

Bachelor Thesis

International Marketing 180hp



E-bike users are lazy... and healthy

A study in consumer behaviour on the symbolic values of e-bikes, why some want e-bikes and others avoid them.

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Preface

This thesis is written in the spring of 2019, as the finishing project to our bachelor's degree in international marketing. Joel, having worked part time in a bike shop the last years have noticed a very high increase in sold e-bikes. Both of us have found a lot of varying attitudes towards e-bikes, making them an area of interest. We had both previously done a project before on e-bikes and enjoyed the subject, making it an even more solid choice.

We want to thank our mentor Ulf Aagerup for support and direction in our thesis. Further we want to thank the respondents contributing in our survey. This so we could investigate our research question and get a picture of drivers to e-bike consumption but also avoidance. We also want to thank Maxi bistro for supplying freshly brewed coffee and baked goods in times of need.

Joel Ahlbom

Daniel Andersson

Abstract

Research question: To examine what aspects affect some consumers to avoid e-bikes and others to desire them.

Purpose: The main purpose of this study is to see if e-bikes have a symbolic value. We aim to see if e-bikes is associated as an environmentally friendly product. We will examine stereotypes and brand avoidance. Further we will see what attributes consumers associate with typical users of e-bikes.

Theory: To test our research question we chose our main theory of the matching process between self-image and typical user. Prior studies on e-bikes in areas as typical users and environment were analyzed.

Previous studies on e-bikes were analyzed in areas such as environment and typical users.

Methodology: A survey was made on two groups who are underrepresented in sales of e-bikes. Students aged 21-30 and cycling enthusiasts.

Results and conclusions:

- We found that e-bikes have symbolic value.
- Many respondents perceive e-bike users as environmentally friendly, comfortable and lazy.
- E-bikes being perceived as environmentally friendly can be a pre-purchase indicator for students, but not for cycling enthusiasts
- Different groups of students have conflicting user imagery, one group describe e-bikers as lazy, and another group describe e-bike users as healthy
- The stereotype that e-bike users are old is not very frequent
- Viewing e-bike users as lazy influences impacts the perceived value and are likely to lead to brand avoidance

Keywords: E-bikes, Pedelec, User imagery, ideal social self-image congruence, brand avoidance and symbolic consumption

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1.0 Introduction

In this chapter e-bike market is discussed, potential reasons for growth could be symbolic values and social influence. We identified two groups which are underrepresented in sales of e-bikes, students age 21-30 and cycle enthusiast. With the purpose to further examine what aspects affect some consumers to avoid e-bikes and others to desire them.

1.1 Problem background

Electric bicycles or e-bikes have been out in the market for a long time. Already in 1895 a US patent was granted for a battery-powered bicycle (Herlihy, 2004). With product development increasing the past 20 years, the e-bike have managed to take a significant share of the consumer transportation market. In a report of the e-bike market in Europe, it is expected to have a annual growth rate of nearly 18% during the period 2018-2022 (Technario, 2018).

The market for e-bikes in Sweden have had a expansive growth the past few years. The sales of e-bikes 2018 were close to a 100% increase compared to 2017 (Svensk cykling, 2018). Much faster growth than the 50% increase from the years 2016-2017. The growth 2018 is partly explained because the Swedish government introduced a subsidization on e-bikes. The subsidy was planned with 1050 million kronor spread over 3 years, with 350 million each year for the consumers buying an e-bike getting a 25% cashback. The purpose with the subsidy is to make people use a more environmentally friendly alternative than the car, to reduce co2 emissions (regeringens-elfordonspremie, 2017). In 2019 the subsidization was discontinued and not included in the new budget that was voted for, in a effort to reduce government spending (Olsson, 2018, December 16).

Klas Elm, spokesperson of Swedish bicycles organization states the reason for the increased sales is because of a ketchup effect. People see their friends and neighbours get an e-bike and they consider getting one themselves (TT, 2018, 9 april). Meanwhile the conventional non-electric bike market have lost sales each year according from an updated report by Svensk cykling (Adam Wladis, 2018). Assessing e-bikes as a disruptive innovation that creates a shift in consumer travel and purchase behaviour (Wilson, 2018).

1.2 Problem discussion

The growth of e-bikes does not come without controversy. There is a variety of opinions in news articles and most are positive or neutral towards e-bikes. Some examples of those arguing against e-bikes is the lifestyle professor who says: "E-bike is a way to reduce the active moments in our everyday life" (Hellenius, 2017, September 30). A politician stated "E-bikes are silly, we have to aim for a society where the car gets a place" (Johansson, 2018, 8 august). Arguing the politics of e-bikes "subsidizing e-bikes, is extremely inefficient environmental politics" (Linder, 2018, 21 august).

In scientific journals interviews were made with e-bike users. It's described that the stereotype of e-biking is only for older and disabled people is a barrier to using e-bikes. The answer to purchase motive was because of decline in physical abilities, which is a narrow answer (Jones, Harms & Heinen., 2016). An Austrian study in 2014 on early adopters found that e-bike early

adopters were primarily 60 years or older (Wolf & Seebauer, 2014). The goal with our study is to find out more purchase motives and ask non-users as well as users of e-bikes

These studies do not confirm the situation in Sweden today, looking at statistics of sold e-bikes where only 37% were 60 years or older (regeringens-elfordonspremie, 2017). Meaning there should be more answers to why people buy e-bikes, one answer can be bicycle organisation spokesperson Klas Elm's thoughts on social influence.

Klas Elm believe peers could answer the question of the rapid popularity of e-bikes. The theory is that the growth in e-bike demand is because of peers could be an answer (TT, 2018, 9 april). Symbolic consumption is a way to explain the social influence of consumption. When consumers self-image match the typical user group it reaches congruence and probability for purchase positively (Sirgy, 2018). One symbolic value could be the environment. When consumers use environmentally friendly products, there is strong relation to the visibility and social influence (Babutsidze, Z., & Chai, A. 2018). E-bikes are visible and studies asses e-bikes as an environmentally friendly product (Hiselius & Svensson, 2017)(Fyhri, Heinen, Fearnley & Sundfør., 2017). The symbolic value of the environmental aspect could be a reason for the growth of bicycles, but an area which lacks research.

If the consumers image do not match the typical user group it reaches incongruence and can lead to brand avoidance (Sirgy, 2018). If the consumer then avoids the brand, it can be identity avoidance based symbolic consumption. Such as having the as typical users as a negative reference group (Lee, Motion & Conroy, 2009). The stereotypes that e-bikes is cheating, and only older and disabled people use them is likely to exist. In that case, how does it affect the consumers? Two groups which are the opposite of the stereotypes are people frequently using the bicycle for exercise and younger consumers. They are likely to have some incongruence and identity avoidance with viewing typical e-bike users as a negative reference group.

The e-bike is pedal assisted with help from an electric motor, making it different from conventional bicycles. A shift in travelling with bikes is happening with more e-bikes being sold, and a loss in sales of conventional bicycles. A study found that those who cycle much have little interest towards e-bikes, but for those who cycle to reduce car usage e-bikes were appealing. The low interest could be since the main benefit of cycling is getting exercise, which you get less on e-bikes (Fyhri et al, 2017). This group are likely to have identity avoidance. They may see e-bikes as different and unnecessary creating a negative reference group (Lee et al, 2009).

The other group, young adults, were underrepresented with the e-bikes sold 2018. 5% of e-bikes sold were from the age group 20-30, compared to around 20% of the older age groups: 30-40,40-50,50-60 (Regeringens-elfordonspremie, 2017). The reason for the lower percent in the age group 20-30 can be because of factors like economy or fitness but we believe there are other factors as well. In this case stereotypes such as e-bikes is only for older and disabled, can lead to younger consumers avoiding e-bikes.

We have found no studies being done with the premises of e-bikes and symbolic consumption. This study can be used by marketers, policy makers and cycle industry to more successfully target potential purchasing groups and promote e-bikes. The study can further contribute to consumer behaviour research areas such as typical user imagery, symbolic brand avoidance and self-enhancement. The material can be used for further studies using self-image congruence

theory and perceived consumer value towards products. The study is also useful to areas outside consumer behaviour, as studies of environment, transportation mode choices and sociology.

1.3 Research question

To examine what aspects affect some consumers to avoid e-bikes and others to desire them.

1.4 Purpose

Our goal is to find

- If e-bikes have a symbolic value.
- To understand what drives consumers to wanting to buy e-bikes and make others avoid them.
- What attributes consumers associate with users of e-bikes.
- Whether e-bikes are perceived as a environmentally friendly product.
- What stereotypes and stigma exists.
- If different types of brand avoidance exists between the groups.

1.5 Delimitations

We will conduct this research in Sweden and limit ourselves to swedish consumers. Another limitations is the two groups. The ideal would be to research all age groups, but that would be too extensive for our time frame.

2.0 Frame of reference

This chapter will include previous relevant research related to the purpose of the study. First theories around consumer behaviour and symbolic consumption. Then this will go towards studies of e-bikes and social influence. And with this go to brand avoidance, why consumers avoid products. The chapter will end in a model to describe how consumers symbolic values can affect the perceived value of a product.

2.1 The self-concept in the marketplace

The self has its basis on that the human is born without a self and consciousness. The self is shaped by social experience and the individual is unable to shape a self, without response from other people (Mead, 1976). The self-image congruence theory is how the consumers self-concept works when shaped in a market context (Sirgy, 1985).

