small adjustments ( $5^\circ$ ) in roll and yaw was unaffected by increased BrAC
- Large adjustments ( $20\text{-}25^\circ$ ) in roll and yaw was significantly increased by increased BrAC



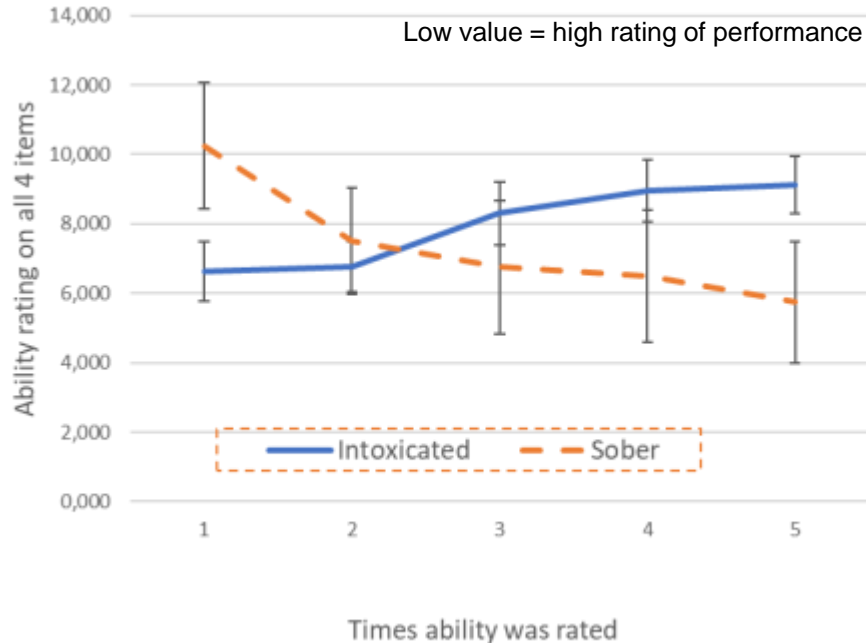
# ABILITIES: COGNITIVE ABILITY

- Cognitive abilities (N-back) were significantly decreased by increased BrAC



# ABILITIES: SELF-REPORTED CYCLING ABILITY

- On a group level (not individual level) the participants were aware that their cycling abilities decreased by increased BrAC



- The awareness of decreased abilities did not affect the participants' intention to cycle under the influence alcohol in the future

# BELIEFS: INTERVIEWS

- 34 participants (19 women, 15 men)
- 22-79 years old
- Everyone cycled
- 31 drank alcohol
- 29 cycled under the influence of alcohol



Foto Louis Lo, Unsplash



# BELIEFS: ADVANTAGES

- *Practical*  
(fast to get there, door-to-door, versatile, cheap)
- *Free*  
(no set times, not dependent on public transport, taxis or getting a lift)
- *Safe*  
(no waiting at bus-, train- or underground stations, less likely to get attacked on a bike than walking\*)
- *Nice*  
(nice to cycle home together after a dinner/party)
- *Better than taking the car*  
(legal, social acceptable, less likely to injure others)
- *Lacking advantages*

Are you supposed to *walk* home in the middle of the night then? It's life threatening to be assaulted by someone; I don't know, robbed or whatever. On a bicycle it's perhaps not so common ...

(Raquel, 22)

# BELIEFS: DISADVANTAGES

- *Impaired ability*  
(longer reaction time, decreased stability, judgment and attention, overestimation of one's ability)
- *Danger to oneself*  
(injuring oneself)
- *Danger to others*  
(injuring others, causing others psychological pain\*)

I'm exposing, for instance, motorists to the risk of killing me – which is not fun for me, but it isn't particularly fun for the person who does it either ...

(Peter, 72)

The advantages seem to outweigh the disadvantages,  
and/or the disadvantages are not always being considered.

**I would think the benefits feel bigger and more  
important, you don't think you should have an accident,  
you never think so. (Sahara, 64)**



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# BELIEFS: DISCOURAGING

- *Large amount of alcohol*
- *Aggravating circumstances*  
(bad weather, cold, dark, long distance)
- *Bicycle unfriendly infrastructure/conditions*  
(no bike lanes, a lot of traffic)
- *Good alternatives*  
(good/cheap transport alternative or places to stay)
- *Social censure*  
(reflection, illegal\*)
- *Group resistance*  
(being told off)
- *Parenthood*
- *Experience*  
(previous incidents/accidents)

If you've set strict limits and followed them with consequences. So you changed; partly, you change; it hurts when you get caught, you think that you might get caught, and then eventually people's values do change.

(Matthew, 43)

# COUNTERMEASURES

- ~~Large amount of alcohol~~
- ~~Aggravating circumstances~~  
(~~bad weather, cold, dark, long distance~~)
- ~~Bicycle unfriendly infrastructure/conditions~~  
(~~no bike lanes, a lot of traffic~~)
- Good alternatives  
(good/cheap transport alternative or places to stay)
- Social censure  
(reflection, illegal)
- Group resistance  
(being told off)
- ~~Parenthood~~
- ~~Experience~~  
(~~previous incidents/accidents~~)



# COUNTERMEASURES

- *Good alternatives*  
Improve public transport
- *Social censure*  
Introduce a specific limit for blood alcohol concentration for cycling
- *Group resistance*  
Conduct information dissemination/campaigns



Foto Louis Lo, Unsplash

An aerial photograph of a city, likely Copenhagen, showing a dense cluster of buildings and a waterfront area. A large white rectangular box is centered over the image, containing text. The text is in a clean, sans-serif font. The background shows various building styles, streets, and a body of water with a few boats.

**THANK YOU!**

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