



# Attitudes to tobacco and e- cigarettes, e-cig ads and ASMs

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# Rationale

- E-cigarettes present a lower-harm nicotine delivery system, but this perception is not strong amongst the public
- There are some remaining concerns that e-cigarette advertising may 're-normalize' tobacco products
- The effects of attitudes towards e-cigarettes on the efficacy of anti-smoking messages (ASMs) is unknown

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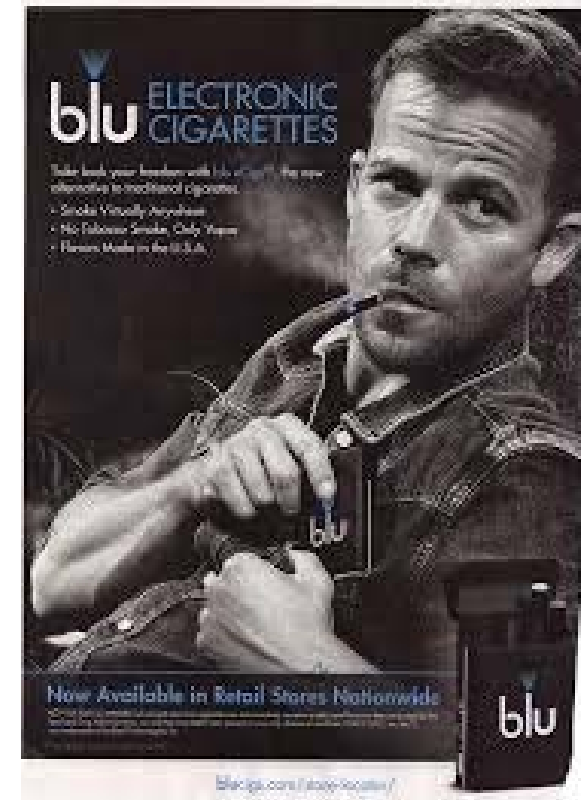
# Key questions

- What are the effects of viewing e-cig ads and ASMs on attitudes?
- What are the effects of e-cig attitudes on ASMs?

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## Pilot studies

- Two pilot studies to identify effective e-cig ads and ASMs
- Presented one of 15 ads / ASMs
- Pre/post measures of healthiness, social desirability and social acceptability.
- Post measures of persuasiveness



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## Pilot Study 1: E-cigarette ads

- 964 participants (pre-screening) recruited via Crowdfunder
- 115 smokers, 410 non-smokers, 100 vapers, 145 dual users (final  $n = 770$ )
- 18-65 years of age ( $M = 36$ ,  $SD = 11.7$ )
- 55% female

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## Headline results: E-cig attitudes

<b>Group</b>	<b>Health</b>	<b>Socially acceptable</b>	<b>Desirability</b>
Smokers	<b>Increase</b>	No change	No change
Non-smokers	<b>Increase</b>	<b>Decrease</b>	<b>Increase</b>
Vapers	No change	No change	No change
Dual users	<b>Increase</b>	No change	<b>Increase</b>

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## Headline results: Tobacco attitudes

Group	Health	Socially acceptable	Desirability
Smokers	No change	No change	<b>Decrease</b>
Non-smokers	No change	<b>Decrease</b>	No change
Vapers	No change	<b>Decrease</b>	<b>Decrease</b>
Dual users	<b>Increase</b>	No change	No change

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## Pilot 1 summary

- E-cig adverts 'do their job' of increasing desirability of e-cig products amongst non smokers and dual users
- Generally make e-cigs appear more healthy, but little effect on social acceptability (decrease for non-smokers)
- Had little effect on health perceptions of tobacco (floor effects!)
- Decreased desirability of tobacco amongst smokers and vapers, and social acceptability amongst non-tobacco users

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## Pilot Study 2: Anti-smoking messages

- 990 pre-screened participants
- 225 smokers, 65 vapers, 526 non-smokers and 92 dual users (total 908)
- Same measures as e-cig pilot



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## Pilot 2: Headline results

- **E-cigs** viewed as less healthy, desirable and socially acceptable post-advert
- **Tobacco** products viewed as less healthy, desirable and socially acceptable over time
- Changes over time consistent between groups

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# Laboratory studies

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## Main Study 1: E-cig ads

- Smokers (n = 48), non-smokers (n=57), e-cigarette smokers (n=16), dual users (n=3) and an ex-smoker (n=1). (total n = 125)
- Mean age = 21.12 years (SD=5), 59.8% female

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# Study design

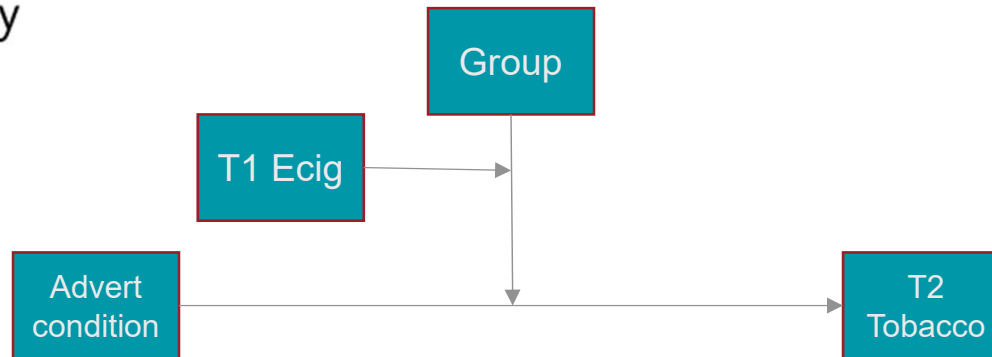


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## E-cigarette ad selected



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- Hayes 'Process' Model, controlling for T1 Tobacco – comparing smokers vs. non-smokers (Group)
- Seeing an ad, being a non-smoker and having positive e-cig attitudes linked to lower T2 attitudes towards tobacco (controlling for T1)
- The three way interaction between advert condition, group and T1 e-cig attitudes was significant
- A *decrease* in tobacco attitudes was shown in tobacco attitudes ONLY for smokers who had low e-cig attitudes  $CI[-1.32, .12]$ .