The consumer has a self as motivator in the marketplace where the self-concept is key, and the individual will maintain and enhance this through consumer behavior. When the consumer interacts with other people and products the individual will aim for self-enhancement. Self-enhancement is a positive reaction motivating consumers to act certain ways. In this interaction towards self-enhancing with others in shaping the self, the “tools” used by the individual has impact in the interaction. The tools is in this case consumer goods, products which serves as communication devices. The goods serve as a symbol in this communication which impacts the interaction process with others. In the interaction the goods can support the self-concept, creating a symbolic value to objects (Grubb & Grathwohl 1967).

2.2 Symbolic value and purchase intention

When looking at why consumer choose to buy or not to buy products it's not only the functional parts influencing purchase decision. The symbolic value of a product is key (Grubb & Grathwohl 1967). The symbolic part of consumption is based on the meaning of non-functional characteristics such as status or environmentally friendly (Solomon, 2010). Other factors can be stereotypes of the generalized typical user (Fisk & Tucker, 1968) This non physical characteristics of product and services can be described as having personal attributes, similar to the consumers (Sirgy, 1985).

Consumers buy products or brands they believe to possess symbolic images similar complementary to their self-image, that is, to achieve image congruence and achieve self-enhancement (Heath & Scott, 1998). The self-image congruence theory describes that consumers buy products which reflect their self-image, creating a matching process between the brand personality/typical user and the consumer self-image (Sirgy, 2018). The symbolic aspects are driven by social influence by others, to make others think highly of them (Sirgy, 2018). The social influence can affect if the product is congruent or incongruent for the group or norms which the consumer wants to be a part of. Consumers are driven with the motive of social approval, matching self-image with typical user, influencing their purchase intention (Salazar, Oerlemans & Stroe-Biezen 2012). Purchase intention being the probability that the consumer will purchase the product (Mohd, Mohd, Tahir & Hayati., 2009).

2.3 Self-image congruence theory

The self-image congruence theory is taking the consumers self-image and matching it towards a typical user or brand personality. If these images match, congruity is achieved. Self-image congruence influences pre-purchase behaviour in areas of attitudes towards product, brand preferences, willingness to purchase brand and brand choice (Sirgy, 1988). Self congruence also affects both product preference and purchase intention (Quester, Karunaratna & Goh, 2000). The self-concept is described as having four dimensions within self-image (actual, ideal, social image and ideal social self-image). In self-image there is four self-concept motives (consistency, self-esteem, social consistency, social approval). When brands match with consumers self-images, it leads to self-congruence (actual, ideal, social, and ideal social self-congruity) (Sirgy, 1982). But if the perception of brand image doesn't match with a self-concept, incongruity is created and the consumer's belief is threatened and causes discomfort (Sirgy, 1988). Incongruence is more likely to lead to symbolic brand avoidance (Lee, Motion & Conroy, 2009).

This table shows the self-image congruence dimensions

Self-image congruence theory table (Sirgy, 2018).

Self-image dimension	Self-motive	Self-congruence
Actual self	Consistency	Actual self congruence
Ideal actual self	Self-esteem	Ideal self congruence
Social self	Social consistency	Social self congruence
Ideal social self	Social approval	Ideal social self-congruence

2.3.1 Ideal social self-congruity

The self-congruence dimension we focus on is ideal social self-congruity. The concept is based in how I see other typical users, which in turn affects how I want others to see me. It is how the consumer view a brand personality/typical user and what attributes they associate with it, this is matched with the consumers self-image. The matching process lead to congruity or incongruence (Sirgy, 1985).

Consumers have reference groups that influence product and brand decisions (Childers & Rao, 1992). Decisions are driven by social influence by others, with the goal of making others think highly of them. Acting according to their social self-image, is how they believe they will earn approval from others. If their actions are inconsistent with the ideal social self-image it can lead to social disapproval (Sirgy, 2018). So when deciding whether to buy or not to buy a product, the social influence of congruence is key. The social influence will lead the consumer product choice to be congruent or incongruent for the group or norms which the consumer wants to be a part of (Sheth, Newman & Gross, 1991). Thus ideal social self-image is shaped by the social world with the motive of social approval.

2.4 Social influence and sustainable products

Studies have assessed e-bikes as an environmentally friendly product. After 100 km of substituting car trips with e-bikes, the battery is co2 emissions are compensated (Federal Environment Agency, 2014). A Swedish study in 2017, found that about 50% of the reported e-bike trips were previously conducted by car and only around 20% by conventional bike. E-bikes reducing co2 emissions and have a positive environmental impact (Hiselius & Svensson, 2017). A Norwegian study confirms positive Co2 effects. The study concludes that the respondents who cycle the least are most interested in buying an e-bike. Therefore, the e-bike is unlikely to lead to a large reduction in normal cycling, but rather shifting people away from motorized transport, and generally increase people's mobility (Fyhri et al, 2017). The government subsidisation in Sweden was with the motivation of this positive environmental impact (Regeringens-elfordonspremie, 2017) Still, the question whether consumers associate e-biking attributes such as environmentally friendly, have not been answered.

If e-bikes is viewed as a sustainable product, studies on environment and social influence implicates that this will impact on consumer behaviour. Reference groups affect the consumers on buying behavior of sustainable products. The consumer have specific groups as reference, not choosing random groups or individuals (Salazar et al., 2012). Visibility of environmentally friendly behaviour also affect how consumers act. When studying visible greenhouse gas mitigation practices and comparing them to non visible practices. It was found that pro-environmental behaviour didn't affect non-visible mitigation practices. Examples of visible mp's was using public transport or car-pooling (Babutsidze & Chai, 2018).

The social impact, that pro-environmental purchase affect purchase intention is not verified in the studies on e-bikes and electric vehicles. In the study on electric vehicles in Sweden, little to no difference between the groups of owners and non-owners of electric vehicles on ecological attitudes (Westin, Jansson & Nordlund, 2018). On e-bikes the results that showed pro-environmentalist values in forms of personal (moral) and social (peer pressure) norms didn't predict interest in buying an e-bike (Fyhri et al, 2017). If the consumer perceive e-bikes as environmentally friendly and have self-image of pro-environmental, it's unclear how the purchase intention will be affected.

2.5 Typical users of e-bikes

The brand personalities is a way to make the brand more human and making the brand relatable. To how the consumer view the personality of a brand e.g. honest, outdoorsy or luxurious. A way to measure brand personality is by asking questions about the user of a brand. The respondents will have it easier conceptualize user imagery compared to brand personality (Aaker, 1996). User imagery is the stereotyped perception of a generalized user of a particular product/brand (Sirgy, M. 1986). A consumer might avoid brands because it connects a negative reference group or represents a undesired self (Lee, Motion & Conroy, 2009).

Users of e-bikes were examined in the study which found that the use was mainly recreational. The early adopters were primarily 60 years or older and use the bike for leisure trips and typically have pro-environmental values (Wolf, A., Seebauer, S. 2014). In another study the respondents who were non-users of e-bikes associated e-bikes to mostly with recreational use and tourism, not as a mode of transport (Kawgan-Kagan, I., & Daubitz, S. 2017). But respondents in a third study said that e-bikes promoted taking longer journeys, both commuting

and recreational. This made the users increase their physical activity. (Fyhri & Fearnley, 2015). In interviews with users of e-bikes, respondents received stigmatizing comments such as e-biking is cheating compared to conventional biking. Also the stereotype that e-biking is for older and disabled people were pointed out as barriers to using e-bikes (Jones Al. 2016). We will examine this user imagery of e-bikers, to see if it exists.

2.51 Avoiding e-bikes

When consumers make decisions to avoid a brand's goods or services it's known as brand avoidance. If consumers reach incongruence they are more likely to avoid brands. Consumers avoid brands, having negative reference groups which does not fit the self-concept (Lee, Motion & Conroy, 2009). In an article the researchers points out five types of brand avoidance. Identity, moral, experience, deficit-value, and advertising avoidance (Knittel, Beurer & Berndt, 2016).

Identity avoidance is the "Inability of the brand to fulfill the individual's symbolic identity requirement". There are three drivers of identity avoidance: Negative reference groups, undesired self and deindividuation. The identity avoidance we focus on is negative reference group, when the consumer do not want to be seen as a member of a specific group (Lee, Motion & Conroy, 2009). In ideal social self-congruity when the consumer is incongruent in the matching process towards typical users, it can be explained as negative reference group which leads to brand avoidance (Sirgy, 2018).

When consumers avoid brands based on identity, it can be because an undesired self or a negative reference group. The difference between these types identity brand avoidance, is a consumers undesired self is concrete and specific, while negative reference groups have the potential to be more stereotypical (Elsbach & Bhattacharya, 2001). The internal reaction similar to self-enhancement, can be achieved with brand avoidance, through attitudes the consumer have towards the products (Fisk & Tucker, 1968). The identity based avoidance with negative reference groups may be a reason some consumers avoid e-bikes.

In a study of e-bikes from UK and Netherlands, people using e-bikes were interviewed. The subjects received stigmatizing comments from members of public and colleagues. Stigma was for example explained as e-biking is cheating compared to conventional biking. Also the stereotype that e-biking is for older and disabled people were pointed out as barriers (Jones et al, 2016).

The consumers might avoid brands because it connects a negative reference group or represents a undesired self (Lee, Motion & Conroy, 2009). In this case the people saying negative things about e-bikes have it as a negative reference group with identity avoidance. The people who use conventional bicycles too a higher degree are more likely have higher symbolic brand avoidance. The group of enthusiastic cyclists may have identity avoidance based on stigma such as e-biking is cheating (Jones et al, 2016).

