

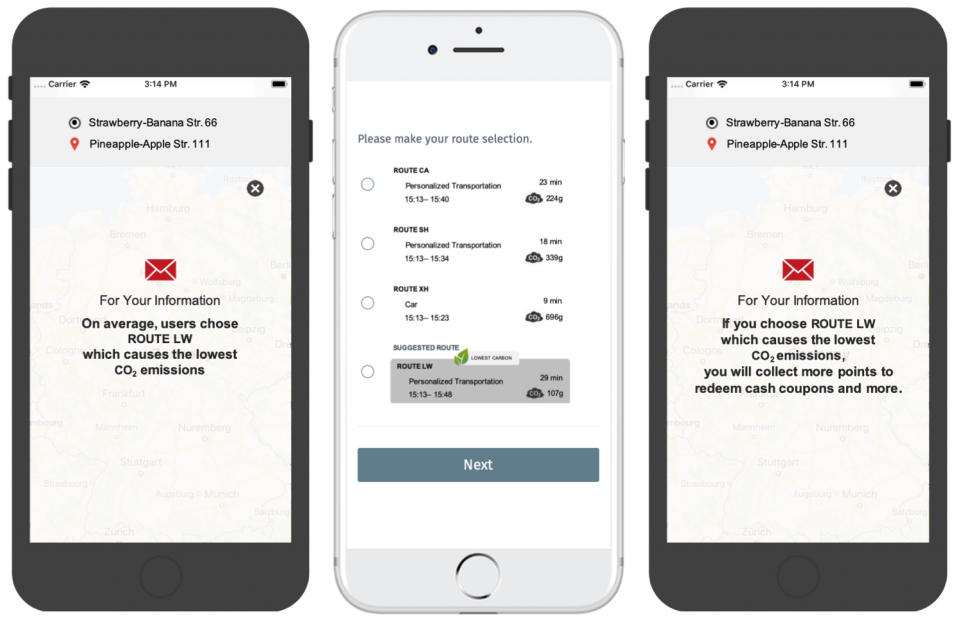
# How to motivate travelers' sustainable transportation behavior in Germany by using nudges in a mobility app?

We work with **moowe** a start-up in Munich that aims to decrease the individual carbon footprint and change the behavioral patterns of travelers by using a sustainable mobility app.

Transportation is the major contributor of CO2 emission. There is an urge to reduce CO2 emission by increasing the usage of public transportations and active travels.

**Nudging** is the optimal solution to be used in a mobility application. It is defined as any aspect of the choice architecture that alters people's behavior in a predictable way without forbidding any options or significantly changing their economic incentives.

We have used the social norm, default option and financial incentive nudge tools in our study. (from left to right)

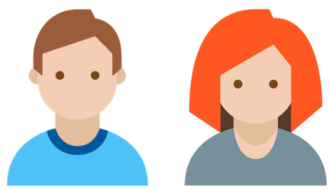


**Social norm** nudges to change behavior in a way that tells people what most individuals do and what is done to utilize human beings as social creatures' desire to fit in with others.

People tend to avoid any stress from making choices and prefer to take the one with the least effort, thus **default option** plays a big role in the decision-making process.

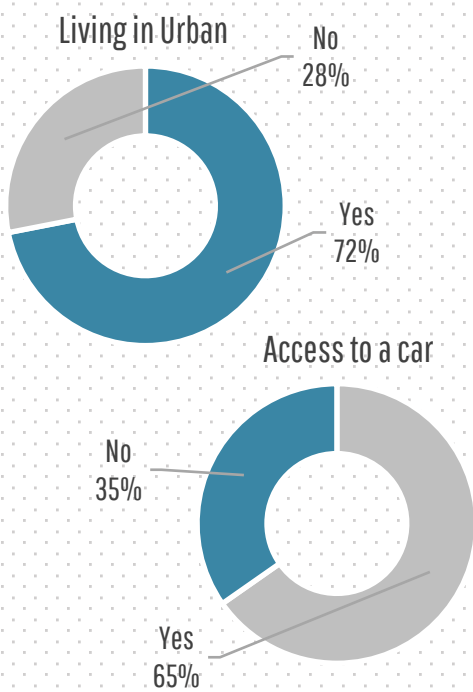
**Financial incentive** acts as compensation for the cost of behaving sustainably (e.g., time cost). It is also considered a nudge strategy when its monetary value is small and non-substantial.

## PARTICIPANTS PROFILE



43% Male 57% Female

N = 193 Participants | Average age 27.72

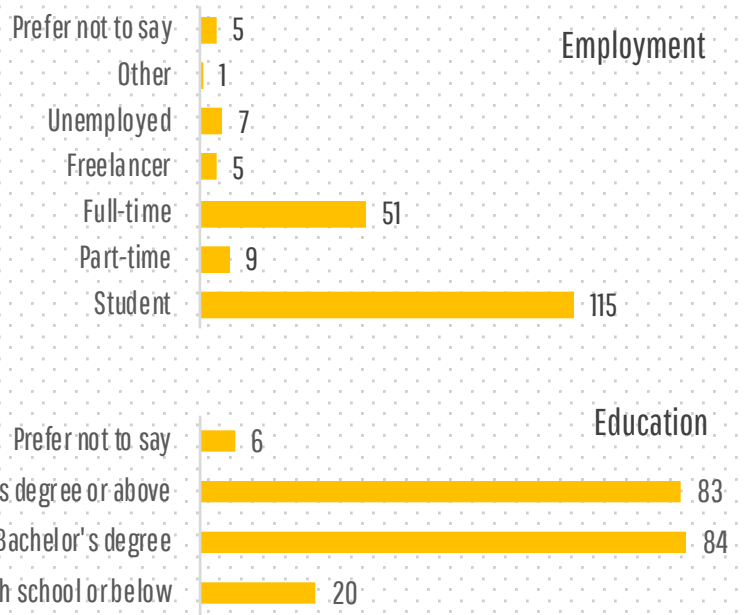


## RESEARCH METHOD

The randomized controlled experiments with between-subject design was conducted to test the effectiveness of three nudge tools. We used four scenario questions and pictures as manipulations in the experiments.

