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INVESTIGATING THE FACTORS AFFECTING CONSUMERS' PURCHASE
INTENTION FOR ELECTRIC VEHICLES (EVS): A SURVERY RESEARCH OF
TESLA AND OTHER NON-EVS

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To: Dean William Hardin
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This dissertation, written by Yingbo Cao, and entitled, Investigating the Factors Affecting Consumers' Purchase Intention for Electric Vehicles (EVs): A Survey Research of Tesla and Other Non-EVs, having been approved in respect to style and intellectual content, is referred to you for judgment.

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Florida International University, 2023

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DEDICATION

I dedicate this dissertation to my wife, Jingjing, and my children Yulia and Anya. I couldn't have completed this DBA journey without their relentless support, encouragement, and their true unconditional love. I would also like to thank my parents Caiyun and Weigang who have been my source of inspiration, guidance and blessings.

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ABSTRACT OF THE DISSERTATION

INVESTIGATING THE FACTORS AFFECTING CONSUMERS' PURCHASE INTENTION FOR ELECTRIC VEHICLES (EVs): A SURVEY RESEARCH OF TESLA AND OTHER NON-EVS

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Greenhouse gas emissions have become an important global issue due to their associated ecological problems. An increase in vehicle ownership, especially fossil fuel-powered automobiles, has worsened the challenge of global warming and other environmental issues, including energy crises, pollution, and general human wellbeing. Thus, EV adoption is an important opportunity for GHGs reduction. However, there is limited research on the factors which affect the consumers' purchase intentions toward EVs versus non-EV cars. The study's rationale is to understand whether brand coolness, brand loyalty, and willingness to pay (WTP) impact consumers' purchase intention of Tesla EVs versus non-EV cars and how individuals' brand identity elements of brand coolness impact their purchase intentions. Marketing research studies hold that various factors influence consumers' attitudinal and behavioral brand responses. Prior studies have conceptualized and evaluated brand coolness impacts on consumers' responses to various brands. However, limited studies have contextualized the brand coolness construct, focusing on brand realism for luxury brands. The study adopts brand coolness,

a new theory developed from self-presentation theory. Self-presentation theory reflects on individual behaviors directed toward producing a certain impression of themselves in the minds of others. The study will adopt quantitative methodology. The samples were drawn from a population of individuals with automobile awareness, including electric cars and electric battery technologies and non-EV car owners. The research adopted an online survey instrument based on the measures and constructs, including purchase intention, willingness to pay (WTP), brand coolness, and brand loyalty. To determine the effects of the factors on purchase intention, the study controlled for other potential factors affecting the consumers' purchase intentions, such as age, income level, and educational level. The target response frame were individuals who currently own a Tesla electronic vehicle or planned to purchase one in the future or those who own non-EVs. Data analysis was undertaken using partial least square structural equation modeling techniques (PLS-SEM) and SPSS v.26. The main finding of the study is that brand coolness is a significant factor affecting EV consumers' purchase intention, WTP premium, and brand loyalty. The study would have various implications, key among them, marketing management, including offering deep insights into how marketing managers could improve the performance of their brands. Further, the study can help the managers understand why their brand scores low on certain measures and work on reinforcing the image missing from their characteristics.

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Investigating the Factors Affecting Consumers' Purchase Intention for Electric Vehicles (EVs)

CHAPTER I. RESEARCH QUESTION AND BACKGROUND

Background

Greenhouse gas emissions have become an important global issue due to their associated ecological problems. These include depletion of the ozone layer, pollution, and global warming (Shah, 2015). An increase in vehicle ownership, especially fossil fuel-powered automobiles, has worsened the challenge of global warming and other environmental issues, including energy crises, pollution, and general human wellbeing. For instance, research shows that the overall GHGs emissions from automobiles in the United States rose by 10% between 2005 and 2019, driven in part by increased car ownership and long miles driven by Americans (Freemark & Jenkins, 2022). Bhutto, Shaikh, and Sharma (2021) noted that car ownership could be attributed to rises in economic indicators, such as income levels, lower automobile costs, and others. Electronic vehicles (EVs) have been indicated as a potential solution to the greenhouse gas emissions problem. Bhutto et al. (2020) indicated that by replacing fossil fuel-powered cars with EVs, the world could effectively reduce carbon-dioxide emissions to the environment. Tonachel (2015) noted that electrification can reduce the annual GHGs emission in 2050 by approximately 1030 million metric tons, thus a reduction of approximately 45% compared to the base level of 2015. Similarly, with wider adoption of EVs and other low GHG-emission technologies, the reduction in GHG could be up to 77% (Tonachel, 2022). Considering cars alone, a wide adoption of plug-in EVs could

lead to a reduction of carbon pollution by 550m metric tons, or equivalent to the emissions of approximately 100 million passenger cars. Compared to the conventional fossil-powered cars, plug-in EVs would lead to a reduction in the lifetime carbon emissions by 54% (Tonachel, 2015). The figure would be higher by 2050, approximately 71% compared to conventional cars in real-world driving conditions (Tonachel, 2022).

Asamer et al. (2016) added that adopting innovative technologies, such as electronic batteries, could be an effective strategy to minimize the pollution from greenhouse gases. Greenhouse gases (GHGs) emitted from automobiles presently account for 21 percent of total global emissions from the transport sector (International Energy Association, 2018). Jain and Kaur (2004) and Tu and Yang (2019) added that the growth in countries' gross domestic products (GDP) has been linked to a rise in per capita income and consequently an increase in automobiles ownership. Increased ownership is linked to higher emissions, particularly of carbon dioxide (CO₂). CO₂ emissions are linked to the emergence of various ecological conditions, such as natural resources depletion, air pollution, depletion of the ozone layer, climate change and global warming, and energy crises (Shah, 2015), which ultimately lead to impacts on the wellbeing of citizens around the world.

The increase in GHG emissions is also due to increased energy consumption and transportation due to an ever-increasing population. Bhutto et al. (2021) noted that between 1990 and 2012, the amount of GHGs increased by 41 percent. Therefore, increasing emissions at the rate experienced between those years would lead to significant climate change challenges, with warming a major concern. Bhutto et al. (2021) noted that despite the United States having just 4.5 percent of the world's

population, the country uses 19.2 percent of the world's energy. Further, Bhutto et al. (2021) noted that the United States transportation sector accounts for 28 percent of the total GHGs emissions in the country. Thus, EV adoption is an important opportunity for GHG reduction. Paul, Modi, and Patel (2016) noted that the number of EVs on the road would increase to millions from the 740,000 recorded in 2015. However, there is limited research on the factors that affect the consumers' purchase intentions toward EVs versus non-EV cars. This study's rationale is to understand whether brand coolness, brand loyalty, and willingness to pay (WTP) impact consumers' purchase intention of Tesla EVs versus non-EV cars and how individuals' brand identity elements of brand coolness impact their purchase intentions.

The research objectives include:

- To examine the impacts of brand coolness on brand loyalty for EVs and non-EV cars.
- To investigate the effects of brand loyalty on the consumer's purchase intention of EVs versus non-EVs.
- To examine the impacts of brand coolness on purchase intention for EVs.
- To investigate the impacts of willingness to pay a premium (WTP) on consumers' purchase intention.

Research Question

The main research question of the study was: What factors affect consumers' purchase intention for Electric Vehicles (EVs)?

Why this Research is important?

The findings of this study would have significant relevance to academia and marketing management and the discipline of marketing. The study will add to the existing knowledge, especially confirming studies by Warren et al. (2019) regarding brand coolness. Since Warren et al. (2019) did not validate the model involving purchase decisions, such as purchasing cars, this will confirm or disprove the model's strength using EVs and non-EVs.

The study will also have implications for marketing management, including offering deep insights into how marketing managers could improve their brand's performance. The study will allow managers, especially of EV companies, to understand the main factors that make their brands cool. Therefore, they will use the coolness components to understand the brand's weaknesses and competitive advantages. Moreover, marketing professionals can develop, evaluate, and pre-test various communication and marketing programs before their launch by understanding brand coolness and its various components. Such marketing programs and communication should maintain or increase the brand's coolness.

Further, the study can help managers understand why their brand scores low on certain measures and work on reinforcing the image missing from their characteristics. For instance, a brand missing aesthetic appeal could focus on developing better designs to give the customers favorable views about their products.

CHAPTER II. LITERATURE REVIEW

Existing brand coolness research is mostly at a developmental stage; thus, most studies have adopted qualitative designs in exploring various issues related to brand-related conceptualization and outcomes. A major gap in the qualitative design to explore brand coolness is that such studies do not help establish the causality between the variables studied (Tiwari, Chakraborty, & Maity, 2021). Additionally, various qualitative-designed studies use smaller samples thereby creating threats to results' generalizability and desirability biases. The existing literature has recognized that, based on the single construct of brand coolness (Dar-Nimrod et al., 2012), various studies have used diverse components of coolness (Bruun, Raptis, Kjedskov, & Skov, 2017; Warren & Campbell, 2014), thus limiting the understanding of brand coolness. There is a general scarcity of empirical studies on the non-logical elements of brand coolness (Tiwari et al., 2021), even though researchers have made attempts to define and conceptually develop its elements. Such limitations thus call for the use of quantitative studies to investigate the concept of brand coolness.

In the recent years, coolness has been studied by academics and scholars from various study areas, including sociology and psychology, with a focus on the traits or characteristics of things and people considered cool (Dar-Nimrod, Ganesan, & MacCann, 2018; Warren, Batra, Loureiro, & Bagozzi, 2019); marketing (Loureiro, Jimenez-Barreto, & Romero, 2020); and anthropology (Dar-Nimrod et al., 2012). The term “cool” gained popularity in the 60s following African American counter culture, but its use has been linked to various connotations. First, Belk, Tian, and Paavola (2010) stated that coolness is a consumer’s attribute or generally an abstract idea. Secondly, coolness has also been

conceived as the product of individual assessment of what is considered cool. Thus, consumers with different interests and backgrounds would differ about what they consider cool or which brands have the coolness attribute. Jimenez-Barreto et al. (2022) added that another important feature of coolness is that what is considered cool changes with time, thus the term is rapidly changing and dynamic. A product may be cool today but lose its coolness the next day or after a few years. Another important conceptualization of coolness is that it helps in achieving opposing ideas and reflecting a product's positive attributes, thus making it a desirable characteristic that shows their social asocial standing within the cool communities (Jimenez-Barreto et al., 2022).

Previous studies have adopted varying dimensions of brand coolness; for instance, Tiwari et al.'s (2021) study used five dimensions of brand coolness—high status, usability, personal cool, originality, and reliability—for various technical products. The study used the attributes to consider the impacts of the five constructs of brand coolness on the consumers' behavioral and attitudinal responses.

Marketing research studies hold that various factors influence consumers' attitudinal and behavioral brand responses (Dar Nimrod et al., 2012; Jimenez-Barreto et al., 2022). Luxury brand consumers have often been described as “seekers of products that offer a signaling value to present to others but also a value for their self-concepts in an existentialist spirit potentially linked to being ‘cool or not’” (Loureiro et al., 2020, p. 102211). Coolness is a dynamic, subjective, positive, and socially constructed trait linked to cultural objects, usually autonomous (Warren et al., 2019).

Prior studies have conceptualized and evaluated brand coolness's impacts on consumers' responses to various brands. However, limited studies have contextualized

the brand coolness construct, focusing on brand realism for luxury brands (Loureiro et al., 2020). Theoretically, brand coolness occurs through four significant antecedents of the social, functional, financial, and individuals' luxury values, thus leading to intentional outcomes, such as the increased desire or passion for using the products (Loureiro et al., 2020). Therefore, luxury values have a significant positive influence on brand coolness. In turn, brand coolness has a significant positive influence on purchase intentions (Loureiro et al., 2020). Researchers have found a relationship between brand coolness and purchase intention through individual's values and identity alignment with the cool brands (Dar-Nimrod et al., 2012; Ball and Tasaki, 1992), brand awareness (Anselmsson, Vestman Bondesson, & Johansson, 2014), perceived product or service quality (Netemeyer et al., 2014), and brand equity (Biel, 1992). Empirical research supports the impact of brand identity on customers' responses to certain goods (Lassar, Mittal, & Sharma, 1995).

Studies have noted that cool brands offer unique associations that reinforce consumers' brand associations with the products, services, or brands (Jimenez-Barreto et al., 2022). Other scholars have argued a positive relationship between brand coolness and purchase intention (Khan, Razavi Rahmani, Hoe, & Chen, 2014). The argument is that brand coolness could potentially enhance brand loyalty as consumers would have a greater association and identification with the brand. The resulting brand loyalty leads to greater purchase intention (Khan et al., 2014). However, empirical studies have not confirmed the relationship. Therefore, the current study will focus on filling such gaps in the literature.

Aselmsson et al. (2014) noted that customers might have a greater willingness to pay a premium for certain brands and for not others. Sohn and Kim (2020) argued that a willingness to pay (WTP) premium is a brand equity predictor; thus, brand perceptions, shopping experience, risks associated with the purchase, and other factors influence purchase intention (Sohn & Kim, 2020; Khan, Razavi Rahmani, Hoe, & Chen, 2014). Anselmsson, Vestman, Bondesson, and Johansson (2014) held that brand awareness influences customers' responses and perception of the brand in a more positive light. The proposition is that consumers' WTP for certain brands is higher due to positive perceptions and responses, potentially explaining the relationship between WTP and purchase intention.

Due to such relationships' theoretical nature, there is a gap in the literature regarding the factors affecting purchase intention and any potential antecedents to such relationships. Therefore, the current research will seek to fill the gap by empirically testing the relationship between the identified variables. The current study will control for various factors which could impact the strength and direction of the relationship between the variables. Some studies have explored the role of gender on purchase intention. For instance, Barbarossa et al. (2015) undertook a three-country comparison of the effects of gender on attitudes and purchase intention. The study found a significant difference between males and females regarding their attitudes towards EVs and purchase intention.

Similarly, a study in China found that males reported positive attitudes towards EVs and purchase intention than females (Huang & Ge, 2019). Therefore, this study will control for the effect of gender in exploring the relationship. There are no studies investigating the impacts of gender on brand coolness, willingness to pay a premium, and

brand loyalty on purchase intention. Similarly, other studies, such as Slaba (2019), found other potential confounding factors affect consumers' purchase intentions, including age, income level, and education level (Slaba, 2019). Contrarily, Leila and Zohra (2018) found that demographic characteristics have a non-significant influence on consumers' purchase intention. Due to the divergence in the impacts of demographic characteristics, this study will control for various demographic variables to enhance the study's internal validity as it limits the influence of extraneous and confounding variables (Hair et al., 2016).

Explanatory Theory: Self-Presentation Theory

The study adopts brand coolness, a new theory developed from self-presentation theory. Self-presentation theory "reflects on individual behaviors directed toward producing a certain impression of themselves in the minds of others" (Jimenez-Barreto et al., 2022, p. 3). Therefore, scholars hold that self-presentation behaviors highly depend on various social motivations, such as supplication, exemplification, self-promotion, integration, and intimation (Jimenez-Barreto et al., 2022). Jones (1990, as cited in Jimenez-Barreto et al., 2022) noted that other social circles could recognize a person as having a particular identity, trait, or attitude through the social situation's symbolic performance representation. Self-presentation holds that consumers' behaviors are mechanisms for transmitting information about the self to other people "with the goal of pleasing others and constructing one's social image in line with one's ideal identity" (Jimenez-Barreto et al., 2022). Drawing on self-preservation theory, Jimenez-Barreto et al. (2022) proposed that brand coolness plays a critical role in how individuals

manipulate embodied service experiences and signs in social actions to construct their cool identity.

Self-presentation theory holds that how other consumers of a product act is a contextual stimulus which then affects the behavior and satisfaction of other consumers (Otterbring, 2021). The presence of other consumers within a consumer's experience has been studied in marketing literature to explore how such social presence primes or conditions the behavior of another consumer in the physical situation. The theoretical approaches focusing on the other's social presence in the market or marketing have mostly adopted the self-presentation of the consumer.

Scholars from different fields have examined and investigated self-presentation attitudes and behavior from various self-presentation theory lenses, with such studies mostly undertaken in the fields of sociology and psychology (William & Bendelow, 1998, cited in Jimenez-Barreto et al., 2022): "The self-presentation theory reflects on individual behavior directed toward producing a certain impression of themselves in the minds of others" (Jimenez-Barreto et al., 2022, p. 3). Therefore, the self-presentation behavior exhibited by an individual is highly dependent on their social motivations, including supplication, intimidation, integration, exemplification, and self-promotion (Jones & Pittman, 1982, as cited in Jimenez-Barreto et al., 2022). Therefore, how a person self-presents impacts how others recognize that they have certain identity, trait/characteristic, and attitude via their symbolic performance within a social context.