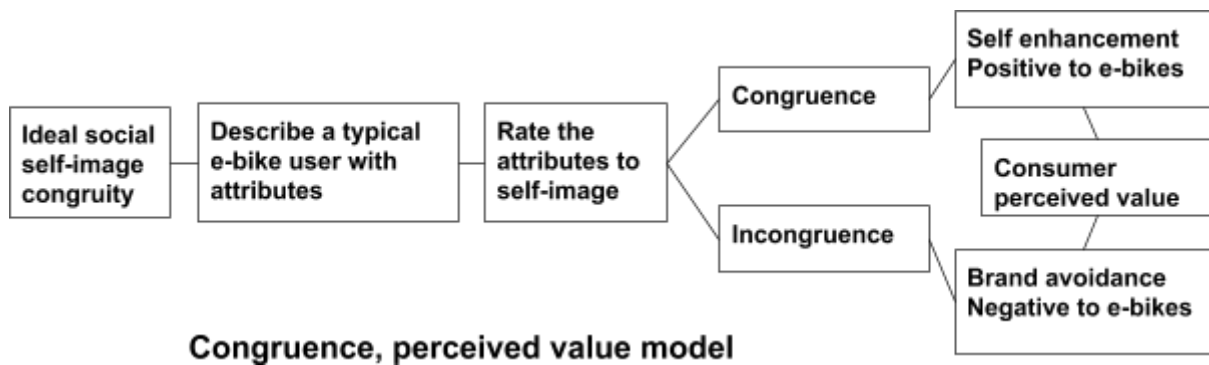
2.6 Perceived value of a product

Consumer perceived value is a method to measure what consumption values drive purchase attitude and behavior. It's a multiple item scale based on four dimensions: quality, price emotional value and social value (Sweeney & Soutar, 2001). To see if e-bikes have a symbolic

value, when consumer reach congruence or incongruence it should affect the perceived value of the product, in this case the e-bike.

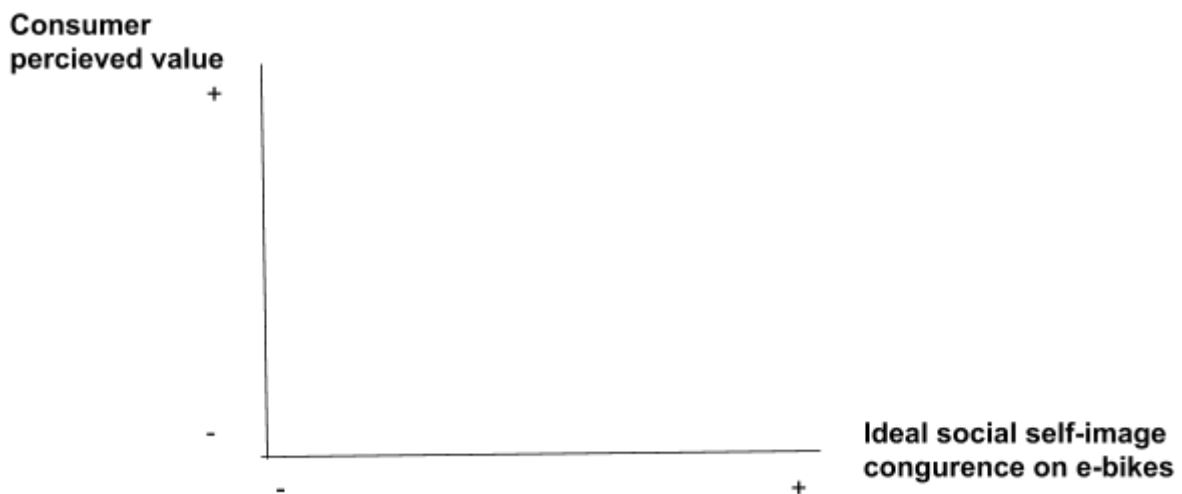
2.7 Self-enhancement or symbolic avoidance

Self-image congruence, the matching process with self-image and user imagery may affect purchase intention. Consumers act with the motive of social approval in the ideal social self-congruence. The matching process of self-image and user image leads to a scale of high congruence to high incongruence. Incongruence leads to brand avoidance and congruence self-enhancement (Sirgy et al, 1997). We will measure how ideal-social self-image congruence impacts purchase intention with e-bikes. We will do this with a consumer perceived value (Sweeney & Soutar, 2001). The model of congruence perceived value below show the parts in our research.



With this model see what symbolic values leads consumers to congruence or incongruence and how it affects consumer perceived value. We do this with the groups of students 21-30 and enthusiastic cyclists.

Measuring ideal social self-image congruence and consumer perceived value will be made with a regression analysis. This to verify and analyze correlations between the two theories.



3.0 Methodology

This chapter will explain and discuss the studies scientific approach and discuss previous studies premise towards e-bikes. After that we discuss the respondents and choices of the design of the survey. Followed by how the data and text was processed and analyzed. And lastly the study's reliability, validity and ethical aspects are discussed.

3.1 Research Approach

This study is quantitative with abductive approach based on methodology from Söderblom & Ulvenblad (2016) and Bryman & Bell (2015). To best fit the research question, primary data is gathered with a quantitative study. With a survey we get more responses and a wider scope of answers. With this, it's possible to analyze the data easier compared to a qualitative study. We also believe the answers from a anonymous survey is more honest and have less researcher bias, from the interviewer if they view e-bikes negatively (Bryman & Bell 2015).

We began looking at studies of e-bikes and complemented this with theories around symbolic consumption. With this information we created our introduction, frame of reference, method and survey based on a deductive approach. A part of the results from the survey were based on respondents own words when describing attributes, this data was analyzed and used to add relevant theories. The theory of environmental aspects were added in the frame of reference and purpose, also making the study inductive (Bryman Bell, E., 2015).

When choosing research perspective, the positivistic with a more objective approach is more fitting than the more subjective approach of hermeneutic. We will still have some parts that it's necessary to be subjective such as analyzing text field answers of attributes. We use the positivistic approach to analyzing data, more specifically when examine if e-bike have a symbolic value to see casualty (Bryman & Bell, 2015).

3.2 Literature review

The main areas of literature have been in e-bikes and symbolic aspects in consumer behaviour. The search engine we used is the Högskolan i Halmstad library oneseach, which is linked to many databases. Another database used is Google scholar, to get different results. Linked to the search engines, the databases used are: tanfonline, emerald, sciencedirect and jstor. The keywords used in the search engines are: e-bike, pedelec, consumer behaviour, attitudes, self-image congruence e-bikes, symbolic consumption, user imagery, brand personality and brand avoidance.

When looking at studies around e-bikes, there were not many with the premise of consumer behavior, the area of symbolic consumption and e-bikes. These research questions that were found in studies of e-bikes:

1. "The aim is to analyse the effect on CO2 emissions due to the use of e-bikes" (Hiselius & Svensson, 2017) In: Journal of Cleaner Production

2. “This study therefore first aims to investigate the role e-bikes can play to overcome people’s barriers to cycling in Norway” (Fyhri et al, 2017) In: International Journal of Sustainable Transportation
3. “This paper investigates the motives for e-bike purchase, rider experience and perceived impact on mobility, health and wellbeing through in-depth interviews with e-bike owners in the Netherlands and the UK” (Jones et al, 2016) In: Journal of Transport Geography

The first two articles have the premises of environmental effects of e-bikes and suggestions to promote it. This is also supported in the place where it’s published, journals related to the environment. The third article also looks in ways to promote e-bikes and investigates owners of e-bikes.

Studies on e-bikes is often made in fields as to sociology, transport and environment. The purpose is often made with a goal to make more people use e-bikes instead of cars. To reach this change in the society, studies on e-bikes is relevant with theories from consumer behaviour.

When looking at consumer behaviour theories, symbolic value of e-bikes were found as a way to expand the perspective. The theory of self-image congruence as a way to analyze the area of e-bikes. Self-image congruence is based around theories such as self-enhancement, brand avoidance and typical user imagery (Sirgy, 2018).

3.3 Empirical study

3.3.1 Choice of survey respondents

With e-bike and brand avoidance we picked two groups, young students and cycling enthusiasts. The optimal choice would be to get probability sampling, random from these groups. Due to lack of resources as time and money, we will have non-probability sampling. Convenience sampling limits and makes it harder to generalize to the general population compared to probability sampling (Bryman & Bell, 2015). We did not find a number for total population of the group with cycling enthusiasts. The other group, students 21-30 years of age is estimated 400.000 males and females in the Swedish population (Statistiska centralbyrån, 2018). Using a sample size calculator with an margin of error at 8 we would need responses of 106 respondents from this group. Number of respondents needed do not differ much if it’s 1 hundred thousand or 1 million (Raosoft, 2004). Thus we can do generalizations from students (N=117). The group of cyclist enthusiasts is hard to measure the population of, but we estimate it to be close to quarter of a million based on forum activity and sport bikes sold. With a quarter of a million we get a margin of error of 10,28 (Raosoft, 2004). As previously mentioned, numbers this large do little difference, and since we have fewer responses of cycling enthusiasts (N=64) it’s less reliable to generalize compared to the group of students.

3.3.2 Sampling process

To gather data different channels were used. First gathering emails through social media, such as facebook and later send our questionnaire. We sent out 140 but had reports that many were lost in junk mail and we got (N=35) answers. With not enough data we swapped method to gather data, we went around campus asking students to respond in our survey and giving out a website link to it. Only 10% of the students declined, and for people saying they wanted to contribute, 75% of those did the survey. 15 of the respondents did not have the right age or required. With this we had the final responses of (N=117) from the students. To gather our data about bike enthusiasts we put up a survey on happyride, a bike forum and let people answer. We received 82 responses but after sorting non answers we had (N=64).

