

Factors Affecting Disabled Consumer Preferences for an Electric Vehicle for Rural Mobility: An Italian Experimental Study

The Questionnaire

The questionnaire is composed by four main sections, which are: (i) consumers attitudes relating both to environmental issues and to environmentally friendly cars, as well as vehicle attribute which people pay attention to when they buy a car (Tables S1–S3); (ii) people’s driving habits (Table S4); (iii) consumers’ perceptions towards electric vehicles (Table S5–S7); and (iv) socio-demographic information of respondents (Table S8).

Table S1. Disabled people’s sensitivity to the environment.

How much do you approve of the following expressions?	
1.	Environmental pollution is an issue that I consider to be of major importance. (1: totally disagree, to 10: totally agree).
2.	I would like to minimize the ecological repercussions of my vehicle (1: totally disagree, to 10: totally agree).
3.	I carry out waste sorting on a regular basis (1: totally disagree, to 10: totally agree).
4.	I consider buying home appliances according to their energy class (1: totally disagree, to 10: totally agree).

Source: adapted by Jung et al. [1].

Table S2. Elements of the vehicle that people with disabilities consider important.

How important are the following elements in choosing a car?		
Comfort	Safety	Pleasure to drive
Total mileage	Design	Operation range
Eco-friendliness	Price	Brand name
Acceleration	Resale value (as used car)	Reliability
Spaciousness	Fueling/Charging time	Gas/ Charging station
		Accessibility
Electric Vehicle (EV) penetration		

Source: adapted by Jung et al. [1]

Table S3. Consideration of environmentally friendly cars by people with disabilities.

How much do you accept the following opinions ?
1. I consider that the purchase of a sustainable car is ... (1. very bad to 10. very good)
2. I consider that the purchase of a sustainable car is ... (1. very foolish to 10. very wise)
3. I consider that the purchase of a sustainable car is... (1. very dissatisfying to 10. very satisfying)

Source: adapted by Semeijn et al. [2]

Table S4. Respondent behavior questions.

Variable	Description
Drive frequency	Never
	Less than once a month
	1 to 3 times a month
	Less than once a week
	1 to 4 times a week
Main reason for using the car	Daily
	For making the commute
	For leisure activities, etc.
Type of engine in owned cars	Car not environmentally sustainable (petrol, diesel)
	Environmentally sustainable car (hybrid, electric, etc)
Number of possessed cars	1
	≥ 2

Source: adapted by Jung et al. [1]

Table S5. functional and hedonistic needs of the consumer.

How much do you accept the following opinions?	
Functional needs	
1.	Environmentally sustainable cars cannot be adapted to my physical problems (1: totally disagree, to 10: totally agree).
2.	Environmentally sustainable cars are unhandy for refilling/recharging operations (1: totally disagree, to 10: totally agree).
Hedonistic needs	
1.	Environmentally sustainable cars are interesting technological innovations (1: totally disagree, to 10: totally agree).
2.	Environmentally sustainable cars confer high driving pleasure (1: totally disagree, to 10: totally agree).

Source: adapted by Semeijn et al. [2]

Table S6. Propensity of the surveyed sample to drive, buy, and pay for an electric vehicle

Questions
1. Did you ever use an electric-powered car? (0=No; 1=Yes)
2. Would you accept driving an electric-powered vehicle adapted for people with physical disabilities? (0=No; 1=Yes)
3. Would you accept buying an electric-powered vehicle adapted for people with physical disabilities? (0=No; 1=Yes)
4. What would be your willingness to pay for an electric-powered vehicle designed by CREA researchers? (low-level – less than 20,000 euro, moderate-level – range between 20,000 – 25,000 euro, high-level – range between 25,000 – 30,000 euro; very high level – more than 30,000 euro).

Table S7. Consumer's propensity to purchase

How much do you agree with the following statements?	
1.	In the event of purchasing a new car, I am not opposed to buying an eco-car (1: totally disagree, to 10: totally agree).
2.	In the event of purchasing a new car, I am planning to buy an eco-car (1: totally disagree, to 10: totally agree).
3.	In the event of purchasing a new car, I am going to buy an eco-car (1: totally disagree, to 10: totally agree).

Source: adapted by Semeijn et al. [2]

Table S8. Socio-demographic information about respondents.

Variable	Description
Sex	Male
	Female
Age	18-34
	35-49
	over 50
Education	Low level (i.e. primary and/or secondary school)
	High level (i.e. degree, Ph.D and/or masters)
Residence location	Village (less than 5000 inhabitants)
	Small town (5000–30,000 inhabitants)
	City (more than 30,000 inhabitants)
Monthly family income (euro)	<1,800
	1,801-2,500
	2,501-3,200
	3,201-3,900
	3,901-4,600

The Factor Analysis

Table S9. The factor analysis with varimax rotation

Items group	Environment	Vehicle attributes	Friendly car	Functional motivation	Hedonic motivation	Purchase intention
How much do you approve of the following expressions? ($\alpha = 0.93$)						
Environmental pollution is an issue that I consider to be of major importance.	0.83					
I would like to minimize the ecological repercussions of my vehicle	0.93					
I carry out waste sorting on a regular basis	0.82					
I consider buying home appliances according to their energy class	0.89					
How important are the following elements in choosing a car? ($\alpha = 0.91$)						
Comfort		0.77				
Safety		0.73				
Pleasure to drive		0.80				
Total mileage		0.95				
Design		0.91				
Operation range		0.89				
Eco-friendliness		0.90				
Price		0.80				
Brand name		0.82				
Acceleration		0.87				
Resale value (as used car)		0.91				
Reliability		0.87				
Spaciousness		0.88				
Fueling/Charging time		0.79				
Gas/ Charging station accessibility		0.76				
How much do you accept the following opinions? ($\alpha = 0.98$)						
I consider that the purchase of a sustainable car.. .. (1. very bad to 10. very good)			0.72			
I consider that the purchase of a sustainable car ...(1. very foolish to 10. very wise)			0.91			
I consider that the purchase of a sustainable car.. (1. very dissatisfying to 10. very satisfying)			0.77			
How much do you accept the following opinions ? ($\alpha = 0.97$)						
Environmentally sustainable cars cannot be adapted to my physical problems.				0.80		
Environmentally sustainable cars are unhandy for refilling/recharging operations				0.88		
How much do you approve of the following expressions? ($\alpha = 0.98$)						
Environmentally sustainable cars are interesting technological innovations					0.89	
Environmentally sustainable cars confer high driving pleasure.					0.97	
How much do you approve of the following expressions? ($\alpha = 0.90$)						
In the event of purchasing a new car, I am not opposed to buying an eco-car.						0.93
In the event of purchasing a new car, I am planning to buy an eco-car						0.97
In the event of purchasing a new car, I am going to buy an eco-car						0.88

Source: Our elaboration on survey data.

References

1. Jung, J.; Yeo, S.; Lee, Y.; Moon, S.; Lee, D.J. Factors affecting consumers' preferences for electric vehicle: A Korean case. *Res. Transp. Bus. Manag.* **2021**, *41*, 100666.
2. Semeijn, J.; Gelderman, C.J.; Schijns, J.M.C.; van Tiel, R. Disability and pro environmental behavior – An investigation of the determinants of purchasing environmentally friendly cars by disabled consumers. *Transp. Res. Part D Transp. Environ.* **2019**, *67*, 197–207.