Sundar et al. (2017) noted that self-presentation theory considers consumers behaviors in their service and product experience as a means of sharing information about themselves with others, with the main goal being to construct their identity and social

image, while also pleasing the others. The self-presentation theory's socio-analytic component argues that consumers constantly present themselves to others through the use, purchase, and consumption of certain services and products in front of other people, who in such social contexts would be able to appropriately decode the symbolic brand meanings from such consumption (Slama & Wolfe, 1999. cited in Jimenez-Barreto et al., 2022). Therefore, if a company positions its product as something cool, consumers can find shared experiences and identity with other people who consume the brand and effectively use the consumption of the perceived cool brand to point to their coolness and gain recognition from other people who consume the product and are thus "considered cool."

Given the above theoretical conceptualization of coolness, it can be inferred that service experiences act as physical scenarios that allow consumers to express their loyalty and motivation towards a brand to other consumers; in turn, the other consumers would recognize the consumer as having a similar identity which is akin to the position of the brand. For instance, if a certain brand (say Brand Y) is positioned as sophisticated, the consumer's living experiences within the physical space of using or purchasing the product could drive sophisticated buyers to interact with each other and enhance their consumption of Brand Y. As Belk (1986) noted the, consumers of Brand Y would recognize other consumers of the brand as having sophistication, thus underlining their identity via Brand Y as a symbol of sophistication. Therefore, it is important for brands to have a keen recognition of how its users feel they have recognition of being cool premised on the physical brand encounters. Such an approach would help brands develop maximal efforts on their symbolic and social value and aid in driving brand loyalty.

As noted by Hawkins (2020), cool brands help reinforce the motivation to and interest in being members of the cool and meaningful community, consequently improving the communal connection between consumers and that brand. Communal brand connection entails the communal spaces and social relations associated with the brand which offer a context or environment supporting the consumers in forming their self-identity and gaining recognition from other consumers in the environment (Rindfleisch et al., 2009). Therefore, communal brand connection develops through recognizable and multiple traditions and rituals' processing. Such processing depicts the person's interests and preferences towards the brand when in the company of other consumers. As Keller (2003) noted, consumers of the brand would develop a communal identification sense and feeling.

Various scholarly studies have considered the interpretation of brand coolness from the self-presentation theoretical perspective. For instance, Koskie and Locander (2023) undertook an empirical interpreting the connection between brand coolness and willingness to pay premium (more) from the self-presentation theoretical perspective. The main aim of the study was to explore consumer's motivation to fit in and stand out through their consumption and how it affects their perceptions of brand coolness. The study focused on how brand coolness impacted their emotional brand attachment formations and the WTP premium. However, the study only considered two facets of brand coolness, that is, popular and subcultural. The study found that subcultural element of brand coolness positively impacted the consumers' WTP premium, since the ability to influence a consumer is premised to their desire to consume unique products.

There are few empirical studies that have considered the undertaken an investigation of the interpretation of brand coolness from the self-presentation perspective. Most studies have been theoretical in nature, thus reaching conclusions from inferences of the perceived relationship rather than empirical tests. For instance, Sundar et al. (2017) noted that brand coolness is conceptualized under the self-presentation from the perspective of the consumers' behavior in the experience of the brands. Thus, self-presentation theory hold that consumers use brand coolness as a means of constructing their social image, pleasing others, and transmitting information about themselves. Other scholars, such as Slama and Wolfe (1999) have considered the issue from a socio-analytic perspective of self-presentation by indicating that consumers adopt and use cool brands when other people are likely to see them, or based on the context, with such audiences of the consumption having the ability to decode the cool brands' symbolic meanings. The view is that brand coolness helps in creating shared experiences, thus consumers will strive to find such shared experiences with other people whom they consider to be cool.

As self-presentation theory "reflects on individual behaviors directed toward producing a certain impression of themselves in the minds of others", theoretical research shows that through self-presentation theory cool brands reinforce motivation to be a part of and generate communal interests in the brand, thus enhancing the communication between the cool brand and the consumers (Hawkins, 2020). Such communal connections entail the communal spaces and social relations linked to the brand coolness, thus providing an ample environment where the consumers form and enhance their self-identity in the presence of other consumers. The view is that the consumers will engage in multiple recognizable traditions and rituals processing, thus signaling their individual

interests and preferences for the cool brands in front their fellow consumers. Therefore, Keller (2003) indicated that through self-presentation theory brand coolness creates a communal identification feelings and sense with other cool brand users. Prior studies, such as Muniz and Schau (2005) added that self-presentation theory is the path through which brand coolness supports the consumers manipulation of service experiences and signs in their social relations or actions with other consumers. Thus, self-presentation theory is important for the construction of brand coolness which is premised on creating identities. The theoretical link between self-presentation theory and brand coolness is premised on communal identification, thus social, experiential, intangible and subjective experiences of coolness, help in generating perceived brand coolness of a product or service, effectively facilitating consumer engagement with the cool brand through connection and communality.

Building on the conceptualization of the theory of self-presentation by William and Bendelow (1998 as cited in Jimenez-Barreto et al., 2022), the current study proposes that brand coolness plays a critical role in the consumer's manipulation of the brand experiences and signs in their social interactions, particularly in the presence of other brand consumers, to develop their cool individual identities. Previous research has shown that there is a causal relationship between emotionally engaging and iconic brands on the development of communal brand identity (Muniz & Schau, 2005). Other studies have also shown a connection between brand coolness and communal brand connection as brand elements, including emotionally exciting and iconic brand attributes, are identified as being components of brand coolness (Tiwari et al., 2021).

Researchers hold that brand coolness could significantly influence various factors, including purchase intention, brand loyalty, and willingness to pay premium. The current study argues that cool brands can provide the consumers with communication identification feelings and sense. More specifically, the current study holds that social, intangible, experiential, and subjective scenarios inherent in a given brand can play a role in generating coolness perceptions, thus aiding consumers' brand engagement via communal connection to the brand.

Hypotheses Development

Researchers have argued that brand coolness could influence the consumers' behavioral and attitudinal responses (Jimenez-Barreto et al., 2022). However, Jimenez-Barreto et al. (2022) noted a limited understanding regarding the mechanism through which brand coolness could have such impacts on consumers, especially for service brand coolness. However, based on self-presentation theory, consumers often share and engage in communal values as social actors with individuals who have similar cool identities. Multiple brand coolness identities currently exist. The most common attributes of brand coolness include popular, iconic, high status, rebellious, subcultural, exciting, authentic, original, extraordinary, and aesthetically appealing (Jimenez-Barreto et al., 2022).

Dar-Nimrod et al. (2012) noted that brand coolness is premised on subjective criteria based on the consumers' brand perceptions. Therefore, developing positive perceptions due to the perceived brand coolness and individual's identity match with the brand would enhance the willingness to pay premium and purchase intention. Earlier research adopting concepts such as brand equity has noted that various brand images,

such as seeing brands as cool, would significantly impact willingness to pay a premium. Therefore, awareness of the customers about the brand's coolness would positively influence the positive response to such a brand. Anselmsson, Vestman Bondesson, and Johansson (2014) noted that brand awareness influences customers' responses and perception of the brand in a more positive light. Brand coolness also entails perceived greater value. For instance, the customers would perceive that the product is of higher quality, thus enhancing their willingness to pay a premium. Netemeyer et al. (2004) empirically confirmed the relationship between perceived products or service quality and willingness to pay a premium (Anselmsson, Vestman Bondesson, & Johansson, 2014).

Many scholars and general branding and marketing literature argue that social image, symbolic meaning, and social role are linked to brands (Biel, 1992). Thus, they hold that brands have specific symbolic meanings that the users associate with them [the brand or company], attracting consumers to purchase such brands. For instance, literature on brand equity has noted that specific user images, particularly perceptions about a particular brand's typical user or buyer, are an essential predictor of brand loyalty. The view is that the brand provides potential and current customers an avenue to show themselves and project their ideal selves and identity to others (Ball & Tasaki, 1992). The above view is supported by empirical research studies, which suggest that social image influences and is relevant to the customers' responses to certain goods (Lassar, Mittal, & Sharma, 1995). Anselmsson et al. (2014) added that social image and the customer's created self-identity are essential drivers of willingness to pay a premium for the brand. Given that brand awareness positively influences consumers' perception and response to a brand, this study developed the hypothesis below:

H1: Brand coolness has a positive impact on consumers' purchase intention.

The brand identified as cool due to distinctive and unique brand associations could gain a competitive advantage which further reinforces the brand's relationships with the consumers through loyalty behavior (Jimenez-Barreto et al., 2022). Therefore, in line with previous studies, cool brands must provide subjectively superior value to the customers than other options (Tiwari, Chakraborty, & Maity, 2021). Therefore, brand coolness could potentially enhance brand loyalty as consumers would have a greater association and identification with the brand. Therefore, this study hypothesizes that:

H2: Service brand coolness is a positive predictor of EV consumers' brand loyalty.

Brand loyalty refers to the consumer's attitude towards a certain brand, especially the consumer's brand preferences. Brand loyalty thus enhances the consumer's confidence in the brand, leading to faster purchase decisions (Khan, Razavi Rahmani, Hoe, & Chen, 2014). Brand loyalty also leads to the customer's commitment to the brand leading to less switching to other brands. When the consumers do not switch from the brand due to brand loyalty, there would be greater purchase intention and a willingness to pay a premium for the products (Khan, Razavi Rahmani, Hoe, & Chen, 2014). We thus hypothesize that:

H3: Brand loyalty has a positive and significant effect on consumers' purchase intention.

As indicated in H2, for instance, Tiwari et al. (2021) suggested that cool brands have a subjective higher quality and perceived value due to their unique and distinct brand associations. Such, associations according to Jimenez-Barreto et al. (2022) are a

major source of competitive advantage. Since firms compete on various positions, such as quality, cost, and differentiation, cool brands support higher brand loyalty. Additionally, drawing on the hypothesized relationship between brand coolness and purchase intention, this study hypothesizes that brand loyalty mediates the brand coolness-purchase intention relationship. Consumers' attitudes towards a brand are critical in developing their brand loyalty (Khan et al., 2014). Khan et al. (2014) posited that brand loyalty would enhance consumer's perception and confidence in the brand, lower their perceived risks, and reduced customer turnover. Perceived lower brand loyalty would lead to customer hemorrhage, lost business, and no return customers. Therefore, the customers would not be willing to purchase the products. On the other hand, brand loyalty, leads to greater customer retention and enhanced willingness to purchase the products. Theoretically, the relationship is that brand loyalty leads to greater purchase intention as the consumers do not switch or plan to switch from the given brand.

H4: The relationship between brand coolness and purchase intention is partially mediated by brand loyalty.

Additionally, since brand coolness is premised on subjective criteria based on the consumers' brand perceptions, consumers would develop positive perceptions in response to cool brands (Dar-Nimrod et al., 2012). The brand coolness related to positive customer responses would enhance the WTP. Extant brand equity research studies have found that brand images, such as seeing brands as cool, would significantly impact WTP. The suggestion is that consumers' awareness of the cool brand could positively influence their responses to the brand. Such positive influences and reactions to the brand, as a result of the coolness, would influence the product's perceived value. Anselmsson et al. (2014)

argue that brand coolness entails perceived greater value. For instance, the customers perceive that the product they consider cool has a higher value and is of greater quality. Such perceptions of value and quality enhance the consumers' WTP premium. Empirical studies have explored the relationship between perceived brand quality and WTP (Netemeyer et al., 2004) and found a positive relationship. However, the study did not consider the concept of brand coolness. Thus, a gap exists.

Extending the research to explore how brand coolness affects willingness to pay (WTP) premium for a product. Research studies focusing on brand equity show that consumers' perceptions of the given brand's image are an important predictor of brand loyalty (Ball & Tasaki, 1992; Lassar et al., 1995). The suggestion is that for brands that consumers perceive as being cool, they would be more willing to use or purchase the product to enhance their social status or image. Alternatively, the higher WTP premium could be due to the product's design or aesthetics. Thus, research shows the existing relationship between consumer behavior and brand image (including perceived brand coolness). Therefore, the current study explores whether building robust brand relationships can enhance the WTP and, by extension, sales. The rationale is that the brand provides potential and current customers with an avenue to express their ideal selves and specific aspects of their identity (Ball & Tasaki, 1992). Empirical research studies, such as Lassar et al. (1995), suggest that projected brand image is influential and relevant to the customers' responses to certain brands. Similarly, working from the hypothesis that brand image leads to a positive impact on the brand by creating a competitive advantage and positively impacting consumer attitudes, and thus impacting the consumer's willingness to pay more or premium for a given brand. Based on the

postulation, Pourazad et al. (2020) undertook an empirical study exploring the effects of brand loyalty on consumer's wiliness to pay (WTP) premium and found a positive and significant impact. Given the relationship between brand quality, awareness, and brand value, which are products of perceived coolness of the brand and WTP premium, we developed the hypothesis below:

H5: Brand coolness significantly impacts consumers' willingness to pay (WTP) premium.

Since brand coolness is subjective and based on the consumers' perceptions regarding a brand (Dar-Nimrod et al., 2012), once a consumer developed positive brand perceptions due to the perceived brand coolness, then a perceived match between the consumers' perceived brand coolness and the consumers' identity enhances WTP premium. Research indicates that consumer brand images and perceptions, for instance, perceiving a given brand as cool, could have a significant positive impact on the consumers' respond to such brand. Therefore, perceived brand coolness would significantly impact the consumer's inclination to pay premium for the brand due to the brand awareness (Dar-Nimrod et al., 2012). Based on the theoretical view, a consumer who considers Brand A to be cooler than say Brand B, would be willing to pay (WTP) premium for Brand A rather than Brand B. Brand awareness, including consumers' consciousness of the brand's coolness, determines whether customers are willing to pay premium for a given brand or not. Additionally, Anselmsson et al. (2014) supported the theoretical relationship between brand coolness and WTP premium, by suggesting that brand awareness influences customers' responses and perception of the brand in a more positive light. An earlier study by Netemeyer et al. (2004) stated that the cool brands

become cool due to their perceived value. The higher perceived value of the cool brands enhances consumers' perceptions about their quality; thus, the consumers would have a greater willingness to pay premium. Extending on the perceived relationship between a product's quality and WTP, Anselmsson et al. (2014) empirically confirmed the positive and statistically significant relationship between perceived service, or product quality, and consumers' willingness to pay premium for the product or service.

Earlier marketing and general branding literature alluded to elements of brand coolness; for instance, Biel (1992) explored the concept of symbolic meaning or social image in branding. Additionally, Ball and Tasaki (1992) in their research on brand equity stated that specific and individualized user images based on the perceptions of certain brands predicts brand loyalty. Drawing from the relationship between perceived brand image and brand loyalty supports greater WTP premium. Empirical studies, for instance Lassar et al. (1995) and Anselmsson et al. (2014), stated that perceived brand's social image predicts consumers' responses to the brand, with Anselmsson et al. (2014) adding that a created identity based on the social image drives WTP premium. Therefore, the study holds that brand coolness predicts WTP.

Given the hypothesized relationship between brand coolness and WTP, the literature explored whether WTP impacts purchase intention, thus supporting the hypothesized mediating role of WTP in the relationship between brand coolness and purchase intention. Research on WTP, for instance Anselmsson et al. (2014), found that WTP premium positively and significantly predicts brand equity. Since shopping experiences, product perceptions, purchase-associated risks, and perceived product quality shape the brand's equity and by extension WTP, Sohn and Kim (2020) posited

that WTP enhances purchase intention. Theoretically, Khan et al. (2014) argued that WTP enhances consumers' brand commitment, lowering brand switching, and could potentially enhance purchase intention. Given the theoretical relationship between brand coolness and WTP premium, and the subsequent relationship between WTP premium and purchase intention, we hypothesized that:

H6: The relationship between brand coolness and purchase intention is partially mediated by willingness to pay (WTP) premium.

A willingness to pay (WTP) refers to the price that a customer is ready and prepared to pay for one brand more than they would be keen to pay for other brands (Anselmsson, Vestman Bondesson, & Johansson, 2014). For instance, a customer may be ready to pay more for a brand of one car than they would be willing to pay for a different car brand. Research indicates that WTP is an important predictor and indicator of a firm's brand equity. Product perceptions, shopping experience, risks associated with the purchase, and other factors influence willingness to pay (WTP), thus could positively influence purchase intention (Sohn & Kim, 2020). WTP theoretically leads to the customers' commitment to the brand leading to lower switching other brands, thus enhancing their purchase intention (Khan, Razavi Rahmani, Hoe, & Chen, 2014). Anselmsson, Vestman, Bondesson, & Johansson (2014) held that brand awareness influences customers' responses and brand perception in a more positive light. Thus, consumers would be more willing to pay a premium for a certain brand. The positive perceptions and responses could potentially explain the relationship between WTP and purchase intention, and we hypothesized:

H7: WTP positively impacts consumers' purchase intention towards specific brands.