3.4 Survey

3.4.1 Deciding questions for the survey

To gather correct data, the survey consists of 5 parts:

- 1: Age, sex, occupation
- 2: I own an e-bike, consider to buy an e-bike, could see themselves buy an e-bike
- 3: Describing a typical user with 4 attributes.
- 4: Rating themselves on up to the four previously described attributes .
- 5: 8 questions measuring perceived value of e-bikes.

The parts of 1 and 2 is to add variables for the analysis. The others are based on theories and models from our frame of reference. The measuring of attitudes towards e-bikes there is 8 questions based on Sweeney and Soutar (2001). The measuring of ideal-social self congruence is from Sirgy et al (1997).

3.4.2 Measuring ideal social self-congruity

There are two ways of measuring the ideal social self-image congruence in a quantitative study. The traditional method is to have a predetermined set of attributes. The respondents rate the brand/user on certain attributes. Then answers the same attributes but in how they see themselves, using a likert scale. Example: imagine a user who uses [product x], how would you rate the user as outdoorsy, classy, leader and modern with likert 0-4. The survey then asks about how they see their self-image with the same attributes. One of the biggest problems with this method is limiting the respondent to predetermined images. The respondents only get to respond to the chosen images of brand/user, not create a image themselves (Sirgy et al, 1997).

The other newer method of measuring self-congruity does not use predetermined images. Instead it lets the respondent decide attributes and then rate the how they identify with these attributes in regards of self-image. "Take a moment to think about [product x]. Think about the kind of person who typically uses [product x]. Imagine this person in your mind and then describe this person using one or more personal adjectives such as, stylish, classy, masculine, sexy, old, athletic, or whatever personal adjectives you can use to describe the typical user of [product x]. Once you've done this, indicate your agreement or disagreement to the following statement: This [product x] is consistent with how I see myself [in situation y]." (Sirgy et al, 1997). This is the way we chose to conduct our survey, not limiting our respondents to

certain images. With this a possibility to creating a more correct image of how respondents view e-bike users. This also creates possibilities for a analysis of the attributes.

The ideal social self-image congruence is related to user imagery, the question is:
“Imagine a person using a e-bike, write up to four attributes you think this person will have”

The respondent will then answer with four attributes. The follow up questions of self-image is
“You will now rate yourself on the attributes you used to describe the e-bike user. How do you see yourself as (attribute x)” The survey tool will pipe the previously written attribute to this question instead of (attribute x). The measuring is made made with a likert scale 0-4 to see how the self-image identify with the attributes.

3.4.3 Consumer perceived value

To measure how respondents perceive e-bikes as a product, we used four dimensions: quality, price, emotional value and social value. With multiple questions measuring the same dimension, makes it more reliable and possible for finer distinctions (Bryman & Bell 2015). The survey has two questions of every dimension. The questions is made with a likert scale 0-4 (Sweeney & Soutar, 2001).

Quality

“I believe e-bikes have good quality”

“E-bikes is a functional reliable product”

Price

“An e-bike is worth it's price (avg price 2018 was 16250:- sek)”

“An e-bike is economical”

Emotional value

“I would feel comfortable using a e-bike”

“An e-bike is something i would like to use”

Social value

“Owning an e-bike makes a good impression on other people”

“An e-bike would help me get more accepted”

3.5 Data analysis

Our data analysis is from 2 surveys, targeted students age 21-30 and cycling enthusiasts. We gathered a set of data that have been analyzed in statistical program SPSS. The program Excel have been used in the making of some of the tables in this study as well as sorting some of the text answers

First step was descriptive research and sorting our string text answers into attributes with the help of a dummy variable so the answers could be calculated and compared. Our variables that could work as predictors if they had symbolic brand avoidance to e-bikes.

To calculate the congruity score it was made with adding the likert scores from the self-congruity and divide it with the number of attributes the respondent's answers. This is a way to analyze likert scale data (Boone Jr & Boone, 2012). The same method was used with perceived value score that constituted 8 items. This to be able to see correlation between mean perceived value and congruity score with attributes.

Second step was reliability tests to confirm that congruity and perceived value were measured in a desirable way. Each survey group had 3 independent t-tests with the subgroup's ownership, considering, could see themselves buy an e-bike. The respondents were divided between yes and no on each of the three questions and mean score between the groups were tested. To get reliable data equal variance has to be assumed and we see this with Levene's test. If the Levene's test is higher than 0,10 shows that standard deviations are similar in the groups (Elliasson, 2018). If our variables were correct, we expected the t-test to find mean score not equal with a p-value under 0,05 in both groups. In each subgroup-test, we found that a higher score in both congruity and perceived value correlated with the respondent's actual ownership, considering buying and could see themselves buy an e-bike

Third step was to make a regression analysis with the variable congruence and perceived value to get a regression coefficient or r-value. Not to prove cause and effect but only correlation between the two variables. R-value can be between +1 and -1 that should mean perfect positive or negative correlation, and 0 means no correlation (Elliasson, 2018).

3.5.1 Data analysis of text answers

To manage the data of text written attribute they were sorted into 36 categories. 33 of the categories were attributes that had 3 or more similar answers in each survey group, the 3 without clear attributes here divided as following: 2 or less similar text answers were put as **"Other positive"**, **"Other can't categorize"** -neutral and **"Other negative"**

When sorting the text answers into attributes many answers was very similar with just a small difference in spelling differing them out. See appendix 5:

Explanation of the 10 most common themes that could be found in both survey groups

1. **"Environmentally conscious"** Answers where in the theme environmentally aware/conscious - and statement related to caring about environment.
2. **"Lazy"** A majority of the text answers is simply the word lazy.
3. **"Healthy, like to work out"** Like to work out, do sports or fit and take care of their health.
4. **"Unhealthy"** A theme of answers as, were not fit, fat, not healthy, do not care about their health.
5. **"Rich / wealthy"** A majority of the answers in this theme where just rich, others were "a lot of money".
6. **"Comfortable"** People who like to be comfy, and answers in the style of people who want to enjoy their bike ride and when they travel.
7. **"Active"** Words as active or active lifestyle.
8. **"Economical"** Thrifty and economical.
9. **"Commuter"** People who bike/travel to work and live relatively close by work.
10. **"Effective"** Majority of the text answers where just the word effective.

Last step is looking behind the data of the top attributes, how they compare between the groups. The top answers in both groups and the data of mean congruity and perceived value, as well of descriptive data of percentage in each group that own, consider and could see themselves buy an e-bike.

3.6 Validity and Reliability

3.6.1 Validity

To have a higher validity we used measuring models from other studies such as self-image congruence and consumer perceived value. With the tested model of consumer perceived value, and having 8 items instead of 1 item strengthens the validity (Sweeney & Soutar, 2001). To lessen item placement influence in the survey, we choose to have perceived value questions after the open ended text answers for measuring congruity. How the survey and questions we built up were chosen by us and not a replicate from another study which impacts the validity. We didn't select specific student groups to make the respondents less homogenous. The respondents had self selection to participate in our study to reduce researcher bias, meaning we did not exclude people or choose which individuals to be included in our study (Bryman & Bell, 2015). We believe with a larger sample size the regression analysis of congruence, perceived value parts are going to hold validity.

When looking at the cycle enthusiasts, we had a self selection to participate to negate research bias. A factor which can make the results from the two groups different, is the method of collecting it. The anonymity for the cyclists can contribute to different answers compared to the students we asked in person to participate in the survey.

3.6.2 External validity

With more respondents compared to a qualitative study it's possible to get a broader picture but some aspects may influence and answers. The choice with convenience sample lowers the external validity, we can't know for sure that this sample is representative for the other in the population. In the group of students representing 21-30 year old people is likely to have aspects implicating external validity. The first factor which may have implications on answers is the location and city size. If we asked students from another city with different climate, city size, infrastructure and amount of hills, the answers might have been different. Another factor is for the age group 21-30 that we only have students, which generally have less money compared to other people with jobs. If we compare students to people with jobs, the economic situation and education level is also likely to influence responses. In Austria the educational level of e-bike users were lower than non-users (Wolf & Seebauer, 2014). In contrast in California the educational level and income were higher among e-bike user (Popovich et al., 2014). Thus there is implications with only having students aged 21-30. The group with enthusiastic cyclists aren't limited to one geographic area as the students, but instead comes a question of how well the respondents in the survey represent other cycle enthusiasts. We believe the group of enthusiastic cyclists are quite representative for other cyclists, but that we would have got different answers if we asked them to participate in person. There might be a overrepresentation of males compared to the real group of cycling enthusiasts.

3.6.3 Reliability

To check the reliability of the data the Cronbach's alpha test has been made. If the value is 0.7 or higher the reliability is considered efficient (Bryman & Bell, 2015). However if there is fewer than five questions, as the survey has for congruence, it's not uncommon to get values lower than 0,5 (Pallant, 2013). Further, we included the questions of the survey in the appendix to make it to replicate the study. As previously mentioned t-tests was also done, this to find if the

means were equal of perceived and congruity score with the different yes and no groups. Inconclusive means between the groups are further analyzed in later steps.

3.7 Ethical Aspects

In the survey it's important that all data is anonymous for the sake of ethics. To convey that the data is only going to be used for the purpose of research (Bryman & Bell, 2015). The anonymity were highlighted for the respondents before they participated in the survey. To answer in the survey is also completely voluntary and respondents are always free to close it.

4 Results

This chapter contains the results from the survey. The first thing presented is demographics for the sample in this study and summary of yes/no questions. Following this, reliability, t-test and a regression analysis are made. Lastly a descriptive summary of attributes and the data behind most common ones are presented.