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## Study 2:

- Same idea with Anti-Smoking Messages
- 8 ex-smokers, 36 non-smokers, 41 tobacco smokers, 36 e-cigarette smokers, 2 other nicotine product user (total n = 123)
- Mean age = 39.28 years (SD = 11.70), 65.6% female

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# ASM chosen



**A TIP FROM A  
FORMER  
SMOKER**

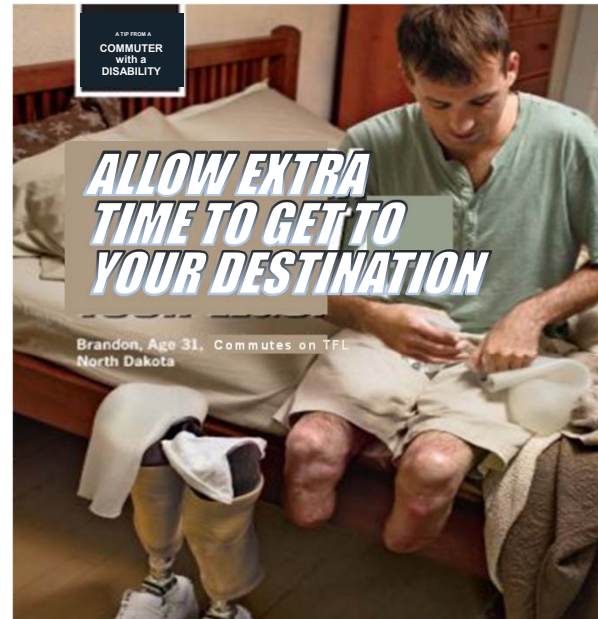
**ALLOW EXTRA  
TIME TO PUT ON  
YOUR LEGS.**

Brandon, Age 31, Diagnosed at 18  
North Dakota

Smoking causes immediate damage to your body. For Brandon, it caused Buerger's disease, which cut off blood flow and led to amputation. You can quit. For free help, call 1-800-QUIT-NOW.



U.S. Department of Health and Human Services  
Centers for Disease Control and Prevention  
www.cdc.gov




**A TIP FROM A  
COMMUTER  
with a  
DISABILITY**

**ALLOW EXTRA  
TIME TO GET TO  
YOUR DESTINATION**

Brandon, Age 31, Commutes on TFL  
North Dakota

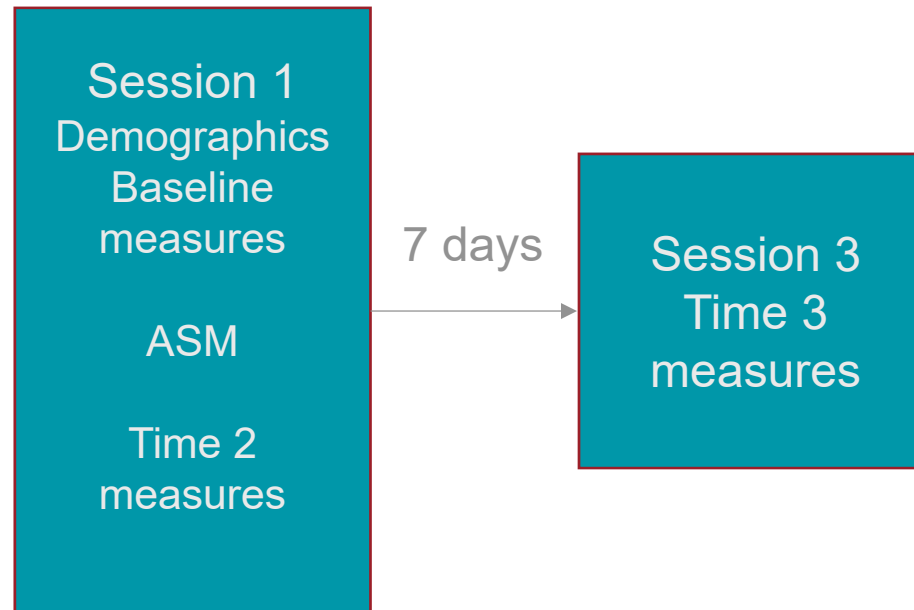
It is difficult to travel on TFL if you have a disability. For Brandon, it caused severe anxiety, which had an effect on his self-confidence. You can get help and advice. For free help, call 1-800-TFL-TRAVEL



U.S. Department of Health and Human Services  
Centers for Disease Control and Prevention  
www.cdc.gov

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# Study design



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## Results:

- Same Process model undertaken comparing smokers to non smokers, smokers to vapers and vapers to non-smokers
- No effects observed.....

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# Pulling it all together: E-cigarette adverts

- We observed only very limited evidence of effects of e-cigarette ads which would suggest they that promote positive attitudes towards tobacco products (exception! *dual users health perceptions*)
- We observed many more positive effects suggesting e-cigarette ads may make tobacco products *less* desirable

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# Pulling it all together: Anti-smoking messages

- The pilot study showed ASMs decrease attitudes towards tobacco products (as planned)
- May also have unintended effect of decreasing attractiveness of e-cigs (problem for smokers, dual users?)
- Effect not replicated in smaller lab study

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## The research team

- Dr. Daniel Frings
- Prof. Ian Albery
- Dr. Paula Booth
- Dr. Sharon Cox
- Lancashire NHS research department

## Thanks and questions?

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