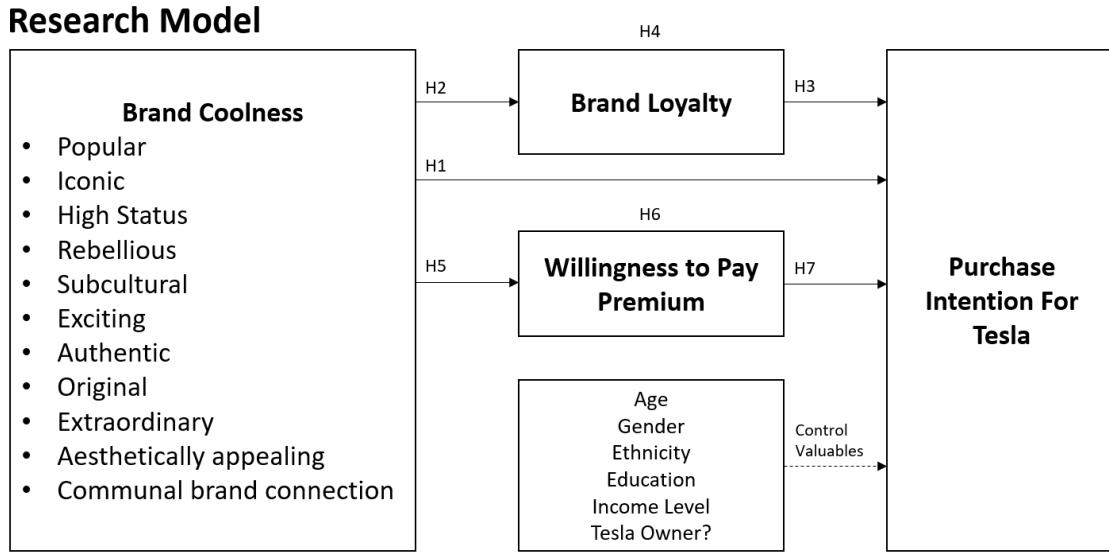
Studies have explored the role of gender on purchase intention. For instance, Barbarossa et al. (2015) undertook a three-country comparison of the effects of gender on attitudes and purchase intention. The study found a significant difference between males and females regarding their attitudes towards EVs and purchase intention. Similarly, a study in China found that males reported more positive attitudes towards EVs and purchase intention than females (Huang & Ge, 2019). However, there is a gap in the literature as no studies have explored the impacts of gender on brand coolness and willingness to pay a premium for EVs. Other potential factors which may affect the consumers' purchase intentions include age, income level, and education level (Slaba, 2019).

On the other hand, Leila and Zohra (2018) found that demographic characteristics have a non-significant influence on consumers' purchase intention. Due to the study's difference in findings, this study controlled various demographic variables, including age, gender, education, and income levels. Using the control variables enhances the study's internal validity as it limits the influence of extraneous and confounding variables (Hair et al., 2016). Therefore, by controlling for age, income, education, and gender, the study would establish the causal relationship or correlations between the predictors and outcome variables.

Research Model

Figure 1 below shows the research model for this study, which captures the variables applied and how they relate based on the existing literature.

Figure 1: Research Model



Source: Author generated from literature reviews

Brand coolness entails 11 major characteristics identified in various studies, including high status, rebelliousness, and authenticity, subcultural, aesthetically appealing, popular, energetic, useful, extraordinary, original, and iconic.

The model predicts a positive relationship between brand coolness and the other constructs. Brand coolness, brand loyalty, and willingness to pay (WTP) are the independent variables in the research model. The variables predict the outcomes in the study, which is purchase intention. The dependent variables in the model are consumers' purchase intention and brand loyalty. The research and hypotheses indicate a potential positive relationship between the independent and dependent variables in the model. The model controls the impact of gender, age, education, and income on the relationship between the predictors and the outcome.

CHAPTER III. METHODOLOGY

The study cross-sectional survey method, which allows for the testing of the hypotheses. The samples were drawn from a population of individuals with automobile awareness, including owners of electric cars, electric battery technologies, and non-EV cars. The research adopted an online survey instrument based on the measures and constructs indicated under the constructs and measures (Table 1). This research was conducted using a digital survey with FIU Qualtrics software after obtaining IRB (Institutional Review Board) approval. The survey of 47 questions measured the correlation between brand coolness, brand loyalty, willingness to pay premium, and purchase intention for the electric vehicle manufacturer, Tesla. The survey included various control variable questions such as age, gender, level of education attained, ownership of a Tesla, and household income. The three-category Likert scale and seven-category Likert scale were the methods of construct measurement. The population of interest for this research were individuals who know plug-in and battery EVs, particularly customers aware of Tesla's brands and its EV portfolio. Individuals who own a car(s), plan to buy a car, or have interest in buying a car in the future were also included. The proposed population size ($n = 200$) was gathered using Amazon Mechanical Turk services. An informed pilot group ($n = 5$) was undertaken to determine if the survey questions provide reliability on the chosen methodology and helped in determining the time needed to complete the survey. However, due to the study's time limitations, an informed pilot study was not undertaken. This limitation did not impact the outcome of the study as the measures adopted and the items included in the questionnaire were drawn from validated scales, with adequate internal validity and reliability.

The questionnaire was divided into two major parts. Part 1 focused on the participant's background information, including the respondent's age, gender, ethnicity or race, income level, educational attainment, and ownership of either EV or non-EV car. Part 2 had four main subsections focusing on each variable. The study adopted the research instruments from other studies, as shown in Table 1 below. An example of a question under the purchase intention is "I would consider purchasing this product." The study adopted the scale from the study by Barber, Kuo, Bishop, & Goodman Jr. (2012, p. 284). The scale had strong reliability, as its Cronbach alpha was 0.87 (Barber et al., 2012). The purchase intention scale contains four items. The other measure adopted in the study is the willingness to pay a premium developed by Netemeyer et al. (2004, p. 223). The scale is validated and has a Cronbach alpha ($\alpha = 0.90$) and 0.78 AVE (Netemeyer et al., 2004). A sample item from the scale is "The price of the car would have to go up quite a bit before I would switch to another brand of EV or non-EV)." The WTP uses a 7-point scale with 1 = strongly disagree and 7 = strongly agree. The scale has four items. Thirdly, the brand coolness scale has 32 items, representing 11 subscales of brand coolness. The scale has strong reliability and discriminant reliability. An example of a question item from the scale is "If I were to use X brand, it would make me stand apart from others." Finally, the questionnaire drew the questions on brand loyalty (Jimenez-Barreto et al., 2022, p. 10). The scale has strong reliability and discriminant validity ($\alpha = 0.86$ and AVE= 0.71). The measure has four items based on a 7-point Likert scale from 1 (strongly disagree) to 7 (strongly agree). An example of a question from the measure is, "If another brand is not different from Brand X, it seems smarter to purchase" (Jimenez-Barreto et al., 2022, p. 10).

Data analysis was undertaken using partial least square structural equation modeling techniques (PLS-SEM) since the focus is on estimating the causal relationships between the latent constructs (shown in Figure 1) and their indicators (Henseler, Ringle & Sarstedt, 2015). Moreover, it can also simultaneously predict the hypothesized relationships between the constructs as indicated in the structural models. Hair et al. (2016) noted that PLS-SEM helps maximize the variance explained and is very critical in prediction. Besides, all data collected from the participants was uploaded into SPSS (Statistical Package for the Social Sciences) software and multiple analysis for this study are conducted: Exploratory Factor Analysis, Reliability Analysis, and Descriptive, Regression and Test of Normality.

Constructs and Measures

The study will adopt various measurement constructs, including purchase intention, willingness to pay (WTP), brand coolness, and brand loyalty. Brand coolness entails the perceived brand's characteristics: high status, rebelliousness, authenticity, subcultural, aesthetically appealing, popular, energetic, and iconic. Brand coolness has ten sub-constructs, which determine whether the given brand is cool or not (Warren, Batra, Correai Loureiro, & Bagozzi, 2019). First, cool brands are useful, meaning that such brands provide tangible benefits to the consumers, are of high quality, or provide some help to the consumers, for instance durability, high quality (Warren et al., 2019). Usefulness as a characteristic of cool brands has been proven in the existing literature. For instance, Dar-Nimrod et al. (2012) found a relationship between a brands' perceived coolness with consumers valuing or desiring such brands. Secondly, cool brands are extraordinary. Extraordinary brands have certain positive qualities or qualities that set the

brand apart from the competitors (Dar-Nimrod et al., 2012). Extraordinary can also mean a brand that offers superior functional value. On the other hand, high status is associated with prestige, esteem, social class, and sophistication (Belk, Tian, & Paavola, 2010). Rather than just being useful, cool brands are also extraordinary, in that such brands offer functionalities, features, and capabilities that were previously unavailable in the market. Belk et al. (2010) found a positive valence between coolness and extraordinary brands.

Thirdly, cool brands are aesthetically appealing in that they have a visually attractive appearance (Warren et al., 2019). Aesthetically appealing entails that the brand have a visually pleasing and attractive appearance (Dar-Nimrod et al., 2012). As a characteristic of brand coolness, rebellious refers to tending to subvert, oppose, combat, or fight social norms and conventions (Bruun, Raptis, Kjeldskov, & Skov, 2016). Aesthetically appealing products could have an elegant design, with aesthetic appeal being consistent with previous attempts at developing measures of coolness in technology and clothing products (Sundar, Tamul, & Wu, 2014). Additionally, cool brands are also energetic, showing youthfulness, an outgoing nature, and a brand that is active. However, prior research has not explored energetic as an attribute of brand coolness, with brands focusing on various elements, such as youth, sexual permissiveness or freedom, and hedonism (Warren et al., 2019). Warren et al. (2019) conceded that such traits were associated with being energetic as they encompass similar attributes.

Cool brands also have an attribute of high status. In Warren et al.'s (2019, p. 4) study, most respondents "viewed cool brands as having social status or possessing traits associated with high status, such as being exclusive, upper class, glamorous, and sophisticated." The above association between cool brands and status (Belk et al., 2010)

explains why consumers consider high status an attribute of brand coolness. Another brand coolness attribute is authenticity. Authenticity entails the brand behaving according to and consistent with its roots and perceived essence (Warren et al., 2019). However, Warren et al. (2019) noted that authenticity comes in diverse facets, but most consumers viewed authentic brands as those that have remained true to their founder's ideals and roots, and have sincerity, moral authenticity, integrity, and adopt consistent behavior.

Moreover, research also shows that cool brands are rebellious. Rebellion has been shown to be an important factor in the perception of coolness of various brands, such as Apple, Harley Davidson, Red Bull (RB), and Betsy Johnson, since the brands are revolutionary, irreverent, and rule breakers. Recent data has partially explained and supported the historical link between rebellion and coolness (Dar-Nimrod et al., 2012).

Subcultural refers to the brand's association with an autonomous group of persons who are or are perceived to operate independently from mainstream society. It can also mean groups of people working outside mainstream society (Belk, Tian, & Paavola, 2010). Subculture has also been found to be a component of brand coolness, as brands are linked to certain and specific subcultures. Therefore, consumers of cool brands consider themselves part of a unique subculture. Several subcultures have been shown in literature, including Converse as a market of alternative music culture, Black Diamond showing a subculture of rock climbers, and Chrome Industries' association with bike messenger subculture (Warren et al., 2019). Research has consistently shown that cool brands are linked to certain subcultures, including those associated with cliques in high schools, extreme sports, hip hop, raves, jazz, and other groups that are significantly different from mainstream society (Warren et al., 2019).

The other attributes of cool brands are iconic popular. Iconic refers to the brand's wide recognition as a cultural symbol, while energetic refers to the brand having strong energy, vigor, and enthusiasm (Dar-Nimrod et al., 2012; Warren et al., 2019). Iconic brands are those that consumers perceive to offer valued meaning and are strong. For instance, research by Hold and Cameron (2010, cited in Warren et al., 2019) found that there was a great overlap and relationship between brands that consumers considered to be cultural icons and those they considered to be cool. The view is that cool brands often symbolize identify traits, memories, cultural values, and social relationships (Warren et al., 2019).

Finally, original refers to a tendency to be creative, different, and do activities and things that have not been previously attempted (Bruun et al., 2016). Popular brands are widely admired and trendy to the consumers. Popularity is linked to various elements, including worldwide recognition, its wide usage, scarcity, exclusivity, and rarity. However, it is important to note that research specifically exploring the link between brand coolness and scarcity, such as the quantitative research by Dar Nimrod et al. (2012) found no link between scarcity and a brand's coolness. Even though the study by Warren et al. (2019) did not find a direct link between coolness and scarcity, the authors noted that there could be an indirect relationship. They noted that “brands initially become cool when they are associated with a subculture (i.e., niche cool), but they later become popular and trendy after a wider population discovered the brand (i.e., mass cool)” (Warren et al., 2019, p. 5). The view is that brands considered cool usually start as subcultural and scarce and then later become more popular as more consumers discover the brand, transitioning from the niche to mass coolness.

On the other hand, purchase intention refers to powerful and spontaneous shopping tendencies and a shopping experience and process that the consumer dominates (Xu, Chen, Peng, & Anser, 2020). Purchase intention often acts as a stimulus that arouses the impulse of the consumer to purchase the given product or service (Xu, Chen, Peng, & Anser, 2020). Studies have explored various definitions of purchase intention. For instance, Bougenvile and Ruswanti (2017) noted that purchase intention (PI) refers to the consumers' decision-making activities before undertaking the purchase of the product or service. Therefore, PI develops when the product or service meets a consistent purchase criterion of the client, i.e., if the criteria of the service or product meets the consumer's wants (Bougenvile & Ruswanti, 2017). Scholars have noted three elements of purchase intention that can help in determining the consumer's purchase intention, including preferential, exploratory, and transactional interests (Bougenvile & Ruswanti, 2017). Exploratory interests are the individual's attitudes and behaviors towards searching for services or brand information, aimed at supporting the purchaser based on its positive traits. On the other hand, preferential interest as a facet of purchase intention focuses on the behaviors linked to the consumer's preference for a given product or service. Finally, transactional interest is linked to the consumer's purchase tendency towards the product. Various factors can enhance purchase intention, such as enjoyment, price, convenience, brand loyalty, and other elements. Purchase intention entails consumers' preferences towards particular products. Therefore, it measures the potential or possibility that a consumer would purchase a product. Higher purchase intention means a higher probability that the consumer would purchase the product, making it a major predictor of a consumer's purchasing behavior.

Willingness to pay (WTP) refers to the situation where “the sum that customers are willing to pay for products from a brand is higher than they are willing to pay for similar products from other relevant brands” (Anselmsson, Vestman Bondesson, & Johansson, 2014, p. 91). Research indicates that price premium is an important predictor and indicator of a firm’s brand equity.

Finally, brand loyalty refers to the consumer's attitude towards a certain brand, especially the consumer's brand preferences. Schiffman and Kanuk (2009) defined brand loyalty as a measure of whether a consumer would or would not potentially switch to a competing brand, especially following market changes to the brand, for instance, changes on the attributes or price of the product or service. Therefore, loyal customers will remain with the brand despite the changes or any other issues, i.e., when the attributes of the brand change or even when the company changes its pricing model. Research has shown that firms can assess brand loyalty by considering the attitudes of the consumers towards the brand and particular purchase intention behaviors. Brand loyalty thus enhances the consumer's confidence in the brand, leading to faster purchase decisions (Khan, Razavi Rahmani, Hoe, & Chen, 2014). Brand loyalty also leads to customers' commitment to the brand, which leads to less switching to other brands, and thus enhancing their purchase intention (Khan, Razavi Rahmani, Hoe, & Chen, 2014). Therefore, brand loyalty is important in the consumer's commitment to purchasing certain brands over all the other available brands in the market and to increasing in their purchase intention (Nyadzayo & Khajehzadeh, 2016). Previous studies exploring luxury brands noted that brand loyalty refers to the extent to which consumer show their intention to making the purchase or actual made purchases from particular brands (Godey et al., 2016). A study exploring the

role of social media noted that social media use by the brands can help develop and improve relationships with the brand, thus helping develop brand loyalty (Laroche et al., 2013). Therefore, it is important to note that relationships with certain brands are critical in the development of brand loyalty.

Table 1 below shows the research constructs and measures.