4.1 Results demographics

From the students aged 21-30 who answered the survey we got 117 (N = 117) responses. Of those 51,28% answered they were woman and 48,72% men. Answers to age, majority 61,5% answered age 21-25 and rest 38,5% age 26-30.

For those who answered the survey for cycling enthusiasts we got 64 (N₁=64) respondents of those majority were men with 95,3%, and rest of those who answered only 3,1% woman and 1,6% other. Answers about age majority answered 31-50 with 32,8% age 41-50 and 31,2% age 31-40.

Students aged 21-30. N = 117			
Identify as	#	Age	#
Woman	60	21-25	72
Male	57	26-30	45
Occupation	#		
Student	117		

Cycling enthusiasts. N ₁ = 64			
Identify as	#	Age	#
Male	61	16-20	1
Woman	2	21-25	1
Other	1	26-30	4
Occupation	#		
Employed	47	31-40	20
Self employed	10	41-50	21
Unemployed	3	51-60	12
Student	3	61-70	2
Looking for work	1		

4.2 Descriptive summary

4.2.1 Ownership, considering and could see themselves buy an e-bike

The following tables is a summary of those who answered yes to ownership, considering and could see themselves buy an e-bike, in each survey group.

Students age 21-30 (N = 117)

	Percentage	# Respondents
Ownership of e-bike	13,7%	16
Considering to buy	17,1%	20
Could see themselves buy	70,1%	84

Cycling enthusiast. (N₁= 64)

	Percentage	# Respondents
Ownership of e-bike	20,3%	13
Considering to buy	15,6%	10
Could see themselves buy	59,4%	38

4.2.2 Congruence and perceived value score

Following tables show the calculated mean score and standard deviation of the respondents in each group. The 8 items that constitutes perceived value and 4 items that constitutes congruence, have each been summed together and divided with number of items for each respondent. Mean perceived value and congruence score have then been calculated.

Students age 21-30 (N = 117)

	Mean value	Std. Deviation
Perceived value	1,9615	0,6722
Congruence score	2,1318	0,9512

Cycling enthusiast. (N₁= 64)

	Mean value	Sd. Deviation
Perceived value	1,6984	0,9016
Congruence score	1,8789	1,1017

From this data we find that cycling enthusiasts seems more incongruent and have a less favorable view of e-bikes than students.

4.3 Internal reliability

Cronbach's alpha values

	Perceived value	Congruity
Cycling enthusiasts	0,867	0,616
Students	0,772	0,57

Perceived value have 8 items while congruity have 4, and as previously mentioned cronbach alpha give very low numbers when it's under 5 items (Pallant, 2013). But in our case congruity have alpha score over 0,5 in both groups and we see it as acceptable. Perceived value in both groups are past 0,7 and no individual survey questions are thereby excluded.

4.3.1 Independent t-test students

Ownership of e-bike group statistics

		N	Mean	Std. Deviation	Std. Error Mean
Conguence score	Have an e-bike	16	2,2288	1,03700	,25925
	Do not have an e-bike	101	2,1164	,94154	,09369
Percieved value score	Have an e-bike	16	2,10156	,621186	,155297
	Do not have an e-bike	101	1,93936	,680215	,067684

For students we did not find any correlation with ownership of e-bike and congruence well as perceived value score. This was made with an independent t-test. So we can assume the means are equal in both groups with equal variance.

Consider buying an e-bike group statistics

		N	Mean	Std. Deviation	Std. Error Mean
Conguence score	Considering buying an e-bike	20	2,3500	,76890	,17193
	Do not consider buying an e-bike	96	2,0773	,98264	,10029
Percieved value score	Considering buying an e-bike	20	2,47500	,520311	,116345
	Do not consider buying an e-bike	96	1,85026	,654091	,066758

With an independent t-test we find perceived value do have an effect on considering buying an e-bike or not with >95% certainty, it assumes the means are not equal.

However congruence score can't state an effect on consideration with >95% certainty with a two tailed p-value of 0,273 with equal variance assumed.

Group Statistics

		N	Mean	Std. Deviation	Std. Error Mean
Conguence score	Could see themself buy an e-bike	82	2,3760	,85396	,09430
	Could not see themself buy an e-bike	34	1,5247	,92249	,15821
Percieved value score	Could see themself buy an e-bike	82	2,16616	,616784	,068112
	Could not see themself buy an e-bike	34	1,46691	,546432	,093712

After a independent t-test we find that both perceived value and congruence score have with >95% certainty an effect on "Could see themselves buy an e-bike" - calculated with equal variance assumed.

4.3.2 Independent t-test cycling enthusiasts

Ownership of e-bike group statistics

		N	Mean	Std. Deviation	Std. Error Mean
Conguence score	Have an e-bike	13	3,0000	,81009	,22468
	Do not have an e-bike	51	1,5931	,98074	,13733
Percieved value score	Have an e-bike	13	2,27885	,992359	,275231
	Do not have an e-bike	51	1,55042	,823326	,115289

Means is not equal for the groups with >95% certainty equal variance assumed

Consider buying an e-bike group Statistics

		N	Mean	Std. Deviation	Std. Error Mean
Conguence score	Considering buying an e-bike	10	2,6917	1,09153	,34517
	Do not consider buying an e-bike	54	1,7284	1,04538	,14226
Percieved value score	Considering buying an e-bike	10	2,36250	,963663	,304737
	Do not consider buying an e-bike	54	1,57540	,842528	,114654

Means is not equal for the groups with >95% certainty equal variance assumed

Could see themself buying an e-bike group Statistics

		N	Mean	Std. Deviation	Std. Error Mean
Conguence score	Could see themself buy an e-bike	38	2,1623	1,04064	,16881
	Could not see themself buy an e-bike	26	1,4647	1,07501	,21083
Percieved value score	Could see themself buy an e-bike	38	2,07096	,823446	,133581
	Could not see themself buy an e-bike	26	1,15385	,724834	,142152

Means is not equal for the groups with >95% certainty equal variance assumed

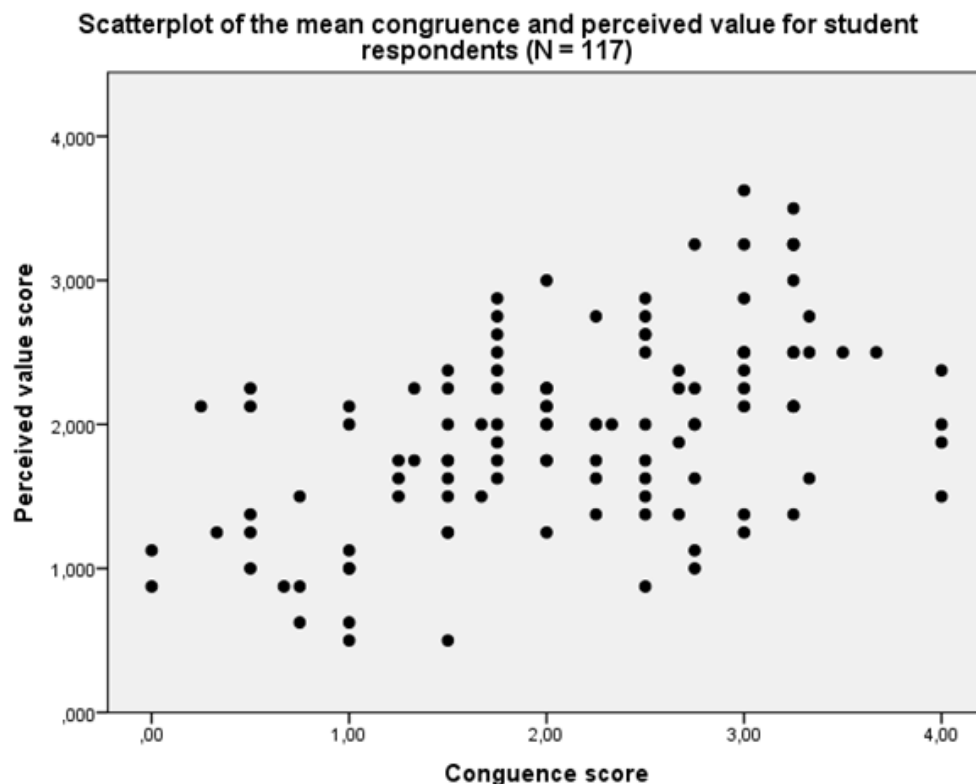
4.3.3 summary t-test

1. Ownership of e-bike found means to be equal of both perceived value and congruence score for students age 21-30, while means was not equal with cycling enthusiasts. Here are the means different which should be expected, hence make ownership data for students interesting with how little it correlates.
2. Considering buying an e-bike found >95% statistical significance in both groups that means is not equal for perceived value in the predicted manner, but congruity could only be found with cycling enthusiasts. For students we see a difference of means in congruity but not enough with >95% statistical significance.
3. Could see themselves buy an e-bike was statistically significant and means not equal for perceived value and congruence score in both groups.

