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Characterizing Range Anxiety in Electric Vehicle Users

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Introduction:

- Fear of running out of battery/gas before arriving at a charging/gas station or final destination.
- Fewer charging stations than gas stations might help explain low adoption of electric vehicle (EV)
- Previous research has that found more experience in driving EVs results in less range anxiety
- Participants will drive around. Heart rate and galvanic skin response (GSR) used as a proxy for anxiety.
- Participants will complete surveys evaluating habits and their daily use of their vehicle.
- We anticipate seeing an increase in heart rate and GSR as car battery depletes.

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Methods:

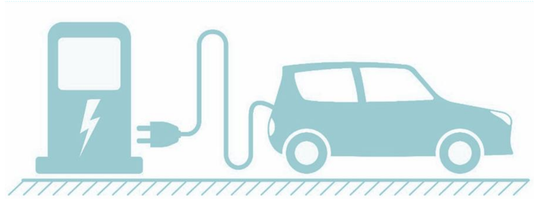
1. Participant arrive with car battery at 20% charge.

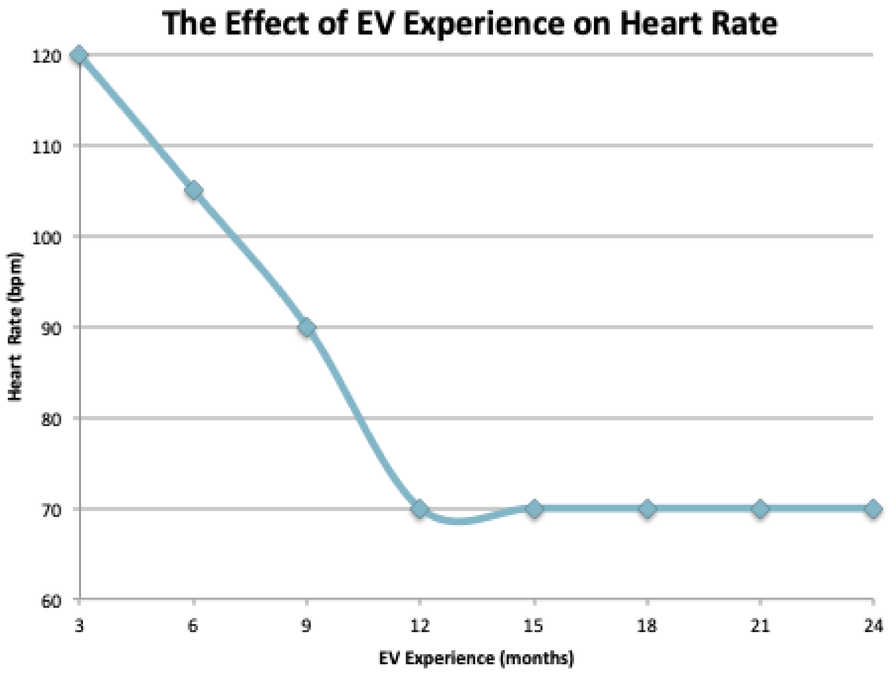
2. Completes background survey, “The Big 5 Personality Test”, “Driver’s Style Survey” and “Tolerance of Ambiguity Survey”.

3. Attach heart rate and GSR monitors (sweating & increased the heart rate common symptoms of anxiety), Drive around (close by) until 5% battery and come back.

4. Participant may now charge car battery.

5. Complete follow-up survey about range anxiety on a day-to-day basis.





Hypothesis:

If the range anxiety is low it is because the driver has more experience and knowledge about the electrical vehicle.

Acknowledgements:

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