Table 1: Research Constructs and Measures

CONSTRUCT: Purchase Intention		$\alpha = 0.87$
Source: Barber, Kuo, Bishop, & Goodman Jr. (2012, p. 284)		
Scale: 1 = Disagree, 3 = Agree.		
Factor	Question	Loading
PI1	"I would consider purchasing this product."	0.80–0.91
PI2	"I intend to try this product."	0.80–0.91
PI3	"I plan on buying this product."	0.80–0.91
PI4	"I am interested in tasting this product."	0.80–0.91
CONSTRUCT: Willingness to pay (WTP)		$\alpha = 0.90$
Source: Adapted from Netemeyer et al. (2004, p. 223)		AVE = 0.78
7-point scale: 1 = strongly disagree, 7 = strongly agree.		
Factor ¹	Question	Loading

¹ Factors BC1-3 represent aesthetic appeal (AVE = 0.83 and $\alpha = 0.89$), BC 4–6 represents authentic (AVE = 0.51 and $\alpha = 0.75$), BC 7–9 represent extraordinary subscale (AVE = 0.77 and $\alpha = 0.85$), BC 10–12 represent exciting subscale (AVE = 0.76 and $\alpha = 0.84$), BC 13–15 represent high status sub-scale of brand coolness (AVE = 0.77 and $\alpha = 0.85$), BC 16–17 represent iconic (AVE = 0.81 and $\alpha = 0.76$), BC 18–20 represent original (AVE = 0.77 and $\alpha = 0.85$), BC 21–23 represent popular (AVE = 0.70 and $\alpha = 0.86$), BC 24–26 represent rebellious (AVE = 0.74 and $\alpha = 0.82$), BC 27–29 represent sub-cultural (AVE = 0.75 and $\alpha = 0.83$), BC 30–32 represent communal brand connection (AVE = 0.74 and $\alpha = 0.83$).

PP1	“The price of X brand would have to go up quite a bit before I would switch to another EV or non-EV brand.”	0.81
PP2	“I am willing to pay a higher price for X brand of EV than other brands of non-EV.”	0.79
PP3	“I am willing to pay __% more for X brand over other brands of EVs and non-EVs: 0%, 5%, 10%, 15%, 20%, 25%, 30%, or more.”	0.75
PP4	“I am willing to pay a lot more for X brand than other brands of EVs and non-EVs.”	0.86

CONSTRUCT: Brand coolness AVE and α^2

Source: Jimenez-Barreto et al. (2022, p. 10)

7-point scale: 1 = strongly disagree, 7 = strongly agree.

Factor	Question	Loading
BC1	“X looks good.”	0.92
BC2	“X is aesthetically appealing.”	0.89
BC3	X brand of cars is attractive.”	0.91
BC4	X brand of cars “is true to its roots.”	0.76
BC5	X brand of cars “does not seem artificial.”	0.77
BC6	X brand of cars “doesn’t try to be something it is not.”	0.80
BC7	X brand of cars is superb.	0.88

² AVE and α were calculated individually for each category of sub-construct.

BC8	X brand of cars are fantastic.	0.84
BC9	X brand of cars are extraordinary.	0.88
BC10	X brand of cars are energetic.	0.87
BC11	X brand of cars are outgoing.	0.88
BC12	X brand of cars are lively.	0.85
BC13	X brand of cars are chic.	0.89
BC14	X brand of cars are sophisticated.	0.84
BC15	X brand of cars is "ritzy (expensively stylish)."	0.88
BC16	X brand of cars is a cultural symbol.	.89
BC17	X brand of cars are iconic.	.90
BC18	X brand of cars are innovative.	0.88
BC19	X brand of cars are original.	0.87
BC20	X brand of cars does its own thing.	0.86
BC21	Most people like X brand of cars.	0.83
BC22	X brand of cars are in style.	0.89
BC23	X brand of cars are widely accepted.	0.76
BC24	X brand of cars are rebellious.	0.87
BC25	X brand of cars are defiant.	0.87
BC26	X brand of cars are not afraid to break the rules.	0.82
BC27	"If I were to use X brand of cars, it would make me stand apart from others."	0.88

BC28	X brand of cars helps people who use it stand apart from the crowd.	0.85
BC29	People who use X brand of cars are unique.	0.85
BC30	I identify with people who purchase X brand of cars.	0.83
BC31	I feel I almost belong to a club with other X brand car owners.	0.88
BC32	I feel a deep connection with others who purchase X brand of cars	0.86
CONSTRUCT: Brand loyalty		$\alpha = 0.86$
Source: Jimenez-Barreto et al. (2022, p. 10)		AVE = 0.71
7-point scale: 1 = strongly disagree, 7 = strongly agree.		
BL1	X brand of cars would be my first choice.	0.81
BL2	I will not buy other brands if X brand of car is available.	0.87
BL2	If another brand is not different from X brand of cars, it seems smarter to purchase.	0.77

Target Response Frame/Database

The target response frame were individuals who planned to buy a car, regardless of their ownership status of EVs or non-EVs. The individuals were targeted as they are aware of plug-in or battery EVs. The response frame was two weeks, and the individual participants had an opportunity to access the questionnaire online. After the end of the

period, all the data from FIU Qualtrics was downloaded and kept on a password-protected computer. The proposed sample size was 200 participants above 18 years old, who gave consent to participate in the study and who reside in the United States. Therefore, the target response did not include those who failed to provide consent, were under 18 years old, and were non-residents of the United States.

Data Analysis

Data analysis was undertaken through regression analysis using SPSS v.26 and partial least square structural equation modeling techniques (PLS-SEM) using SMARTPLS v.4, since the focus was on estimating the causal relationships between the latent constructs (shown in Figure 1) and their indicators (Henseler et al., 2015). Moreover, it can also simultaneously predict the hypothesized relationships between the constructs as indicated in the structural models. Hair et al. (2016) noted that PLS-SEM helps to maximize the variance explained and is very critical in prediction. The study used SmartPLS 4 software in modelling the relationship between the variables. The software charges a licensing fee and can be downloaded at www.smartpls.com through a user registry request. The analysis began with mounting the variables into the software and running various analysis. The first analysis focused on individual item reliability, content and convergent validity, discriminant validity, and internal consistency reliability (Hair et al., 2016). Individual item reliability considered the factor loadings of all the individual items for each latent variable. A factor loading above 0.5 would be acceptable. Composite reliability was used to ensure internal reliability. Since composite reliability estimates have lower risks of bias than Cronbach's alpha. All the composite reliability values should meet the criteria of above 0.70. The average variance extracted was used to

test the convergent validity. The structural model was run, followed by an assessment of the structural model's predictive relevance (Shmueli et al., 2019).

CHAPTER IV. RESULTS

Overview

The data was collected using Qualtrics and then exported into Microsoft Excel for data cleaning and item naming convention to ensure appropriate loading into the SmartPLS. The data collected had a sample size of 200. There were no observations of any invalid or missing entries. The data from Excel was exported as a CSV (comma delimited) file into SmartPLS.

Summary statistics

Most of the participants were female (47.0%), had a bachelor's degree (26.5%), were white (45%), and had an income of \$100,000 and above (61%). The mean age of the participants was 53.40 (SD = 17.699). The summary statistics are shown in Table 2 below.

Table 2: Summary Statistics

Variable (n = 200)	Frequency	Percentage
Gender		
Male	91	45.5
Female	94	47.0
Non-binary/ Third gender	9	4.5
Prefer not to say	6	3.0
Educational level		
12th grade or less	23	11.5
Graduated high school or equivalent	33	16.5
Some college but no degree	24	12.0

Associate degree	42	21.0
Bachelor's degree	53	26.5
Post-graduate degree	25	12.5
Household income		
Less than \$50K	8	4.0
\$50–100K	70	35.0
> \$100–200K	45	22.5
> \$200K	77	38.5
Race		
Asian/ Pacific Islander	2	1.0
Black or African American	43	21.5
Hispanic	65	32.5
White/Caucasian	90	45.0
Tesla Ownership		
Owns	100	50
Does not own	100	50
Variable		Mean (M)
Age		53.40
		17.699

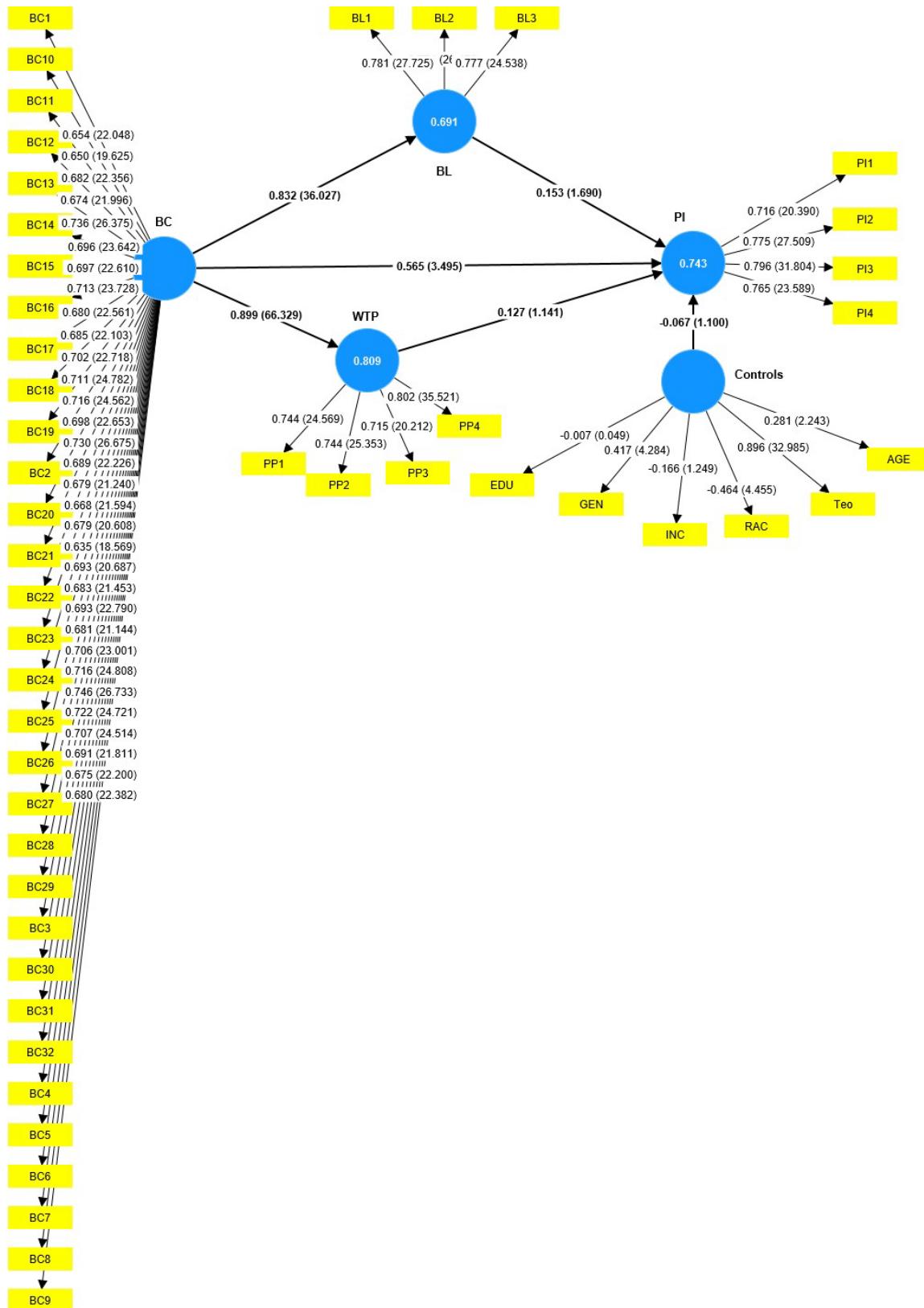
Model Construction

SmartPLS was used in modeling the data set into a PLS-SEM path model. Latent variables were first constructed then used in creating the model. The path model

illustrates the variance of one latent variable explained by the other linked latent variables. Figure 2 shows the PLS-SEM model.

Latent variables (shown by the blue cycle) are linked to the respective indicators (yellow boxes). The path model shows the latent variables' variance amounts explained by the neighboring latent variables. The value is shown inside each blue circle. The path coefficient (the numbers shown on the arrows connecting the latent variables by each other and to the item measures) show the strength of the relationship between the latent variables and the items. The variables met the normality and linearity assumptions as shown in Appendices 2 and 3. There were no outliers in the data as shown in Appendix 5.

Figure 2: PLS-SEM Model (Indicators and Latent Variables) Results



Endogenous Variable Variance

The examination of the coefficient of determination, R^2 , shows a value of 0.743 for purchase intention (PI), an endogenous latent variable. The three latent variables (brand coolness [BC], brand loyalty [BL], and Willingness to pay [WTP]) explain 74.3 percent of the variance in the participants purchase intentions. Alone, brand coolness explains 69.1 percent of the changes in brand loyalty and 80.9 percent of the variance in the willingness to pay (See Figure 2). Hair et al. (2013, p. 7) noted that a coefficient of determination of 0.25, 0.50, and 0.70 show weak, moderate, and strong determination, respectively. Using the model in Figure 2 above, the PLS-SEM model shows a relatively strong model as the R^2 values are all above 0.70.

Indicator Reliability

To ensure the accuracy of the analysis, it is crucial to assess the reliability and validity of both the latent and indicator variables at this point. For exploratory research, a reliability value of 0.4 or higher is adequate, while a reliability value of at least 0.70 is acceptable for indicator variables (Hair et al., 2013). Table 3 displays a list of items that must be confirmed during a PLS-SEM analysis, including the results for outer loading values. The outer loading values in this analysis are all above or near the preferred reliability value of 0.7. This indicates that the indicators we used are highly reliable.

Table 3: Outer Model Summary

Latent Variable	Indicators	Outer Loadings	Composite Reliability (rho_a)	Composite Reliability (rho_c)	AVE
Brand Coolness	BC1	0.786	0.979	0.98	0.655
	BC10	0.792			
	BC11	0.795			
	BC12	0.766			
	BC13	0.856			
	BC14	0.804			
	BC15	0.818			
	BC16	0.814			
	BC17	0.768			
	BC18	0.835			
	BC19	0.807			
	BC2	0.818			
	BC20	0.813			
	BC21	0.827			
	BC22	0.842			
	BC23	0.818			
	BC24	0.790			
	BC25	0.802			
	BC26	0.813			

	BC27	0.756			
	BC28	0.818			
	BC29	0.801			
	BC3	0.824			
	BC30	0.818			
	BC31	0.831			
	BC32	0.825			
Brand Loyalty	BL1	0.887	0.85	0.909	0.768
	BL2	0.857			
	BL3	0.886			
Purchase Intention	PI1	0.806	0.857	0.903	0.701
	PI2	0.837			
	PI3	0.862			
	PI4	0.843			
Willingness to Pay (PP)	PP1	0.833	0.872	0.912	0.72
	PP2	0.842			
	PP3	0.832			
	PP4	0.887			

Discriminant Validity

Research shows that two different approaches can be applied in finding the discriminant validity. Wong (2019, p. 34) discussed the approaches, which include the “Heterotrait-monotrait ratio of the correlations (HTMT)” and the Fornell-Larcker

Criterion. This study adopted the Fornell-Larcker approach. The analysis found that the outer loading was larger than the correlations with other latent variables or constructs. Strong loadings were only found between items in a given variable, except such items which have similar theoretical associations or relations. The cross-loadings are shown in Table 4 below.

Table 4: Items Cross-Loadings

Item	Latent Variables			
	<i>Brand Coolness</i>	<i>Brand Loyalty</i>	<i>Purchase Intention</i>	<i>Willingness to Purchase</i>
BC1	0.786	0.389	0.274	0.302
BC10	0.792	0.407	0.481	0.248
BC11	0.795	0.565	0.234	0.144
BC12	0.766	0.653	0.388	0.452
BC13	0.856	0.379	0.415	0.206
BC14	0.804	0.407	0.348	0.247
BC15	0.818	0.298	0.481	0.296
BC16	0.814	0.433	0.435	0.383
BC17	0.768	0.375	0.272	0.436
BC18	0.835	0.431	0.388	0.489
BC19	0.807	0.578	0.458	0.273
BC2	0.818	0.234	0.223	0.391
BC20	0.813	0.473	0.363	0.397
BC21	0.827	0.271	0.497	0.295
BC22	0.842	0.349	0.189	0.293

BC23	0.818	0.232	0.491	0.451
BC24	0.79	0.259	0.264	0.133
BC25	0.802	0.424	0.328	0.172
BC26	0.813	0.465	0.357	0.378
BC27	0.756	0.414	0.268	0.329
BC28	0.818	0.337	0.461	0.271
BC29	0.801	0.104	0.318	0.487
BC3	0.824	0.355	0.258	0.277
BC30	0.818	0.246	0.171	0.169
BC31	0.831	0.369	0.156	0.279
BC32	0.825	0.249	0.461	0.385
BL1	0.293	0.887	0.275	0.262
BL2	0.175	0.857	0.306	0.421
BL3	0.497	0.886	0.342	0.343
PI1	0.381	0.394	0.806	0.254
PI2	0.379	0.256	0.837	0.441
PI3	0.274	0.442	0.862	0.325
PI4	0.488	0.307	0.843	0.251
PP1	0.367	0.192	0.329	0.833
PP2	0.281	0.297	0.243	0.842
PP3	0.481	0.435	0.147	0.832
PP4	0.144	0.349	0.493	0.887

Table 4 above was used to examine the results of the discriminant validity, confirming discriminant validity as the item loading had less loading than the loadings on the factors. For instance, brand coolness (BC) self-loading is 0.809, but the loadings on the other factors are all below 0.450. Comparable findings were found in the Fornell-Larcker Criterion analysis as shown in Table 5

Table 5: Discriminant Validity Using Fornell-Larcker Criterion Analysis

	Brand Coolness	Brand Loyalty	Purchase Intention	Willingness to purchase
Brand Coolness	0.809			
Brand Loyalty	0.339	0.877		
Purchase Intention	0.433	0.336	0.837	
Willingness to Purchase	0.444	0.447	0.388	0.849

Therefore, the reliability and validity of the data was established supporting the use of regression analysis in reporting the results as discussed in the methods section.