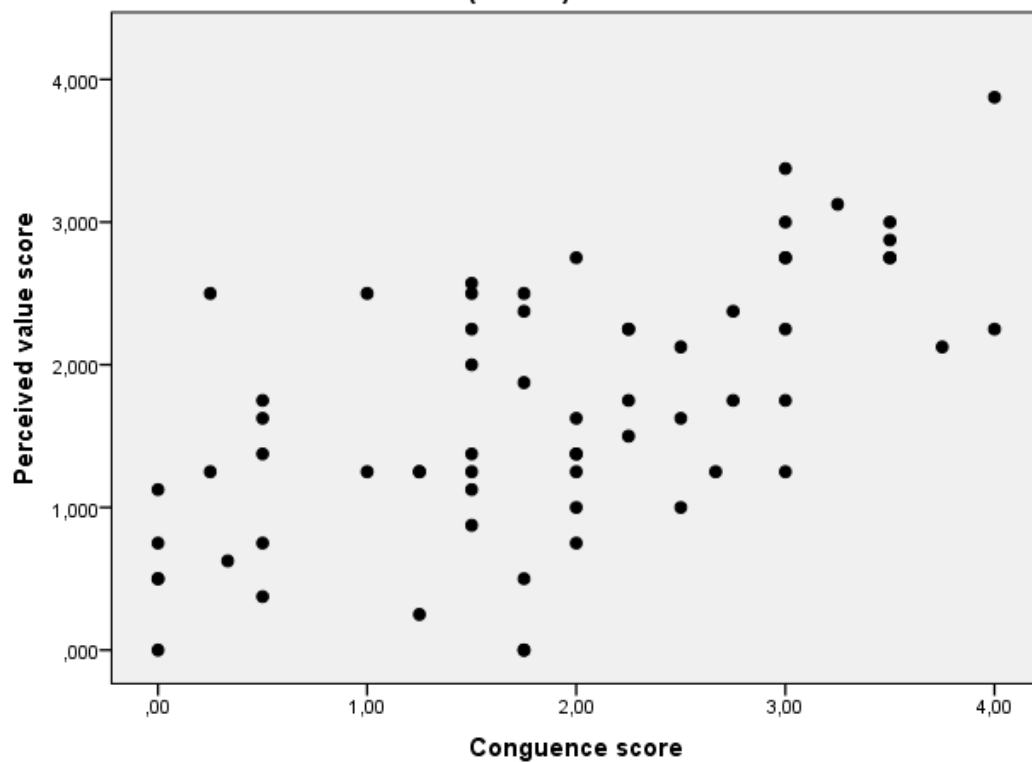
After the tests, the conclusion is that both our variables, congruity and perceived value score is good predictors. Both of these will be used to test attributes.

4.4 Regression analysis

To get proof that there exist a positive correlation with congruence score and perceived value of e-bikes a regression analysis is done. That if the respondent self image is congruent with the image of the e-bike user the perceived value also increase.



Scatterplot of the mean congruence and perceived value for cycling enthusiasts
(N₁= 64)



	R-value	R-Square	Adj. R-square
Students	0,490	0,24	0,233
Cyclist	0,618	0,382	0,372

After a regression analysis with dependent perceived value we find that r-value to be 0,49 for students and 0,618 for cycling enthusiasts. Both r-values show a correlation. (Moore Notz & Flinger, 2013) An anova table find that both have a p value of < 0,05 and show statistical significance (Elliasson, 2018).

4.5 Respondents and attributes

4.5.1 Total text answers students without duplicates

Respondents who mentioned an attribute as text answer students age 21-30 (N = 117)					
Categories	# Respondents	% Total	Categories	# Respondents	% Total
Environmentally conscious	75	64,1%	Motivated engaged purposeful	10	8,5%
Lazy	42	35,9%	Early adopter	8	6,8%
Healthy, like to work out	26	22,2%	Older/elderly	8	6,8%
Rich, wealthy	25	21,4%	Stressed / in a hurry	7	6,0%
Comfortable	20	17,1%	Other can't categorize	7	6,0%
Other negative	17	14,5%	Technical	7	6,0%
Active	16	13,7%	Fast	6	5,1%
Economical	16	13,7%	Commuter	6	5,1%
Middle class / between middle and upper class	16	13,7%	Cool, relaxed	5	4,3%
Unhealthy	15	12,8%	Live in the city	5	4,3%
Cheerful	14	12,0%	Pensioner	4	3,4%
Intelligent	13	11,1%	Middle aged	4	3,4%
Effective	13	11,1%	Someone who likes to go fast	3	2,6%
Other positive	12	10,3%	Up-to-date	3	2,6%
Outdoorsy	11	9,4%	Frequent biker	3	2,6%

4.5.2 Total text answers cycling enthusiasts without duplicates

Respondents who mentioned an attribute as text answer cycling enthusiasts (N ₁ = 64)					
Categories	# Respondents	% Total	Categories	# Respondents	% Total
Lazy	28	43,8%	cheerful	5	7,8%
Unhealthy	27	42,2%	Frequent biker	5	7,8%
Environmentally conscious	25	39,1%	Intelligent	5	7,8%
Comfortable	16	25,0%	Stressed / in a hurry	5	7,8%
Other negative	12	18,8%	Woman	5	6,3%
Economical	11	17,2%	Falsely believe they care for the environment	4	6,3%
commuter	8	12,5%	Have kids	4	6,3%
Effective	8	12,5%	up-to-date	4	7,8%
motivated engaged purposeful	8	12,5%	early adopter	3	4,7%
Older/elderly	7	10,9%	live in the city	3	4,7%
Not interested in bikes	6	10,9%	Middle aged	3	4,7%
Other can't categorize	6	9,4%	Middle class / between middle and upper class	3	4,7%
Danger in traffic	6	9,4%	Other positive	3	4,7%
Healthy, like to work out	6	9,4%	Rich, wealthy	3	4,7%
Tired of traffic / public transport	5	9,4%	Outdoorsy	2	3,1%
Active	5	7,8%	technical	2	3,1%

4.5.3 Summary text answers

“**Environmentally conscious**” as a category was by far the most common of the text answers out of the students with 64,1% of the respondents (75 out of 117), mean that one or more of their text answers were in the theme - environmentally aware/conscious and statement related to caring about environment. Environmentally conscious were 3rd most common attribute on cyclist with 39% of the respondents. But most common attribute were instead lazy and closely followed by unhealthy with 42.2% of respondents.

(Reference Appendix 2.1)

Environmentally conscious were the most common to pick as first and second answers with 33,33% of 1th and 16,24% of 2th. Lazy in the 1th text answer got 15,38% while the 3rd most common only got 6,84% (Rich Wealthy). Interestingly attribute theme of “healthy, like to work out” were the same in 2th Rich, wealthy was very consistent throughout having around 6-5% of the answers in each 1 to 4th text answer

(Reference Appendix 2.2)

Environmentally conscious was the most common on the 1th answer even for cyclist with 15,63%, following unhealthy and lazy 12,5% each. 2th text answer were the 2 most common attributes environmentally conscious and lazy with 12,5% each.

4.6 Data top answers of attributes

Students who answered "environmentally conscious" as an attribute in a text answer (N = 117)

	Yes (n = 75)	No (n ₁ = 42)
Congruity	2,2668	1,8907
Perceived value	2,1483	1,6280
Own an e-bike	12,0% (9)	16,6% (7)
Considering to buy	21,3% (16)	9,5% (4)
Could see themselves buy an e-bike	81,3% (61)	50% (21)

We found that both mean congruity and perceived value is higher in the group who have answered “Environmentally conscious” in one of the text answers. This compared those who didn’t. Ownership of e-bike for students and seeing the user as environmentally friendly had a negative correlation. Considering to buy an e-bike is 21,3% compared to only 9,5% in the no-group. While as much as 81,3% who could see themselves buy an e-bike compared to 50% in the no-group

An independent t-test was done and couldn't answer with certainty means was not equal for congruity. But perceived value had statistical significance with >95% that it's higher if you see e-bike user as environmentally conscious compare with if you do not.

Cycling enthusiasts who answered "environmentally conscious" as an attribute
in a text answer (N₁ = 64)

	Yes (n = 25)	No (n ₁ = 39)
Congruity	2,380	1,5577
Perceived value	2,090	1,4473
Own an e-bike	24,0% (6)	17,9% (7)
Considering to buy	12,0% (3)	19,9% (7)
Could see themselves buy an e-bike	60,0% (15)	59,0% (23)

Some positive correlation with ownership but none with 'could see themselves buy', some negative correlation could be seen in considering to buy. Mean was found not to be equal for the two groups.

Students who answered "Lazy" as an attribute in a text answer
(N = 117)

	No (n = 75)	Yes (n ₁ = 42)
Congruity	2,3489	1,7440
Perceived value	2,1367	1,6488
Own an e-bike	14,7% (11)	11,9% (5)
Considering to buy	22,7% (17)	7,1% (3)
Could see themselves buy an e-bike	73,3% (55)	64,3% (27)

There is a big difference of mean congruity score and perceived value, if you see a e-bike user as lazy or not. Considering to buy is as much as 22,7% in the no-group of those who have not answered lazy in any text answer, compared to only 7,1% in the yes-group. 11,9% (5) answered they saw an e-bike user as lazy while having ownership of an e-bike. An independent t-test found that the means was not equal with >95% certainty between yes/no groups for both perceived value and congruity.

Cycling enthusiasts who answered "Lazy" as an attribute in a text answer
(N₁ = 64)

	No (n = 36)	Yes (n ₁ = 28)
Congruity	2,185	1,485
Perceived value	1,992	1,321
Own an e-bike	25,5% (9)	14,3% (4)
Considering to buy	19,4% (7)	10,7% (3)
Could see themselves buy an e-bike	75,0% (27)	39,3% (11)

In this table we see a larger difference in yes/no answers compared to the group of students when looking at congruence, perceived value scores. This is also shown in the answer “could see themselves” with large difference between yes/no. When comparing percentages “considering to buy” to students, there is less difference. An independent t-test found that the means was not equal with >95% certainty between yes/no groups for both perceived value and congruity.