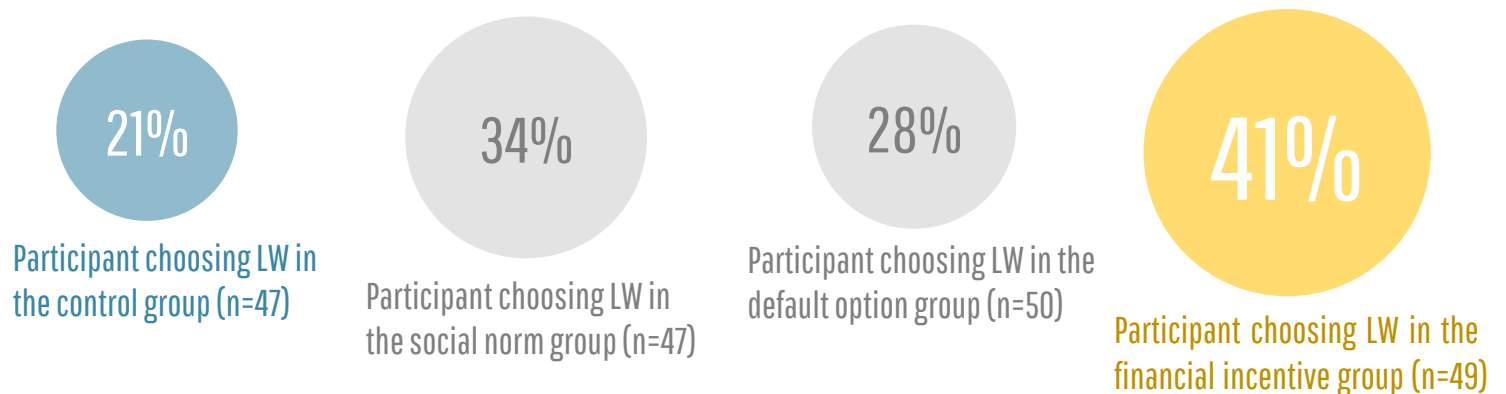
Participants were informed that the route options were generated based on their preferred transportation modes.

A nudge message was exposed to the social norm and financial incentive groups respectively. In the default option group, the most sustainable route was highlighted. The control group did not receive any nudge interventions.

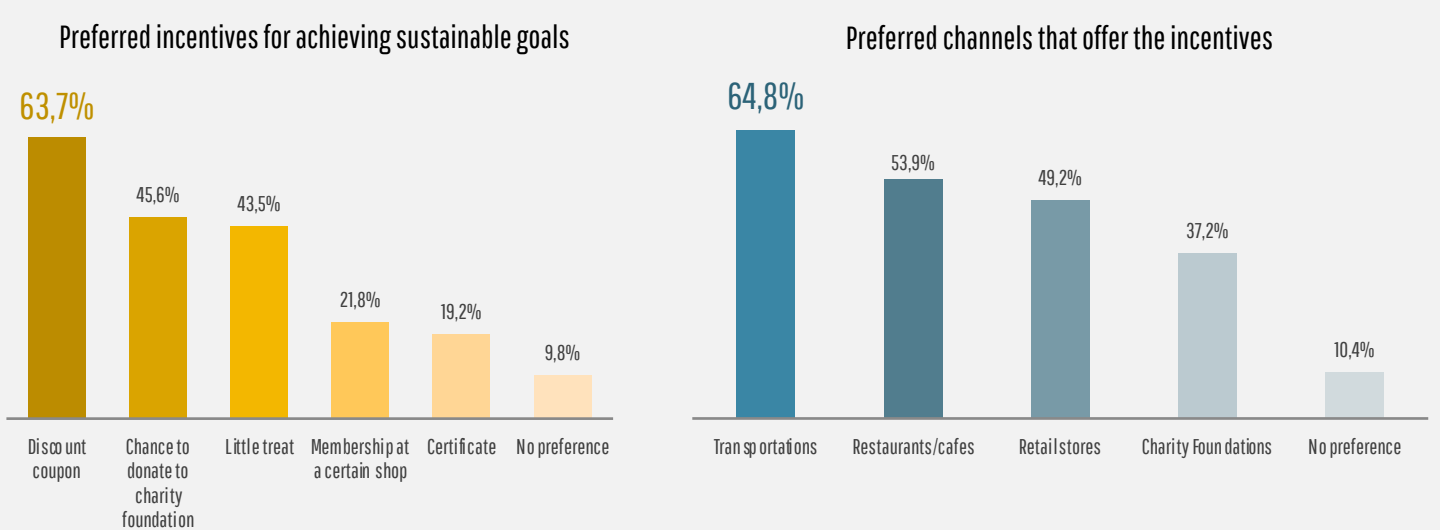


## THE MOST SUSTAINABLE ROUTE LW

The nudge is considered successful if the traveler is persuaded to choose the most sustainable route LW. In our study, a significant improvement has only been found in the financial incentive group.



Since **financial incentive** is the most effective nudge, the two questions about the most preferred incentives and channels offering them gave us some extra insights to further reinforce its effectiveness.



According to the chart above, the most popular combination is **discount coupons** offered by **transportation organizations**. The nudge strategy should be based on a personalized level. It is suggested to learn users' behavior and their characteristics first and to expose customized nudge messages accordingly.