Multicollinearity Assessment

Collinearity assesses any potential structural issues in the model using a variance inflation factor (VIF). Hair et al. (2013) noted that any VIF values greater than 5.0 and tolerances higher than 0.20 signal multicollinearity in the data. All VIF values in the model were between 4.2 and 1.9, indicating no issues with multicollinearity in the model.

Correlation Analysis

The correlation analysis found a strong positive correlation between brand coolness and purchase intention ($r = 0.854, p < 0.05$), willingness to pay and purchase

intention ($r = 0.793, p < 0.05$), and brand loyalty and purchase intention ($r = 0.757, p < 0.05$). Table 6 below shows the correlation between the variables. There are strong correlations between the variables of interest. The correlation matrix is also shown in Appendix 4.

Table 6: Correlation Analysis

Variable	M	SD	1	2	3	4	5	6	7	8	9	10
1. Age	53.4	17.699	1									
2. Gender	1.65	0.707	0.073	1								
3. Educational level	3.72	1.586	0.049	-0.128	1							
4. Household income	2.96	0.947	-0.144*	-0.121	-0.059	1						
5. Race	4.22	0.814	-0.005	-0.026	-0.054	-0.144*	1					
6. Tesla ownership	1.5	0.501	0.143*	0.213**	0.025	-0.09	-0.154*	1				
7. Purchase Intention	4.0625	1.59079	-0.114	-0.177*	0.026	0.084	0.287**	-0.618**	1			
8. Brand Coolness	3.9508	1.42639	-0.078	-0.224**	0.035	0.059	0.285**	-0.708**	0.854**	1		
9. Willingness to pay	3.9988	1.58024	-0.088	-0.202**	0.055	0.041	0.235**	-0.616**	0.793**	0.898**	1	
10. Brand Loyalty	3.9517	1.65756	-0.088	-0.116	0.05*	0.025	0.244**	-0.612**	0.757**	0.829**	0.754**	1

Model Results and Hypotheses Testing

Given the high correlation between predictor variables, brand loyalty, WTP, and brand coolness, it is critical to fix potential multicollinearity issues, as it can affect the results of the study. First, multicollinearity significantly reduces the estimated coefficient's precision, thus weakening the regression model's statistical power. Thus, the p-values generated when there is high correlation between the predictor variables cannot be trustworthy. Secondly, high correlation can lead to wildly swinging coefficient estimates based on other independent variables in the study's model. Such swings can lead to coefficients that are highly sensitive to small changes in the study's model. Since the study adopted measures that are validated, the multicollinearity could be data-based, that is present in the data rather than in the specified model.

Before undertaking the hypotheses testing we centered the independent variables to reduce multicollinearity. Centering or variable standardization involves calculating the means of the independent variables and subtracting such a mean from the observed variable values, then using the centered variables in the model and hypotheses testing.

The study explored seven hypotheses. The results show that controlling for the effects of race, age, gender, Tesla ownership, education, and household income, brand coolness has a positive and significant effect on purchase intention ($\beta = 0.820, t = 14.925, p = 0.000, \Delta R^2 = 0.308$), suggesting that brand coolness alone, controlling for the control variables accounts for 30.8% of the change in the purchase intention. Thus, H1, which envisaged a direct effect of brand coolness on purchase intention, is supported. Similarly, the study found that brand coolness is a significant and positive predictor of EV consumers' brand loyalty ($\beta = 0.800, t(1, 198) = 13.637, p = 0.000, R^2 = 0.293$). The finding shows that brand coolness explains 29.3% of the variance in the EV consumers' brand loyalty. Therefore, H2 is supported.

Next, we considered whether brand loyalty predicts purchase intention. The analysis found that the mediator (brand loyalty), controlling for age, gender, education, household income, race, and tesla ownership, was significant predictor of purchase intention, $b = 0.582, t(192) = 10.211, p = 0.000$. Therefore, H3 is supported.

Table 7: Brand Loyalty Predicting Purchase Intention

Model		Coefficients ^a						
		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.477	.503		.949	.344		
	Age	-.001	.003	-.023	-.418	.676	.960	1.042
	Gender	-.049	.080	-.035	-.616	.538	.923	1.083
	Educational level	.033	.035	.052	.935	.351	.970	1.031
	Household income	.061	.059	.058	1.024	.307	.935	1.070
	Race	.257	.069	.209	3.730	.000	.947	1.056
	Tesla ownership	-1.139	.114	-.571	-9.999	.000	.910	1.098
2	(Constant)	.056	.408		.137	.891		
	Age	-.001	.003	-.019	-.416	.678	.959	1.042
	Gender	-.071	.065	-.050	-1.091	.276	.922	1.084
	Educational level	.002	.028	.003	.072	.943	.959	1.043
	Household income	.060	.048	.057	1.251	.212	.935	1.070
	Race	.144	.057	.117	2.542	.012	.911	1.097
	Tesla ownership	-.450	.114	-.225	-3.942	.000	.592	1.690
	Zscore: Brand Loyalty	.582	.057	.582	10.211	.000	.596	1.678

a. Dependent Variable: Zscore: Purchase Intention

Mediation suggests that the effect of the independent variable (IV) on the dependent variable (DV) can be explained by a mediator variable (M). The mediation effect of brand loyalty on the relationship between brand coolness and purchase intention was tested using SPSS v.26, and the results are shown in Table 8 (The full output is shown in Appendix 6). In the first step (Step 1), we included brand coolness (IV) as a predictor of purchase intention (DV), controlling for age, gender, educational level, household income, race, and tesla ownership. The results show that brand coolness is significantly related to purchase intention ($B = .914$, $S.E. = .061$, $p = .001$), further confirming H1. In the second step (Step 2), we introduced brand loyalty in the model as a mediator, once again controlling by age, gender, educational level, household income, race, and tesla ownership. As shown in Table 8, the results show that brand coolness remain significantly related to purchase intention ($B = .778$, $S.E. = .085$, $p = .001$) although the magnitude is reduced when brand loyalty ($B = .147$, $S.E. = .064$, $p = .023$) is

introduced into the model. Therefore, we conclude that brand loyalty partially mediates the relationship between brand coolness and purchase intention, providing support for H4.

Table 8: Mediation - Brand Loyalty on Brand Coolness as a Predictor of Purchase Intention

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	0.015	0.634		0.024	0.981
	Age	-0.004	0.003	-0.043	-1.136	0.257
	Gender	0.049	0.087	0.022	0.558	0.577
	Educational level	0.008	0.038	0.008	0.200	0.841
	Household income	0.064	0.065	0.038	0.996	0.321
	Race	0.109	0.077	0.056	1.409	0.160
	Tesla ownership	-0.077	0.170	-0.024	-0.451	0.652
	Brand coolness	0.914	0.061	0.820	14.925	0.000
2	(Constant)	-0.024	0.627		-0.038	0.970
	Age	-0.004	0.003	-0.039	-1.036	0.301
	Gender	0.021	0.087	0.009	0.239	0.811
	Educational level	0.001	0.038	0.001	0.038	0.970
	Household income	0.069	0.064	0.041	1.077	0.283
	Race	0.106	0.076	0.054	1.393	0.165
	Tesla ownership	-0.047	0.168	-0.015	-0.281	0.779
	Brand coolness	0.778	0.085	0.697	9.150	0.000
	Brand Loyalty	0.147	0.064	0.153	2.287	0.023
a. Dependent Variable: Purchase Intention						

Regarding the next hypothesis, the study explored whether brand coolness impacts willingness to pay (WTP) premium, controlling for age, gender, education, household income, race, and tesla ownership. The results show that brand coolness is a significant and positive predictor of WTP premium, with brand coolness explaining

39.9% of the changes in WTP Premium ($\beta = 0.900$, $F_{change} = 401.660$, $p = 0.000$, R^2 Change= 0.399). Therefore, H5 is supported. The findings are shown in Table 9 below:

Table 9: Regression - Brand Coolness as a Predictor of WTP premium

Model	Model Summary ^c										
	R		Adjusted		Std. Error	Change Statistics					
	R	Square	R	Square	of the Estimate	R Square	F Change	df1	df2	Sig. F Change	Durbin-Watson
1	.640 ^a	.410	.391	.78010008		.410	22.334	6	193	.000	
2	.900 ^b	.809	.802	.44479529		.399	401.660	1	192	.000	2.072

a. Predictors: (Constant), Tesla ownership, Educational level, Household income, Age, Race, Gender

b. Predictors: (Constant), Tesla ownership, Educational level, Household income, Age, Race, Gender, Zscore: Brand coolness

c. Dependent Variable: Zscore: Willingness to Pay Premium

To test H6, we introduced brand coolness (IV) as a predictor of purchase intention (DV) in Step 1, controlling for age, gender, educational level, household income, race, and tesla ownership. The results show that brand coolness is significantly related to purchase intention ($B = .914$, $S.E. = .061$, $p = .001$), further confirming H1. In the second step (Step 2), we introduced WTP premium in the model as a mediator, once again controlling age, gender, educational level, household income, race, and tesla ownership. As shown in Table 10, the results show that brand coolness remain significantly related to purchase intention ($B = .766$, $S.E. = .107$, $p = .001$) although the magnitude is reduced when brand loyalty which is marginally ($B = .145$, $S.E. = .085$, $p = .096$) is introduced into the model. Therefore, we conclude that WTP premium partially mediates the relationship between brand coolness and purchase intention. Therefore, H6 is supported.

Table 10: Model of the Mediator – Brand Coolness and Purchase Intention

Coefficients ^a						
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	
	B	Std. Error	Beta			
1	(Constant)	0.015	0.634		0.024	0.981
	Age	-0.004	0.003	-0.043	-1.136	0.257
	Gender	0.049	0.087	0.022	0.558	0.577
	Educational level	0.008	0.038	0.008	0.200	0.841
	Household income	0.064	0.065	0.038	0.996	0.321
	Race	0.109	0.077	0.056	1.409	0.160
	Tesla ownership	-0.077	0.170	-0.024	-0.451	0.652
	Brand coolness	0.914	0.061	0.820	14.925	0.000
2	(Constant)	0.009	0.631		0.014	0.989
	Age	-0.004	0.003	-0.040	-1.049	0.296
	Gender	0.049	0.087	0.022	0.561	0.576
	Educational level	0.005	0.038	0.005	0.127	0.899
	Household income	0.068	0.064	0.041	1.059	0.291
	Race	0.116	0.077	0.059	1.507	0.133
	Tesla ownership	-0.096	0.169	-0.030	-0.565	0.573
	Brand coolness	0.766	0.107	0.687	7.151	0.000
	Willingness to Pay Premium	0.143	0.085	0.142	1.674	0.096
a. Dependent Variable: Purchase Intention						

Finally, the study considered whether willingness to pay (WTP) premium significantly affected EV consumer's purchase intentions. The analysis (see Table 11 below) accounted for the control variables (age, gender, education, household income, race, and tesla ownership), finding that the WTP was a significant predictor of purchase intention, R^2 change = 0.241, b = 1.017, $t(7, 192)$ = 11.831, p = 0.000. Therefore, H7 is supported.

Table 8: WTP Premium and Purchase Intention

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics			
						F Change	df1	df2	Sig. F Change
1	.654 ^a	.427	.410	1.22239	.427	24.004	6	193	.000
2	.818 ^b	.669	.657	.93204	.241	139.977	1	192	.000

a. Predictors: (Constant), Tesla ownership, Educational level, Household income, Age, Race, Gender

b. Predictors: (Constant), Tesla ownership, Educational level, Household income, Age, Race, Gender, Zscore: Willingness to Pay Premium

Post-Hoc Analysis

Even though the study did not explicitly set out to consider the impacts of the different elements of brand coolness on purchase intention, it would be interesting to consider whether the different subsets of brand coolness had positive impacts on EV consumers' purchase intention. A correlation analysis was undertaken to determine whether age, gender, education, household income, race, and Tesla ownership were potential confounders of the relationship between the sub-scales of brand coolness and purchase intention. As can be seen from Table 12 below, all the control variables have significant correlations.

Table 12: Post-Hoc Analysis

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1. Age	1																	
2. Gender	0.073	1																
3. Educational Level	0.049	-0.13	1															
4. Household Income	-.144*	-0.12	-0.06	1														
5. Race	-0.01	-0.03	-0.05	-.144*	1													
6. Tesla Ownership	.143*	.213**	0.025	-0.09	-.154*	1												
7. Purchase Intention	-0.11	-.177*	0.026	0.08	.287**	-.618**	1											
8. Aesthetic Appeal	-0.06	-.205**	0.005	0.1	.208**	-.594**	.720**	1										
9. Authentic	-0.07	-.215**	0.008	0.02	.238**	-.630**	.755**	.740**	1									
10. Extraordinary	-0.14	-.222**	0.013	0.1	.292**	-.609**	.752**	.733**	.730**	1								
11. Exciting	-0.08	-.193**	0.037	0.07	.283**	-.635**	.778**	.713**	.768**	.746**	1							
12. High Status	-0.07	-.223**	0.051	0.01	.301**	-.561**	.727**	.732**	.702**	.694**	.721**	1						
13. Iconic	-0.02	-.169*	0.08	0.02	.315**	-.573**	.685**	.622**	.726**	.655**	.695**	.704**	1					
14. Original	-0.02	-0.12	-0.03	0.05	.250**	-.604**	.709**	.744**	.767**	.681**	.718**	.745**	.742**	1				
15. Popular	-0.07	-.180*	0.081	0.05	.242**	-.640**	.777**	.707**	.765**	.707**	.762**	.714**	.678**	.726**	1			
16. Rebellious	-0.07	-.208**	0.059	0.05	.234**	-.633**	.736**	.665**	.710**	.724**	.713**	.713**	.641**	.661**	.694**	1		
17. Subcultural	-0.04	-.152*	0.016	0.01	.174*	-.625**	.734**	.723**	.738**	.675**	.728**	.735**	.679**	.721**	.770**	.660**	1	
18. Communal Brand Connection	-0.09	-.221**	0.028	0.07	.175*	-.581**	.689**	.708**	.735**	.665**	.728**	.702**	.681**	.762**	.688**	.692**	.689**	1

Notes; * $p < 0.05$, ** $p < 0.01$.

Control variables (i.e., age, gender, education, race, household income, and tesla ownership) were included in the multiple regression equation to estimate the causal effect of the sub-variables of brand coolness on purchase intention. As shown in Table 12 below, the controls explain 41 percent of the variances in purchase intention. However, controlling for the effects of age, gender, education, household income, race, and Tesla ownership, brand coolness elements have a significant effect on purchase intention ($\beta = 0.800$, $t = 6.029$, $p = 0.000$, $R^2\Delta = 0.323$), suggesting that brand coolness elements alone, controlling for the control variables accounts for 32.3% of the change in the purchase intention.

Table 13: Model of Controls and the Brand Coolness Sub-Sets as Predictors of Purchase Intention

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics						Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change		
1	.654 ^a	.427	.410	1.22239	.427	24.004	6	193	.000		
2	.866 ^b	.750	.727	.83136	.323	21.386	11	182	.000	2.439	

a. Predictors: (Constant), Tesla ownership, Educational level, Household income, Age, Race, Gender

b. Predictors: (Constant), Tesla ownership, Educational level, Household income, Age, Race, Gender, Communal brand connection, Extraordinary, Iconic, Subcultural, Rebellious, Aesthetic Appeal, Popular, High Status, Exciting, Original, Authentic

c. Dependent Variable: Purchase Intention

However, as shown in Table 14 (Model 2), only exciting, popular, and rebellious elements of brand coolness were significant positive predictors of purchase intention. Exciting brands were positive significant predictors of purchase intention, ($\beta = 0.166$, $t = 2.292$, $p = 0.023$), suggesting that controlling for the control variables, it is a significant and positive predictor of purchase intention. Similarly, popular brands, controlling for the various variables are positive and significant predictors of purchase intention ($\beta = 0.197$, $t = 2.757$, $p = 0.006$). Finally, rebellious brand also positively and significantly impacts purchase intention ($\beta = .149$, $t = 2.298$, $p = 0.023$).