5.0 Discussion

5.1 Congruence, perceived value.

The theory self-image congruence, the matching process between self-image and typical user influences pre-purchase behaviour. This in areas of attitudes towards product, product preference and purchase intention (Sirgy, 1988)(Quester et al, 2000). The congruence score and perceived value graph from the regression analysis show a correlation between ideal social self-image congruity and consumer perceived value in both groups and with high significance. This together with our t-test that found mean differ in a predictable manner for both groups except for ownership of e-bike of the students. This means that e-bikes have a symbolic value since congruity impacts the perceived value. A predictor for high congruence and perceived value score in our yes/no questions were if they answered “could see themselves buy an e-bike”. This was true in both the student and cyclists group. Having higher congruence means you identify yourself more as a typical user. This shows that social influence is impactful for e-bikes, especially in the question if respondents could see themselves buy an e-bike or not.

5.1.1 Owning an e-bike as student

Owning an e-bike as a student were not a predictor for congruence and perceived value score. As contrast, in the group of cycle enthusiasts, owning an e-bike was a strong predictor. The students owning an e-bike have similar results to non owners. Why the results are different between the groups could be ambiguity of the question regarding ownership of e-bikes. That the students have access to an e-bike while living with their parents is a possible answer to

ambiguity. The question should have been if they had bought an e-bike themselves. So if the students have access of an e-bike from family member, or another possibility they might have gotten it as a present is a likely explanation for the lower scores. Larger sample sizes and defined questions among owners of e-bikes and congruence perceived value model is necessary. This to determine why ownership is not a predictor in the group of students.

5.2 Ideal social self-image congruity attributes

For students the most common attributes to describe a typical e-bike user is environmentally conscious 64%, lazy 35%, healthy 21%, rich 21% and comfortable 17%. In the group of cyclist enthusiasts the five most common attributes are: lazy 44%, unhealthy 42%, environmentally conscious 39%, comfortable 25%, other negative 12%.

Differences in top 5 attributes between the groups are students have rich and healthy compared to the cyclists unhealthy and other negative. This is likely since the economic situation for the students combined with the fact that the cyclists have a stronger economic situation. The cyclists are likely to have spent more money on their conventional bicycle so they do not consider it product for rich people, or a luxurious product.

5.3 E-bike as an environmentally friendly product

Viewing e-bikes as environmentally conscious is a predictor for higher congruence score and perceived value towards e-bikes. That the typical e-bike user is pro-environmental (Wolf & Seebauer, 2014) is also how the majority of the total respondents view them. The attribute of environmentally conscious highly associated with e-bikes. In the survey with students when describing an e-bike user, 33% of respondents first attribute was environmentally conscious. Our findings support that reference groups affect the consumers on buying behavior of sustainable products (Salazar et al., 2012).

In the group of students respondents who identified e-bike users as environmentally conscious gave higher perceived value and congruence. These respondents had higher interest in buying an e-bike. Questions “considering to buy an e-bike” were (21,3% vs 9,5%) and “could see themselves buy an e-bike” (81,3% vs 50%). The results show that e-bike is strongly associated as an environmentally friendly product. This is more likely to lead congruence and self-enhancement to affect purchase intention positively. A way to capitalize on the symbolic value of this attribute could be to reach these students by building an e-bike brand personality around the environment.

In one of the scientific articles on e-bikes, the results showed that pro-environmentalist values norms didn't predict interest in buying an e-bike (Fyhri et Al. 2017). We found this to be true when comparing the groups, but not when only looking at the group of students. The students viewing e-bike users as environmentally friendly is a stronger predictor to being in the pre-purchase stage “considering to buy e-bike”. The group of cyclists had a different result from the students, that those considering were not writing environmentally friendly to a higher degree.

The results show that the environment have more symbolic impact for the students. Perceiving e-bikes as environmentally friendly for students, increases the probability of considering to buying an e-bike. The cyclists had less percentage of respondents writing the attribute

environmental (39% vs 64%). This could be because of lower interest of the environment compared to the students. Another explanation is that cyclists had lower because they compare e-bikes more towards bicycles, while the students compares it as a substitution for the car.

The viewpoint that e-bike is substituting the car is also credible when looking at attributes as lazy and healthy. We believe the perceptions are that: the e-bike user is healthy when using the e-bike instead of a car, and lazy when taking the e-bike instead of a conventional bicycle. Interestingly both the opposite attributes lazy and healthy are common with students, while cyclists have a convincing majority towards lazy making this a plausible explanation.

5.4 E-bike user stereotypes

User imagery is the stereotyped perception of a generalized user of a particular product, which in turn can lead to identity based brand avoidance based negative reference group (Knittel, Beurer & Berndt, 2016). The consumer have negative reference groups when it doesn't fit with the consumers self-concept (Lee et al, 2009). Prior studies describes e-bike users as 60 years or older (Wolf & Seebauer, 2014) This is confirmed in another study with stereotypes such as bikes is for old and disabled people, but stigma also exists: that e-bikes is cheating (Jones et al, 2016).

Consumer social self-image, is how they believe they will earn approval from others. If their actions are inconsistent with the ideal social self-image it can lead to social disapproval. (Sirgy, 2018). We looked at the results to find among stereotyping and stigmatizing attributes, the most common was lazy in both groups and unhealthy for cyclists. An ambiguous attribute is comfortable which can be interpreted as both negative and positive. For example as negative can be, comfortable as taking the easy way compared to a conventional bicycle, so it may be a stigmatized attribute for some respondents.

5.4.1 Results typical user imagery

In our results we found that the stereotype that e-biking is for older and disabled people exists, but to a much smaller degree than expected. The user imagery of old people had low support in our results. The describing of an e-bike user with attributes showed that older and pensioner only got around 10% for both groups. Combining this fact with statistics of sold e-bikes 2018 we can conclude that typical user is something that have changed in the last years.

The results have wider support of the stereotype of e-bike users being lazy, especially in the group of cyclists. Both groups had lower congruence, perceived value scores when writing lazy as e-bike user attribute. In the group of cyclists the questions, own or considering/could buy e-bike show a strong brand avoidance when describing e-bike users as lazy. Writing lazy as an attribute were a big difference in the question "could see themselves buy an e-bike". Only 39% could see themselves buy an e-bike if they answered lazy as an attribute, compared to 75% of those who didn't see users as lazy

For the students describing users as lazy, the question considering to buy it's considerably lower (7,1% vs 22,7%). Owning an e-bike didn't have big difference with respondents writing the attribute lazy. A correlation for could see themselves buy an e-bike were seen here as well but not as prominent as for the cyclists.

5.5 Avoidance of e-bikes

The brand avoidance of lazy, existed in both groups and we found some difference between the groups in attributes. The cyclist group had more negative perceptions about e-bike user compared to the students. Cyclist was more prone to have answer lazy, unhealthy, other negative and e-bike users are danger in traffic.. There is less negatively stereotypical attributes in the students and overall 21% of the students have considered buying an e-bike compared to the 12% of the cyclists. Higher education can be a predictor of buying an e-bike (Popovich et al, 2014). When the students finish their studies and get higher income, they are a strong group of future potential customers.

The results reflect that brand avoidance to avoid e-bike exists based on stereotypical user imagery (Lee, Motion & Conroy, 2009). The respondents writing lazy are more likely to have a self-concept viewing e-bikes as a negative reference group. Describing e-bike users as lazy, has a strong impact on the congruence and perceived value scores. This impacts purchase intention, the respondents are less to likely to consider buying an e-bike. Comfortable is something that already exists in a lot of consumers minds and this can be used in marketing, to try shifting focus from the more stigmatizing lazy to the more ambiguous comfortable. This would be one way to use marketing communication to change negative attitudes towards e-bikes, but more studies needs to be done in the area.

6.0 Conclusions and future research

Our results show that e-bikes have a symbolic value. In both groups that could see themselves buy an e-bike and considering to buy have higher congruity and perceived value.

With cyclists and students common attributes to describe typical users of e-bikes are environmentally friendly, lazy and comfortable. The stereotype that e-biking is for older exists but to a small degree. The stereotype of e-bike users being lazy, is extensive in both groups, but even more widespread for the cyclist group. In the group of students, healthy was interestingly a common attribute. Describing e-bike users as lazy has a strong impact on the congruence, perceived value score. This impacts purchase intention, the respondents are likely to exhibit brand avoidance and not consider buying an e-bike.

For both groups, perceiving e-bikes as environmentally friendly had a higher symbolic value. Perceiving e-bikes as environmentally friendly can be a pre-purchase indicator for students which increases the probability of considering to buying an e-bike. For the cyclists writing this attribute were not a predictor in the group considering to buy an e-bike

Concluding this, e-bikes have a symbolic value and common attributes to describe typical e-bikes users are environmentally friendly, lazy and comfortable. Stereotypes existed but not so much that e-bike users are old, rather lazy. Viewing e-bike users as lazy influence the symbolic value negatively. When e-bikes are perceived as environmentally friendly it have strong positive symbolic value and makes the group of students more likely to consider buying them.

6.1 Future research

- Studies about what people think of e-bikes as a product and comparing it to the typical users.
- Examine the ambiguous question of ownership of e-bikes among students and how it affects congruence and perceived value.
- Compare students to other groups as young adults with jobs.
- See the symbolic value in age groups where e-bikes is more frequently to see what drives brand avoidance.
- Studies on marketing around e-bikes
- Studies examining the attribute lazy and potential ways to change this perception

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Appendix

Appendix 1 Survey questions

Enkät elcyklar

Hej, kul att du vill svara på vår enkät - svara på frågorna så bra du kan. Enkäten är helt anonym och svaren kommer användas till våran uppsats. Mvh Joel och Daniel

* Vad är din ålder?