Table 14: Coefficients Brand Coolness Subscales as Predictors of purchase Intention

Model				Standardized Coefficients	t	Sig.
		Beta				
1	(Constant)	4.822	0.800		6.029	0.000
	Age	-0.002	0.005	-0.023	-0.418	0.676
	Gender	-0.079	0.128	-0.035	-0.616	0.538
	Educational level	0.052	0.055	0.052	0.935	0.351
	Household income	0.097	0.095	0.058	1.024	0.307
	Race	0.408	0.109	0.209	3.730	0.000
	Tesla ownership	-1.812	0.181	-0.571	-9.999	0.000
2	(Constant)	-0.084	0.647		-0.130	0.897
	Age	-0.003	0.003	-0.037	-0.955	0.341
	Gender	0.049	0.089	0.022	0.548	0.585
	Educational level	-0.007	0.039	-0.007	-0.169	0.866
	Household income	0.061	0.066	0.036	0.932	0.352
	Race	0.087	0.081	0.045	1.081	0.281
	Tesla ownership	0.003	0.173	0.001	0.018	0.986
	Aesthetic Appeal	0.059	0.068	0.060	0.875	0.383
	Authentic	0.080	0.070	0.085	1.134	0.258
	Extraordinary	0.120	0.064	0.128	1.883	0.061
	Exciting	0.165	0.072	0.166	2.292	0.023
	High Status	0.060	0.068	0.063	0.891	0.374
	Iconic	0.040	0.059	0.044	0.683	0.495
	Original	-0.002	0.072	-0.002	-0.024	0.981
	Popular	0.189	0.069	0.197	2.757	0.006
	Rebellious	0.142	0.062	0.149	2.298	0.023
	Subcultural	0.095	0.069	0.095	1.365	0.174
	Communal brand	-0.007	0.064	-0.007	-0.108	0.914

Since only exciting, rebellious, and popular dimensions of brand coolness were significant, a hierarchical regression analysis was undertaken considering the effects of exciting, popular, and rebellious components of brand coolness on purchase intention, controlling for age, gender, race, education, Tesla ownership, and household income. These control variables were included in the hierarchical linear regression to estimate the

casual effect of the three significant sub-variables of brand coolness (exciting, popular, and rebellious) on purchase intention. As shown in Table 14 below, the controls explain 41% of the variances in purchase intention. However, controlling for the effects of Tesla ownership, age, household income, race, gender, and education, the three brand coolness elements that significantly predict purchase intention explained 29.6% of the variance in purchase intention of EV customers ($F\Delta (3,190) = 67.616, p = 0.000, R^2\Delta = 0.296$).

Table 15: Model of Controls and the Predictors of Purchase Intention

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics						Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change		
1	.654 ^a	.427	.410	1.22239	.427	24.004	6	193	.000		
2	.850 ^b	.723	.710	.85679	.296	67.616	3	190	.000	2.278	

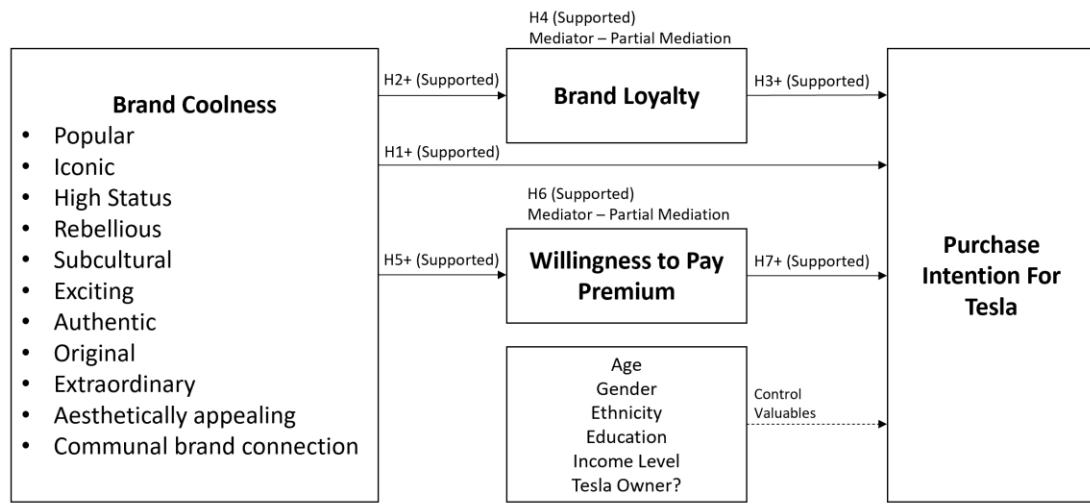
a. Predictors: (Constant), Tesla ownership, Educational level, Household income, Age, Race, Gender

b. Predictors: (Constant), Tesla ownership, Educational level, Household income, Age, Race, Gender, Rebellious, Popular, Exciting

c. Dependent Variable: Purchase Intention

A summary of the model, indicating the results of the hypotheses tests, is shown in Figure 3 below. Considering the results of the correlation analysis, the study found that age, gender, education, ethnicity, household income, and Tesla ownership has an effect on purchase intention, and thus controlling such variables would be critical in understanding the impacts of brand coolness, brand loyalty, and willingness to purchase premium on purchase intention as shown in Tables 12 and 13. The control variable alone explained 42.7% of the variation in purchase intention.

Figure 3: Model Showing Results of Hypotheses Testing



CHAPTER V. DISCUSSION

The study found that brand coolness has a positive influence on consumer purchase intention towards EVs. The finding suggests that when a consumer has positive perceptions that the brand is cool, then there would be a higher probability that they would have higher intention to purchase the product. The finding aligns with the results of the literature. For instance, the finding supports the theoretical position by Jimenez-Barreto et al. (2022) that brand coolness can affect consumers' attitudes and behaviors. The relationship found in the study could be explained by the self-presentation theory, which holds that consumers with similar cool identities tend to share and engage in communal values, including communal views towards purchasing products and services (Jimenez-Barreto et al., 2022). As Dar-Nimrod et al. (2012) noted, brand coolness is subjective and based on consumers' perceptions. Thus, when an EV vehicle company develops a positive perception of the brand as cool, consumers are more willing to purchase and develop intentions to purchase the product. The finding can also be explained by the concept of the perceived value of the brands that are cool. The assertion is premised on the view by Anselmsson et al. (2014) and Netemeyer et al. (2004) who argued that when consumers perceive a product to be of a high value, they will have greater purchase intention than when the product is perceived to have a lower value. They noted that consumers often associated cool brands with greater perceived value from purchasing the product, thus higher purchase intention. Additional support for the finding can be found in the study by Ball and Tasaki (1992). Social image or the symbolic meaning and social role linked to the brand is seen as an important predictor of brand loyalty as well. Customers use brands to express their ideal selves and true aspects of

their identity, thus cool brands would lead to higher purchase intentions by customers (Ball & Tasaki, 1992). A similar result is found in Lassar et al. (1995) who argued that social image influences and is relevant to customers' responses to goods (Lassar, Mittal, & Sharma, 1995). Social image and customer self-identity are important drivers of purchase intention (Anselmsson et al., 2014). Therefore, the results of the study support the hypothesized position that brand coolness is a significant predictor of consumers purchase intentions.

The results showed that coolness of a service brand positively predicts the brand loyalty of consumers who use electric vehicles (EVs). This means that if an EV user perceives a service brand as cool, they are more likely to be loyal to that brand. The coolness of a service brand is likely to positively predict the brand loyalty of consumers who use electric vehicles (EVs). The finding suggests that if an EV user perceives a service brand as cool, they are more likely to be loyal to that brand. A service brand's coolness can be influenced by various factors such as its reputation for quality service, innovative offerings, unique features, or other attributes that set it apart from its competitors. Customers may perceive a brand as cool if it aligns with their values, identity, or social status, which can lead to increased brand loyalty. The positive and significant effects of the brand's coolness on brand loyalty is supported by previous research. For instance, Jimenez-Barreto et al. (2022) stated that consumers perceive or identify a brand as cool due to distinctive and unique brand associations that could gain them a competitive advantage which further reinforces the brand's relationships with the consumers through loyalty behavior. Therefore, in line with previous studies, cool brands must provide subjectively superior value to the customers than other options (Tiwari,

Chakraborty, & Maity, 2021). Therefore, brand coolness could potentially enhance brand loyalty as consumers would have a greater association and identification with the brand.

Another important finding from this study is that brand loyalty significantly affects the purchase intention of EV consumers. The finding suggests that brand loyalty is a crucial factor in determining their purchase intention. When customers develop a strong attachment or loyalty to a particular brand, they are more likely to repurchase products or services from the same brand in the future, resulting in repeat business for the company. In the context of EVs, this means that consumers who are loyal to a particular brand are more likely to purchase an EV from that brand than from a competitor. This is because they trust the brand and are satisfied with their previous experience, leading to an increased willingness to purchase from the same brand again. Research has shown that brand loyalty has a significant impact on purchase intention, as it can act as a mediator between the customer's attitude towards the brand and their willingness to purchase the product. Customers who are loyal to a brand tend to have a more positive attitude towards the brand, which in turn leads to a higher likelihood of purchase intention. This is because they perceive the brand to be of higher quality, have a good reputation, and provide them with value that is superior to competing brands. The finding in this study is supported by the theoretical studies showing significant effects of brand loyalty on purchase intention. For instance, Khan et al. (2014) noted that when consumers have a strong loyalty towards a brand, they trust the brand and are more likely to make purchases from that brand. This is because they have confidence in the brand's quality, and they perceive lower risks associated with the purchase. When consumers do not switch to other brands, they have a higher intention to purchase and may even be willing

to pay more for the products. Therefore, brand loyalty plays a significant role in consumer behavior and can positively affect a brand's sales and revenue.

Additionally, the results showed that brand loyalty fully mediates the relationship between brand coolness and purchase intention. The finding suggests that relationship between brand coolness and purchase intention can be explained by brand loyalty. This means that the there is an indirect effect of brand coolness on purchase intention through brand loyalty, in that the brand coolness affects brand loyalty, which in turn affects purchase intention. The implication is that brand coolness through brand loyalty affects purchase intention. Thus, cool brands would enhance brand loyalty, which in turn improves the purchase intention of the consumers. The finding aligns with the existing literature, for instance, Tiwari et al. (2021) suggested that cool brands possess a unique and distinct set of brand associations that make them subjectively superior in terms of quality and perceived value compared to other brands. These brand associations, as noted by Jimenez-Barreto et al. (2022), serve as a significant source of competitive advantage in the market. In the highly competitive business environment, firms compete on various competitive positions such as quality, cost, differentiation, and more. By being a cool brand, a company can enjoy a higher degree of brand loyalty among its consumers. In this context, the study found that brand loyalty fully mediates the relationship between brand coolness and purchase intention. According to Khan et al. (2014), consumers' attitudes towards a brand play a crucial role in developing brand loyalty. If customers perceive a brand to be reliable and trustworthy, they are more likely to develop loyalty towards the brand. This, in turn, enhances their perception and confidence in the brand, reduces their perceived risks, and lowers customer turnover. As a result, they become

more willing to purchase the products offered by the brand. On the other hand, if a brand fails to build and maintain customer loyalty, it can lead to customer hemorrhage, lost business, and no return customers. In such a scenario, consumers may not be willing to purchase the products. Conversely, brand loyalty leads to greater customer retention, enhanced willingness to purchase the products, and an increased likelihood that the consumers will not switch to another brand. Therefore, the study found that brand loyalty plays a crucial role in the relationship between brand coolness and purchase intention as it enhances the consumers' willingness to purchase the products and reduces the likelihood of them switching to another brand. When a brand is seen as cool, due to the effects of communal-feelings, identity, and others as contained in the study's theoretical model, the consumers would have a higher willingness to purchase the product as compared to uncool brands.

Moreover, the study found that brand coolness significantly impacts consumers' willingness to pay (WTP) premium. No existing studies have investigated the link between brand coolness and WTP premium; however, there is some hypothesized support in the literature for the finding. Since, cool brands are viewed as having greater quality than those that are not cool, consumers would have a higher willingness to pay premium for such brands. Brand coolness is a subjective perception that consumers develop about a brand, and it has been shown to have a positive impact on consumers' WTP. This is because cool brands are associated with positive customer responses, which in turn enhances the perceived value of the product (Dar-Nimrod et al., 2012). This perception of a greater value is related to the fact that consumers associate cool brands with higher quality (Anselmsson et al., 2014). As a result, they are more willing to pay a premium

price for such products. Previous research has shown a positive relationship between perceived brand quality and WTP, but the concept of brand coolness has not been explored in this context until recently. According to research on brand equity, cool brands significantly impact a consumer's WTP; the more consumers are aware of a brand's coolness, the more positively they respond to it, leading to a higher perceived value of the product. Anselmsson et al. (2014) suggested that brand coolness leads to a perceived greater value of the product, with customers perceiving a cool product as having higher value and quality. This enhanced perception of value and quality has a positive influence on the WTP premium. Empirical studies have explored the relationship between perceived brand quality and WTP, with Netemeyer et al. (2004) finding a positive relationship; however, their study did not consider the concept of brand coolness. Overall, the concept of brand coolness is an important consideration for companies as it impacts consumers' attitudes towards their brand, the perceived value of their product, and ultimately the WTP of consumers.

Another important finding from the study is that WTP premium significantly impacts purchase intention, in that when a consumer has a higher WTP premium for a certain brand of EV, they will have greater purchase intention towards the product (Anselmsson, Vestman Bondesson, & Johansson, 2014). Various studies have revealed that WTP is crucial in determining a firm's brand equity. According to Sohn and Kim (2020), the WTP and the likelihood of purchasing a product can be influenced by various factors such as the perception of the product, the shopping experience, and the potential risks associated with the purchase. Therefore, these factors can have a positive impact on the intention to buy. Khan, Razavi Rahmani, Hoe, and Chen (2014) suggest that when

customers have a higher WTP, they are more likely to become committed to the brand. This brand loyalty can lead to a lower likelihood of switching to other brands, ultimately enhancing their purchase intention. In other words, if customers feel that they are getting value for their money and are satisfied with their purchase, they are more likely to continue buying from the same brand. Furthermore, Anselmsson, Vestman, Bondesson, and Johansson (2014) argue that brand awareness also plays a significant role in influencing customers' responses and perceptions of a brand. When customers are aware of a brand and have positive associations with it, they are more likely to respond positively to the brand's products and services. This can lead to a more favorable perception of the brand and a greater willingness to pay for its products. Ultimately, this can also enhance the customers' purchase intention as they become more loyal to the brand.

Finally, the study found that WTP premium partially mediates the relationship between brand coolness and purchase intention. The finding aligns with the existing studies and hypothesized relationships, since this study found an indirect relationship between brand coolness and purchase intention, through WTP premium and purchase intention. Similarly, this study and existing studies have shown that WTP premium has a direct effect on purchase intention. The hypothesized relationship is thus confirmed in this study as it shows that WTP premium partially mediates the relationship between brand coolness and purchase intention. Then existing studies have not considered whether WTP mediates the relationship, thus the finding in this study fills the gap in literature regarding the mediating role of WTP premium. The existing studies have found that perceived brand coolness would significantly impact the consumer's inclination to pay

premium for the brand due to the brand awareness (Dar-Nimrod et al., 2012). Yet, no studies have ever explored the mediating role of WTP on the relationship. Therefore, this study showed that WTP premium partially mediates the relationship between brand coolness and purchase intention. Therefore, the implication is that brand coolness indirectly affects purchase intention through WTP premium. The finding shows that cool brands lead to greater willingness by the consumers to purchase the product. Consequently, the increased WTP premium lead to higher purchase intention. The implication is that organizations can focus on enhancing their perceived brand coolness and the consumers WTP, as WTP indirectly affects the relationship between brand coolness and purchase intention.

Discussion of Post-hoc Analysis

Considering the sub-sets of brand coolness, the study found that elements of brand coolness, such as rebellious, exciting, and popular, were significant positive predictors of purchase intention. This finding supports the view that rebellious brands tend to challenge established social norms and conventions, as envisioned by Dar-Nimrod et al. (2012). The rationale is that rebellious brands often take an unconventional approach and go against the status quo. These brands may be associated with social and political movements or seek to disrupt existing power structures. Rebellious brands can appeal to consumers who seek to be independent thinkers, challenge the norm, and stand out from the crowd. They also appeal to those looking for brands that are not afraid to take risks and challenge existing ideas. The research shows that rebellious brands appeal to consumers and thus increase purchase intention. In line with previous studies, this research shows that rebellion as an element of brand coolness is a major predictor of

purchase intention (Bruun, Raptis, Kjeldskov, & Skov, 2016). Thus, rebellious brands appeal to consumers who value independence, originality, and authenticity as they offer an alternative to conventional thinking and challenge existing social norms and values.

Another important finding is that brand popularity, an element of brand coolness, is a significant predictor of purchase intention, controlling for age, gender, race, education, household income, and Tesla ownership. The finding suggests that popular brands – ones that are currently in fashion, favored by a large group of people, and considered trendy – would lead to higher purchase intention. The finding aligns with the elements of the theory of planned behavior (TPB), particularly the subjective norm. Ajzen's TPB suggests that the subjective norm can predict an individual's intention to make a purchase. In simple terms, the subjective norm is the perceived social pressure that one feels either to perform or not to perform a certain behavior. This pressure is influenced by the opinions and beliefs of one's peers, family members, friends, or other influential members of the community (Ajzen, 2002). Social norms exert a powerful influence on people and can either motivate or discourage them from making a purchase. The more pressure an individual perceives from their social circle to engage in a certain behavior, the more likely they are to follow through with that behavior. Conversely, if an individual perceives that their social circle disapproves of a behavior, they may be less likely to engage in it. Even though popularity can be an important factor in a brand's success, it is not the only measure of its value. A brand that is popular today may not necessarily remain so in the future. Moreover, a brand's popularity may not always be an indicator of its quality or suitability for a particular audience. Brands that focus too

heavily on achieving popularity may also risk losing their authenticity and credibility over time.

More importantly, this study's findings, especially that popular brands are linked to increased purchase intention, has support in existing literature. Popularity is linked to various elements, including its worldwide recognition, wide use, scarcity, exclusivity, rarity, and limited accessibility. This study's finding goes against existing studies that suggest scarcity and coolness impact purchase intention (Dar-Nimrod et al., 2012). It is important to note that research specifically exploring the link between brand coolness and scarcity, such as the quantitative research by Dar-Nimrod et al. (2012), found no link between scarcity and a brand's coolness. Even though the study by Warren et al. (2019) did not find a direct link between coolness and scarcity, the authors noted that there could be an indirect relationship. The view is that brands considered cool usually start as subcultural and scarce and then become more popular as more consumers discover the brand, thus transitioning from the niche coolness (accessing to a small customer segment) to coolness on a mass scale (available to the mass consumers). Therefore, the finding suggests that the positive relationship between popular brands and purchase intention is a product of a brand becoming mass cool.

This study's findings found that rebelliousness, excitement, and popularity are the elements of brand coolness that positively predict purchase intention. The finding is in line with previous literature (Jimenez-Barreto et al. (2022). Previous research on brand coolness has identified theoretical dimensions that distinguish between niche and mass brands, and our findings are consistent with these prior studies (Warren et al., 2019). For instance, Warren et al. (2019) research focused on fast-food restaurant brands, finding

that fast food brands are not typically associated with high status or rebelliousness. On the other hand, the study found that branded music festivals are associated with rebelliousness and high status. These results suggest that the combination of theoretical components that create brand coolness can vary depending on the type of service or product being provided, whether it is to a niche or a mass market. In other words, what makes a brand cool in one context may not necessarily be the same in another one. Since Tesla is a niche product, the current study shows that popularity, rebelliousness, and excitement, are the main elements that make the brand cool by consumers.

However, the current study suggests that the other elements of brand coolness, such as usefulness, extraordinariness, appealing aesthetics, being subcultural, having high status, being energetic, and authenticity were not significant predictors of purchase intention, controlling for demographic variables. Existing research such as Warren et al. (2019) showed that cool brands are useful, meaning that they provide tangible benefits to the consumers, are of a high quality, or provide some help to consumers, such as durability. However, no association between useful brands could be explained by the other concepts, such as brand loyalty. The consumer may have loyalty to a given brand and thus they would be less willing to change to a different brand that offers higher-quality and better tangible benefits. For instance, Khan et al. (2014) noted that when consumers have a strong loyalty towards a brand, they trust the brand and are more likely to make purchases from it. This is because they have confidence in the brand's quality and perceive lower risks associated with the purchase. When consumers do not switch to other brands, they have a higher intention to purchase and may even be willing to pay

more for the products. Therefore, brand loyalty plays a significant role in consumer behavior and can positively affect a brand's sales and revenue.

Similar to the effects of utility as a facet of brand coolness, the current study found no significant relationship between a brand's aesthetic appeal and consumers' purchase intentions. Unlike various studies that have shown that aesthetic appeal is a predictor of purchase intention, the current study findings show no significant effect of aesthetic appeal on purchase intention. Since the current study found a significant positive relationship between brand coolness and purchase intention, the study expected that the components of brand coolness would have significant relations. For instance, Warren et al. (2019) noted that cool brands are aesthetically appealing; however, it is important to note that aesthetic appeal research has mostly focused on telecommunication technologies and clothing products, such as the research by Sundar, Tamul, and Wu (2014). Therefore, the finding of a non-significant relationship between aesthetic appeal and purchase intention could be due to the view that studies that show aesthetic appeal as an element of brand coolness were mostly focused on fashion and fast food brands. Thus, the inclusion of aesthetic appeal as a subset of brand coolness in a study on automobile purchase intention may be inappropriate. Future research should aim to develop brand coolness elements that are specific to the automobile industry rather than adopting a generic scale developed for other products and services.

Finally, the study agreed with prior research which did not find energetic as an element of brand coolness; for instance, Warren et al. (2019), which found that a brand's energy has not been explored, only including it as it appears to have traits associated with freedom and youth. High status also did not influence the purchase intention, as it could

be a product of other factors, such as WTP, based on perceived value and other elements. Even after controlling for household income, a brand's high status did not impact the purchase intention. The finding is contrary to the literature which shows that exclusivity, sophistication, and class are indicators of purchase intention. However, the effects of WTP premium were not considered in the analysis. Moreover, even though cars have changed over time, consumers are increasingly adopting newer technologies and newer vehicle designs due to the need to achieve certain goals, such as limiting their environmental footprints. For instance, Asamer et al. (2016) found that adopting innovative technologies, such as electronic batteries, could be an effective strategy to minimize the pollution from greenhouse gases. Such issues can explain why there was no significant relationship between authenticity and purchase intention.

One major gap that this study sought to fill was the effects of demographic variables on the relationship between brand coolness and purchase intention. The current study finds support in the existing studies that found that gender, education, income, race, and other sociodemographic characteristics impacted the outcome variables, thus it is important to control for their effects on purchase intention, before undertaking any analysis of the indirect and direct effects of the independent variables on purchase intention. For instance, Mostafa (2007) found that gender differences influence the intention to purchase electric vehicles (EVs) and the willingness to pay more, with the study showing that males are more willing to purchase and pay more for EVs compared to females. Similarly, Barbarossa et al. (2015) in their study conducted in three different countries to compare how gender affects attitudes and purchase intention towards electric vehicles (EVs), showed that there is a notable difference between men and women when

it comes to their attitudes towards EVs and their willingness to purchase them. This finding highlights the importance of considering gender differences when promoting EVs, as it suggests that marketing strategies should be tailored to effectively target both male and female consumers. The study by Barbarossa et al. provides valuable insights into the role of gender in shaping consumer attitudes and behavior towards sustainable transportation and highlights the need for further research on this topic to better inform marketing and policy efforts aimed at promoting the adoption of EVs. Additionally, Huang and Ge (2019) conducted a study in China that examined the attitudes and purchase intentions of males and females towards (EVs) and found that males had more favorable attitudes towards EVs and reported a greater intention to purchase them compared to females. However, further research is needed to explore the underlying reasons for these gender differences and to identify effective marketing strategies that can be used to promote EVs to both males and females. Therefore, the current study finds support in the existing literature that shows that gender is a significant confounding variable explaining differences in purchase intention. The study also adds to the existing literature by indicating that rather than age alone, other demographic and socio-economic characteristics have a significant influence on the purchase intention and WTP as envisioned in Slaba (2019).

Theoretical and Practical Implications

There are various implications from the study. First, since brand loyalty plays a crucial role in the relationship between brand coolness and purchase intention, companies that aim to increase purchase intention for their products should focus on building a brand that is perceived as cool and distinctive to create emotional connections with customers

(Dar-Nimrod et al., 2012). In doing so, they can create and enhance a loyal customer base, increasing sales and profits over the long term. By understanding the role of brand loyalty as a mediator between brand coolness and purchase intention, companies can develop effective marketing strategies that emphasize their brand's unique and distinctive features to create a strong emotional connection with customers. The study's findings are relevant for EV manufacturers competing in a crowded and rapidly growing market. By building a service brand perceived as cool by consumers, manufacturers can enhance customer loyalty and ultimately gain a competitive advantage. In line with the finding that brand loyalty positively impacts purchase intention, EV companies need to prioritize building brand loyalty among their customers as it can significantly impact their sales and market share (Anselmsson, Vestman Bondesson, & Johansson, 2014; Dar-Nimrod et al., 2012). By providing superior products and services and fostering a strong brand image, companies can cultivate a loyal customer base more likely to choose their products over competitors.

Secondly, understanding the factors that contribute to service brand coolness can help manufacturers develop effective marketing strategies that communicate the unique value of their brand to customer. Another implication from the study is that the concept of brand coolness has gained significance in recent times, especially in the field of marketing, as it can have a considerable impact on a company's business outcomes. It has been observed that the coolness factor can influence the consumers' attitudes towards that brand, leading to a more positive brand perception (Dar-Nimrod et al., 2012). This can then result in an increase in the perceived value of the products offered by the brand, and ultimately, the willingness to pay a premium price for these products. Therefore, it is

imperative for companies to understand the importance of brand coolness and incorporate it into their branding and marketing strategies. By doing so, they can differentiate themselves from their competitors and attract a loyal customer base, thereby enhancing their business outcomes.

Further, the current study revealed that niche products and services can easily create cool brand images compared to mass-produced products or brands. The suggestion is that mass-market service brands could face a significant challenge in creating a cool brand image that resonates with consumers. Specifically, we found that these brands may struggle to achieve a consensus on what is considered cool among consumers. This means that it may be more difficult for mass-service brands to differentiate themselves from their competitors and establish a unique identity that appeals to a broad range of consumers (Warren et al., 2019). To overcome this challenge, mass-service brands may need to adopt a more targeted approach to branding and marketing. This could involve conducting market research to gain a better understanding of their target audience and identifying the specific values and preferences that resonate with them. Brands may also need to tailor their messaging and branding strategies to appeal to different segments of their target market, rather than trying to appeal to everyone at once. Overall, this research highlights the importance of understanding the distinctions of brand coolness in different service contexts and underscores the challenges that mass-service brands face in creating a compelling brand image. By taking a more targeted and nuanced approach to branding, these brands can enhance their appeal and connect with consumers in a more meaningful way.

Limitations and Future Research

Like all research studies, the current project has some limitations which may have affected the outcome. The data was collected using the Amazon Mechanical Turk Services (Mturk) using convenience sampling which could impact the representativeness of the data. Failure to identify and include important demographic differences could have led to the exclusion of some groups, thus impacting the ability to generalize the findings (Bornstein et al., 2013). Therefore, future research should include additional ethnic and socio-economic status groups to ensure a representative population for the analysis. Additionally, using the Mturk in participant recruitment and data collection is also a major limitation in this study. Necka et al. (2016) noted that using paid services for surveys can lead to biases in the data. For instance, the participants may select the answers that would make them appear positive, without indicating their true feelings and views. Such data falsification is difficult to detect, thus making it challenging to confirm the data's accuracy and validity. Future research should focus on using validated owners of cars, both EVs and non-EVs, including Tesla and other models, to help filter views and perceptions. Further, Chandler et al. (2015) noted that participants in crowdsourcing platforms such as Amazon Mechanical Turk (Mturk) can modify their behavior thus leading to favorable responses, which impacts the effect size of the relationships.

Moreover, the data analysis could also be a limitation. Factorial analysis was undertaken using Varimax rotation. Different approaches would produce distinct effects on the factor's loadings. Future research could consider using different approaches to determine the best and appropriate model fit for the data. Even though the cross loading of items in different constructs or factors was limited, factor loadings were inconsistent,

with some loading as high as 0.4. This could be due to sample size inadequacies. Future research should thus consider using adequate sample sizes and minimize the cross-item correlations.

Another limitation of the study was found during the analysis, where there was a high correlation between the predictor variables. Multicollinearity can have significant impacts on the ability to make predictions in two ways. First, high correlation can lead to wildly swinging coefficient estimates based on other independent variables in the study's model. Secondly, multicollinearity significantly reduces the estimated coefficient's precision, thus weakening the regression model's statistical power. The study overcomes the limitation by standardizing the independent variables in the study as a means of overcoming the multicollinearity challenges.

Conclusion

Brand coolness is an important concept that impacts the EV consumers' purchase intention, WTP premium, and brand loyalty. The study found that when a consumer has positive perceptions that the brand is cool, there would be a higher probability that they would have more intention to purchase the product. Therefore, brand coolness positively predicts consumer brand loyalty for those who use electric vehicles (EVs). Thus, if an EV user perceives a service brand as cool, they are more likely to be loyal to that brand. Vehicles manufacturers should thus focus on enhancing the perceived coolness of their brand. Another important finding from the study is that a WTP premium significantly impacts purchase intention, in that when a consumer has a higher WTP premium for a certain brand of EV, they will have greater purchase intention towards the product.

REFERENCES

Aiken, L. S., & West, S. G. (1991). *Multiple regression: Testing and interpreting interactions*. Los Angeles, CA: Sage.

Anselmsson, J., Vestman Bondesson, N., & Johansson, U. (2014). Brand image and customers' willingness to pay a price premium for food brands. *Journal of Product & Brand Management*, 23(2), 90-102. doi:10.1108/jpbm-10-2013-0414

Asamer, J., Graser, A., Heilmann, B., & Ruthmair, M. (2016). Sensitivity analysis for energy demand estimation of electric vehicles. *Transportation Research Part D: Transport and Environment*, 46, 182-199. doi: 10.1016/j.trd.2016.03.017

Ball, A. D., & Tasaki, L. H. (1992). The role and measurement of attachment in consumer behavior. *Journal of Consumer Psychology*, 1(2), 155-172. doi:10.1016/s1057-7408(08)80055-1

Barbarossa, C., Beckmann, S. C., De Pelsmacker, P., Moons, I., & Gwozdz, W. (2015). A self-identity based model of electric car adoption intention: a cross-cultural comparative study. *Journal of Environmental Psychology*, 42, 149-160. doi: 10.1016/j.jenvp.2015.04.001

Barber, N., Kuo, P., Bishop, M., & Goodman, R. (2012). Measuring psychographics to assess purchase intention and willingness to pay. *Journal of Consumer Marketing*, 29(4), 280-292. doi:10.1108/07363761211237353

Belk, R.W., (1986). Yuppies as arbiters of the emerging consumption style. In: Lutz, R. (Ed.), *Advances in consumer research*, vol. 13 (pp. 514–519). Provo, UT: Association for Consumer Research.

Belk, R.W., Tian, K., Paavola, H., (2010). Consuming cool: behind the unemotional mask. In, *Research in consumer behavior* (pp. 183–208). London. Emerald Group Publishing Limited.

Belk, R. W., Tian, K., & Paavola, H. (2010). Consuming cool: Behind the unemotional mask. *Research in Consumer Behavior*, 12, 183-208. doi:10.1108/s0885-2111(2010)0000012010

Bhutto, M. H., Tariq, B., Azhar, S., Ahmed, K., Khuwaja, F. M., & Han, H. (2020). Predicting consumer purchase intention toward hybrid vehicles: testing the moderating role of price sensitivity. *European Business Review*, 34(1), 62-84. doi:10.1108/ebr-10-2019-0274

Bhutto, M.H., Shaikh, A.A. & Sharma, R. (2021). Factors affecting the consumers' purchase intention and willingness to pay more for electric vehicle technology. In

Biel, A. L. (1992). How brand image drives brand equity. *Journal of Advertising Research*, 32(6), 6-12. <https://acervo-digital.espm.br/Artigos/ART/381949.pdf>

Bornstein, M. H., Jager, J., & Putnick, D. L. (2013). Sampling in developmental science: Situations, shortcomings, solutions, and standards. *Developmental Review*, 33(4), 357-370. doi:10.1016/j.dr.2013.08.003

Bougenvile, A., & Ruswanti, E. (2017). Brand Equity on Purchase Intention Consumers' Willingness to Pay Premium Price Juice. *IOSR Journal of Economics and Finance*, 08(01), 12–18. <https://doi.org/10.9790/5933-0801031218>

Bruun, A., Raptis, D., Kjeldskov, J., & Skov, M. B. (2016). Measuring the coolness of interactive products: The COOL questionnaire. *Behaviour & Information Technology*, 35(3), 233-249. doi:10.1080/0144929x.2015.1125527

Chandler, J., Paolacci, G., Peer, E., Mueller, P., & Ratliff, K. A. (2015). Using Nonnaive Participants Can Reduce Effect Sizes. *Psychological Science*, 26(7): 1131–1139. doi:10.1177/0956797615585115

Dar-Nimrod, I., Hansen, I. G., Proulx, T., Lehman, D. R., Chapman, B. P., & Duberstein, P. R. (2012). Coolness: An empirical investigation. *Journal of Individual Differences*, 33(3), 175-185. doi:10.1027/1614-0001/a000088

de Winter, J. C., Dodou, D., & Wieringa, P. A. (2009). Exploratory factor analysis with small sample sizes. *Multivariate Behavioral Research*, 44(2), 147-181. <https://doi.org/10.1080/00273170902794206>

Freemark, Y., & Jenkins, W. (2022, June 21). With carbon emissions higher than ever, can we tax polluting cars to reduce vehicle pollution? Retrieved from <https://www.urban.org/urban-wire/carbon-emissions-higher-ever-can-we-tax-polluting-cars-reduce-vehicle-pollution>

Godey, B., Manthiou, A., Pederzoli, D., Rokka, J., Aiello, G., Donvito, R., & Singh, R. (2016). Social media marketing efforts of luxury brands: Influence on brand equity and consumer behavior. *Journal of Business Research*, 69(12), 5833–5841. <https://doi.org/10.1016/j.jbusres.2016.04.181>

Hair Jr, J. F., Hult, G. T. M., Ringle, C., & Sarstedt, M. (2016). *A primer on partial least squares structural equation modeling (PLS-SEM)*. London: Sage publications.