A 15 år eller yngre

B 16-20

C 21-25

D 26-30

E 31-40

F 41-50

G 51-60

H 61-70

I 71 eller äldre

Hur identifierar du dig själv?

A Man

B Kvinna

C Annat

Vad är din huvudsakliga sysselsättning?

A Anställd

B Arbetslös

C Egenanställd

D Student

E Arbetssökande

Äger du en elcykel

A

Ja

B

Nej

Har du tänkt köpa en elcykel

A

Ja

B

Nej

Skulle du kunna tänka dig köpa en elcykel

A

Ja

B

Nej

1) Föreställ dig en person som cyklar en elcykel - skriv upp till 4 egenskaper som du tror denna person har i var sitt separata fält markerade 1 till 4.

TEST1

2)

TEST2

3)

TEST3

4)

TEST4

5) Du ska nu ranka dig själv efter de egenskaper du satte på elcyklisten, så väl det går hur du själv ser dig med de egenskaperna - Håller inte alls med all (1) till att du håller med helt (5)

Ranka dig själv från egenskap 1

"TEST1"



1	2	3	4	5
---	---	---	---	---

Håller inte alls med Håller helt med

6) Ranka dig själv utifrån egenskap 2

"TEST2"



1	2	3	4	5
---	---	---	---	---

Håller inte alls med Håller helt med

7) Ranka dig själv utifrån egenskap 3

"TEST3"



1	2	3	4	5
---	---	---	---	---

Håller inte alls med Håller helt med

8) Ranka dig själv utifrån egenskap 4

"TEST4"



1	2	3	4	5
---	---	---	---	---

Håller inte alls med Håller helt med

Page 2

Nu följer 8 st påståenden om elcyklar, svara mellan 1 och 5. Håller inte alls med (1) till att du håller med helt (5) och där (3) är neutral. Svara på så många som möjligt
"Jag skulle känna mig bekväm med att använda en elcykel"



1	2	3	4	5
---	---	---	---	---

Håller inte alls med Håller helt med

Jag tycker elcyklar har bra kvalitet



1	2	3	4	5
---	---	---	---	---

Håller inte alls med Håller helt med

En elcykel är något jag vill använda mig av



1	2	3	4	5
---	---	---	---	---

Håller inte alls med Håller helt med

En elcykel är värt sitt pris (Snittpriset på nyinköpta elcyklar 2018 var 16 250kr)



1	2	3	4	5
---	---	---	---	---

Håller inte alls med Håller helt med

Elcykel är en funktionellt pålitlig produkt



Att äga en elcykel gör ett positivt intryck på andra i sin omgivning



En elcykel är ekonomisk



En elcykel skulle hjälpa mig bli mer accepterad



Appendix 2 Text answer

Appendix 2.1 1th to 4th text answer students

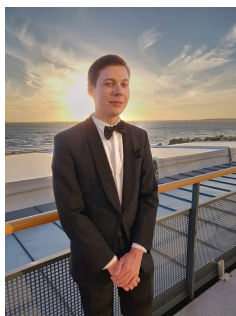
	1th text answer		2th text answer		3th text answer		4th text answer		% TOTAL
	#	%	#	%	#	%	#	%	
Environmentally conscious	39	33,33%	19	16,24%	11	9,40%	7	5,98%	16,24%
Lazy	18	15,38%	13	11,11%	7	5,98%	5	4,27%	9,19%
NO ANSWER	0	0,00%	0	0,00%	8	6,84%	30	25,64%	8,12%
Healthy, like to work out	6	5,13%	13	11,11%	5	4,27%	4	3,42%	5,98%
Rich, wealthy	8	6,84%	6	5,13%	5	4,27%	6	5,13%	5,34%
Comfortable	4	3,42%	4	3,42%	10	8,55%	3	2,56%	4,49%
Other negative	3	2,56%	5	4,27%	5	4,27%	4	3,42%	3,63%
Active	4	3,42%	5	4,27%	6	5,13%	2	1,71%	3,63%
Middle class / between middle and upper class	6	5,13%	2	1,71%	6	5,13%	2	1,71%	3,42%
Economical	1	0,85%	3	2,56%	5	4,27%	7	5,98%	3,42%
Unhealthy	2	1,71%	6	5,13%	1	0,85%	7	5,98%	3,42%
cheerful	5	4,27%	2	1,71%	6	5,13%	3	2,56%	3,42%
Intelligent	4	3,42%	1	0,85%	4	3,42%	5	4,27%	2,99%
Effective	2	1,71%	5	4,27%	1	0,85%	5	4,27%	2,78%
Other positive	0	0,00%	2	1,71%	7	5,98%	4	3,42%	2,78%
Outdoorsy	1	0,85%	0	0,00%	5	4,27%	6	5,13%	2,56%
motivated engaged purposeful	3	2,56%	3	2,56%	2	1,71%	3	2,56%	2,35%
early adopter	1	0,85%	1	0,85%	4	3,42%	2	1,71%	1,71%
Older/elderly	2	1,71%	3	2,56%	2	1,71%	1	0,85%	1,71%
Stressed / in a hurry	1	0,85%	4	3,42%	1	0,85%	2	1,71%	1,71%
Other can't categorize	0	0,00%	1	0,85%	4	3,42%	2	1,71%	1,71%
technical	1	0,85%	2	1,71%	2	1,71%	2	1,71%	1,50%
fast	1	0,85%	3	2,56%	2	1,71%	0	0,00%	1,28%
commuter	1	0,85%	4	3,42%	0	0,00%	1	0,85%	1,28%
Cool, relaxed	1	0,90%	2	1,71%	1	0,85%	1	0,85%	1,08%
live in the city	0	0,00%	1	0,85%	2	1,71%	1	0,85%	0,85%
Pensioner	2	1,71%	2	1,71%	0	0,00%	0	0,00%	0,85%
Middle aged	0	0,00%	1	0,85%	3	2,56%	0	0,00%	0,85%
Frequent biker	1	0,85%	1	0,85%	1	0,85%	0	0,00%	0,64%
someone who likes to go fast	0	0,00%	1	0,85%	1	0,85%	1	0,85%	0,64%
up-to-date	0	0,00%	2	1,71%	0	0,00%	1	0,85%	0,64%

Appendix 2.2 1th to 4th text answer cycling enthusiasts

	1th text answer		2th text answer		3th text answer		4th text answer		% TOTAL
	#	%	#	%	#	%	#	%	
Unhealthy	8	12,50%	4	6,25%	7	10,94%	10	15,63%	11,33%
Lazy	8	12,50%	8	12,50%	6	9,38%	6	9,38%	10,94%
Environmentally conscious	10	15,63%	8	12,50%	6	9,38%	2	3,13%	10,16%
Comfortable	5	7,81%	3	4,69%	3	4,69%	5	7,81%	6,25%
Other negative	4	6,25%	2	3,13%	6	9,38%	3	4,69%	5,86%
Economical	2	3,13%	2	3,13%	3	4,69%	4	6,25%	4,30%
commuter	5	7,81%	1	1,56%	0	0,00%	2	3,13%	3,13%
Effective	0	0,00%	3	4,69%	3	4,69%	2	3,13%	3,13%
motivated engaged purposeful	1	1,56%	1	1,56%	4	6,25%	2	3,13%	3,13%
Older/elderly	3	4,69%	0	0,00%	4	6,25%	0	0,00%	2,73%
Other can't categorize	0	0,00%	4	6,25%	2	3,13%	1	1,56%	2,73%
Active	5	7,81%	1	1,56%	0	0,00%	0	0,00%	2,34%
Danger in traffic	1	1,56%	0	0,00%	2	3,13%	3	4,69%	2,34%
Healthy, like to work out	0	0,00%	4	6,25%	1	1,56%	1	1,56%	2,34%
Tired of traffic / public transport	1	1,56%	1	1,56%	2	3,13%	2	3,13%	2,34%
cheerful	0	0,00%	1	1,56%	0	0,00%	4	6,25%	1,95%
Frequent biker	2	3,13%	1	1,56%	1	1,56%	1	1,56%	1,95%
Intelligent	3	4,69%	0	0,00%	1	1,56%	1	1,56%	1,95%
Stressed / in a hurry	0	0,00%	3	4,69%	1	1,56%	1	1,56%	1,95%
Woman	0	0,00%	3	4,69%	0	0,00%	2	3,13%	1,95%
No Answer	0	0,00%	0	0,00%	0	0,00%	3	4,69%	1,71%
Not interested in bikes	1	1,56%	2	3,13%	1	1,56%	3	4,69%	1,71%
Falsely believe they care for the environment	1	1,56%	0	0,00%	1	1,56%	2	3,13%	1,56%
Have kids	1	1,56%	2	3,13%	1	1,56%	0	0,00%	1,56%
up-to-date	0	0,00%	1	1,56%	1	1,56%	2	3,13%	1,56%
early adopter	0	0,00%	0	0,00%	2	3,13%	1	1,56%	1,17%
live in the city	0	0,00%	2	3,13%	1	1,56%	0	0,00%	1,17%
Middle aged	1	1,56%	0	0,00%	2	3,13%	0	0,00%	1,17%
Middle class / between middle and upper class	0	0,00%	3	4,69%	0	0,00%	0	0,00%	1,17%
Other positive	1	1,56%	1	1,56%	0	0,00%	1	1,56%	1,17%
Rich, wealthy	1	1,56%	1	1,56%	1	1,56%	0	0,00%	1,17%
Outdoorsy	0	0,00%	1	1,56%	1	1,56%	0	0,00%	0,78%
technical	0	0,00%	1	1,56%	1	1,56%	0	0,00%	0,78%



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