Hair, J.F., Ringle, C.M., & Sarstedt, M. (2013). Partial Least Squares Structural Equation Modeling: Rigorous Applications, Better Results and Higher Acceptance. *Long Range Planning*, 46(1-2): 1-12. doi:10.1016/j.lrp.2013.01.001

Hawkins, M. (2018). Researching and marketing to consumption collectives. *International Journal of Market Research*, 60(5), 517–530. <https://doi.org/10.1177/1470785318769594>

Hawkins, M. A. (2020). The moderating effect of need for belonging and communal-brand connection on counterfeit purchasing. *Journal of Retailing and Consumer Services*, 57, 102250. doi:10.1016/j.jretconser.2020.102250

Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the academy of marketing science*, 43(1), 115-135. doi:10.1007/s11747-014-0403-8

Huang, X., & Ge, J. (2019). Electric vehicle development in Beijing: An analysis of consumer purchase intention. *Journal of cleaner production*, 216, 361-372. doi:10.1016/j.jclepro.2019.01.231

International Energy Association. (2018). *CO2 Emissions from Fuel Combustion 2018-Highlights*. International Energy Association, Paris

Jain, S. K., & Kaur, G. (2004). Green marketing: An attitudinal and behavioural analysis of Indian consumers. *Global Business Review*, 5(2), 187-205. doi:10.1177/097215090400500203

Jimenez-Barreto, J., Correia Loureiro, S. M., Rubio, N. & Romero, J. (2022). Service brand coolness in the construction of brand loyalty: A self-presentation theory approach. *Journal of Retailing and Consumer Services*, 65(2022), 1-15. doi:10.1016/j.jretconser.2021.102876

Keller, K. L. (2003). Understanding brands, branding and brand equity. *Interactive Marketing*, 5(1), 7–20. <https://doi.org/10.1057/palgrave.im.4340213>

Khan, N., Razavi Rahmani, S. H., Hoe, H. Y., & Chen, T. B. (2014). Causal relationships among dimensions of consumer-based brand equity and purchase intention: Fashion industry. *International Journal of Business and Management*, 10(1), 172-181. doi:10.5539/ijbm.v10n1p172

Koskie, M. M., & Locander, W. B. (2023). Cool brands and hot attachments: Their effect on consumers' willingness to pay more. *European Journal of Marketing*, 57(4), 905-929. doi:10.1108/ejm-02-2022-0086

Laroche, M., Habibi, M. H., & Richard, M. (2013). To be or not to be in social media: How brand loyalty is affected by social media? *International Journal of Information Management*, 33(1), 76–82. <https://doi.org/10.1016/j.ijinfomgt.2012.07.003>

Lassar, W., Mittal, B., & Sharma, A. (1995). Measuring customer-based brand equity. *Journal of Consumer Marketing*, 12(4), 11-19. doi:10.1108/07363769510095270

Leila, H., & Zohra, B. (2018). The impact of demographic factors on the purchasing intent of the local food product. *International Journal of Academic Research in Business and Social Sciences*, 8(5), 616-627. doi:10.6007/ijarbss/v8-i5/4163

Loureiro, S. M., Jiménez-Barreto, J., & Romero, J. (2020). Enhancing brand coolness through perceived luxury values: Insight from luxury fashion brands. *Journal of Retailing and Consumer Services*, 57, 102211. doi:10.1016/j.jretconser.2020.102211

Mostafa, M. M. (2007). Gender differences in Egyptian consumers' green purchase behaviour: The effects of environmental knowledge, concern and attitude. *International Journal of Consumer Studies*, 31(3), 220-229. doi:10.1111/j.1470-6431.2006.00523.x

Muniz, A., & Schau, H. (2005). Religiosity in the abandoned Apple Newton brand community. *Journal of Consumer Research*, 31(4), 737-747. doi:10.1086/426607

Muñiz, A. M., & Schau, H. J. (2005). Religiosity in the Abandoned Apple Newton Brand Community. *Journal of Consumer Research*, 31(4), 737-747. <https://doi.org/10.1086/426607>

Necka, E. A., Cacioppo, S., Norman, G. J., & Cacioppo, J. T. (2016). Measuring the Prevalence of Problematic Respondent Behaviors among Mturk, Campus, and Community Participants. *PLOS ONE*, 11(6). <https://doi.org/10.1371/journal.pone.0157732>

Netemeyer, R. G., Krishnan, B., Pullig, C., Wang, G., Yagci, M., Dean, D., ... Wirth, F. (2004). Developing and validating measures of facets of customer-based brand equity. *Journal of Business Research*, 57(2), 209-224. doi:10.1016/s0148-2963(01)00303-4

Nyadzayo, M. W., & Khajehzadeh, S. (2016). The antecedents of customer loyalty: A moderated mediation model of customer relationship management quality and brand image. *Journal of Retailing and Consumer Services*, 30, 262-270. <https://doi.org/10.1016/j.jretconser.2016.02.002>

Otterbring, T. (2021). Peer presence promotes popular choices: A "Spicy" field study on social influence and brand choice. *Journal of Retailing and Consumer Services*, 61, 102594. <https://doi.org/10.1016/j.jretconser.2021.102594>

Paul, J., Modi, A., & Patel, J. (2016). Predicting green product consumption using the theory of planned behaviour and reasoned action. *Journal of retailing and consumer services*, 29, 123-134. doi:10.1016/j.jretconser.2015.11.006

Pourazad, N., Stocchi, L., & Pare, V. (2020). The power of brand passion in sports apparel brands. *Journal of Product & Brand Management*, 29(5), 547–568. <https://doi.org/10.1108/jpbm-12-2018-2164>

Rindfleisch, A., Burroughs, J. E., & Wong, N. (2009). The Safety of Objects: Materialism, Existential Insecurity, and Brand Connection. *Journal of Consumer Research*, 36(1), 1–16. <https://doi.org/10.1086/595718>

Schiffman, L.G., & Kanuk, L.L. (2009). *Consumer behavior*. Hoboke, NJ: Prentice Hall.

Shah, K. U. (2015). Choice and control of international joint venture partners to improve corporate environmental performance. *Journal of Cleaner Production*, 89, 32-40. doi:10.1016/j.jclepro.2014.10.090

Shmueli, G., Ray, S., Estrada, J. M. V., & Chatla, S. B. (2016). The elephant in the room: Predictive performance of PLS models. *Journal of Business Research*, 69(10), 4552-4564. doi:10.1016/j.jbusres.2016.03.049

Slaba, M. (2019). The impact of age on the consumer buying behavior and attitude towards price. *Littera Scripta*, 12(2), 1-14. https://www.researchgate.net/publication/338461712_The_impact_of_age_on_the_customers_buyingBehaviour_and_attitude_to_price/fulltext/5e169ef9a6fdcc28376332f3/The-impact-of-age-on-the-customers-buying-behaviour-and-attitude-to-price.pdf?origin=publication_detail

Slama, M., & Wolfe, R. (1999). Consumption as self-presentation: A Socioanalytic interpretation of Mrs. Cage. *Journal of Marketing*, 63(4), 135. doi:10.2307/1251979

Sohn, J. W., & Kim, J. K. (2020). Factors that influence purchase intentions in social commerce. *Technology in Society*, 63, 101365. <https://doi.org/10.1016/j.techsoc.2020.101365>

Sundar, A., Dinsmore, J., Paik, S. W., & Kardes, F. R. (2017). Metaphorical communication, self-presentation, and consumer inference in service encounters. *Journal of Business Research*, 72, 136–146. <https://doi.org/10.1016/j.jbusres.2016.08.029>

Sundar, S. S., Tamul, D. J., & Wu, M. (2014). Capturing “cool”: Measures for assessing coolness of technological products. *International Journal of Human-computer Studies*, 72(2), 169–180. <https://doi.org/10.1016/j.ijhcs.2013.09.008>

Tiwari, A. A., Chakraborty, A., & Maity, M. (2021). Technology product coolness and its implication for brand love. *Journal of Retailing and Consumer Services*, 58, 102258. doi:10.1016/j.jretconser.2020.102258

Tonachel, L. (2022). Study: Electric vehicles can dramatically reduce carbon pollution from transportation, and improve air quality. Retrieved from <https://www.nrdc.org/bio/luke-tonachel/study-electric-vehicles-can-dramatically-reduce-carbon-pollution-transportation>

Tu, J., & Yang, C. (2019). Key factors influencing consumers’ purchase of electric vehicles. *Sustainability*, 11(14), 3863. doi:10.3390/su11143863

Warren, C., & Campbell, M. L. (2014). What Makes Things Cool? How Autonomy Influences Perceived Coolness. *Journal of Consumer Research*, 41(2), 543–563. <https://doi.org/10.1086/676680>

Warren, C., Batra, R., Loureiro, S. M., & Bagozzi, R. P. (2019). Brand coolness. *Journal of Marketing*, 83(5), 36-56. doi:10.1177/0022242919857698

Wong, K. K. (2019). *Mastering partial least squares structural equation modeling (PLS-Sem) with Smartpls in 38 Hours*. IUniverse.

Xu, Y., Chen, Z., Peng, M. Y., & Anser, M. K. (2020). Enhancing consumer online purchase intention through Gamification in China: Perspective of cognitive evaluation theory. *Frontiers in Psychology*, 11. doi:10.3389/fpsyg.2020.581200

APPENDICES

Appendix 1: Dissertation Survey –Tesla Study

Start of Block: Consent

Consent Welcome to a brief survey that will investigate the factors affecting consumers' purchase intention for electric vehicles (EVs). First, please review some important information about the study regarding how it will be utilized as well as how the research team will protect your identity.

Things you should know about this study:

- Purpose: The purpose of the study is to investigate the factors affecting consumers' purchase intention for electric vehicles (EVs).
- Procedures: If you choose to participate, you will be asked to answer about 50 questions.
- Duration: This will take about 30 mins.
- Risks: The main risk or discomfort from this research is very minimum. There would be potential minimum risks which is the same situation that the individuals would encounter in everyday use of the Internet.
- Benefits: The main benefit to you from this research is to help advancing academic research and provide more knowledge to the electric vehicles (EVs) area. There is no direct financial reward.
- Alternatives: There are no known alternatives available to you other than not taking part in this study.
- Participation: Taking part in this research project is voluntary. Please carefully read the entire document before agreeing to participate.

PURPOSE OF THE STUDY

The purpose of this study is to investigate the factors affecting consumers' purchase intention for electric vehicles (EVs).

NUMBER OF STUDY PARTICIPANTS If you decide to be in this study, you will be one of 200 people in this research study.

DURATION OF THE STUDY Your participation will involve no more than 30 minutes.

PROCEDURES If you agree to be in the study, we will ask you to do the following things: 1. Read through the questions and provide according answers for each question. 2. When all the questions in the survey are answered, then the task for participant is complete. 3. Participants may refuse to answer any question or exit the survey at any point in time.

RISKS AND/OR DISCOMFORTS The study has the following possible risks to you:

There would be potential minimum risks which is the same situation that the individuals would encounter in everyday use of the Internet.

BENEFITS The study has the following possible benefits to you: The main benefit to you from this research is to help advancing academic research and provide more knowledge to the electric vehicles (EVs) area. There is no direct financial reward.

ALTERNATIVES There are no known alternatives available to you other than not taking part in this study. Any significant new findings developed during the course of the research which may relate to your willingness to continue participation will be provided to you.

CONFIDENTIALITY The records of this study will be kept private and will be protected to the fullest extent provided by law. In any sort of report we might publish, we will not include any information that will make it possible to identify you. Research records will be stored securely and only the researcher team will have access to the records. However, your records may be inspected by authorized University or other agents who will also keep the information confidential.

COMPENSATION & COSTS You will receive a payment of \$2 for your participation via Amazon Mechanical Turk services. There are no costs to you for participating in this study.

MEDICAL TREATMENT N/A RIGHT TO DECLINE OR WITHDRAW Your participation in this study is voluntary. You are free to participate in the study or withdraw your consent at any time during the study. You will not lose any benefits if you decide not to participate or if you quit the study early. The investigator reserves the right to remove you without your consent at such time that he/she feels it is in the best interest.

PARTICIPANT AGREEMENT I have read the information in this consent form and agree to participate in this study. I have had a chance to ask any questions I have about this study, and they have been answered for me. By clicking on the “consent to participate” button below I am providing my informed consent.

Consent Please indicate

- I consent (1)
- I do not consent (2)

End of Block: Consent

Start of Block: Part 1

Q1 Please kindly indicate your age

Q2 Please kindly indicate your gender

- Male (1)
- Female (2)
- Non-binary / third gender (3)
- Prefer not to say (4)

Q3 What is your highest educational attainment?

- 12th grade or less (1)
- Graduated high school or equivalent (2)
- Some college but no degree (3)
- Associate degree (4)
- Bachelor's degree (5)
- Post-graduate degree (6)

Q4 What is your average annual household income?

- Less than 50K (1)
- >50K to 100K (2)
- >100K to 200K (3)
- Over 200K (4)

Q5 Which race or ethnicity best describes you? (Please choose only one.)

- American Indian or Alaskan Native (1)
- Asian / Pacific Islander (2)
- Black or African American (3)
- Hispanic (4)
- White / Caucasian (5)
- Multiple ethnicity/ Other (6)

Q6 Are you a Tesla owner?

- No (1)
- Yes (2)

Purchase Intention

Purchase Intention

Select one of the options

Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
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Q7 - PI1 I would consider purchasing the brand of the car I own

Q8 - PI2 I intended to try the brand of the car I own

Q9 - PI3 I planned on buying the brand of the car I own

Q10 - PI4 I was interested in testing driving the brand of the car I own

Willingness to pay (WTP) Premium

Select one of the options

Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
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Q11 - PP1 The price of the brand of the car I own would have to go up quite a bit before I would switch to another EV or non-EV brand

Q12 - PP2 I am willing to pay a higher price for the brand of car I own than other brands of non-EV

Q13 - PP3 I am willing to pay ___% more for the brand of the car I own over other brands of EVs and non-EVs: 0%, 5%, 10%, 15%, 20%, 25%, 30%, or more

Q14 - PP4 I am willing to pay a lot more for the brand of the car I own than other brands of EVs and non-EVs

Brand Coolness

Select one of the options

Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
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Q15 Please select "Somewhat agree" for this attention question

Q16 - BC1 The brand of the car I own looks good

Q17 - BC2 The brand of the car I own is aesthetically appealing

Q18 - BC3 The brand of the car I own is attractive

Q19 - BC4 The brand of the car I own "is true to its roots."

Q20 - BC5 The brand of the car I own "does not seem artificial."

Q21 - BC6 The brand of the car I own "doesn't try to be something it is not"

Q22 - BC7 The brand of the car I own is superb."

Q23 - BC8 The brand of the car I own is fantastic

Q24 - BC9 The brand of the car I own is extraordinary

Q25 - BC10 The brand of the car I own is energetic

Q26 - BC11 The brand of the car I own is outgoing

Q27 - BC12 The brand of the car I own is lively

Q28 - BC13 The brand of the car I own is chic

Q29 - BC14 The brand of the car I own is sophisticated

Q30 - BC15 The brand of the car I own is "ritzy (expensively stylish)."

Q31 - BC16 The brand of the car I own is a cultural symbol

Q32 - BC17 The brand of the car I own is iconic

Q33 - BC18 The brand of the car I own is innovative

Q34 - BC19 The brand of the car I own is original

Q35 - BC20 The brand of the car I own does its own thing

Q36 - BC21 Most people like the brand of the car I own

Q37 - BC22 The brand of the car I own is in style

Q38 - BC23 The brand of the car I own is widely accepted

Q39 - BC24 The brand of the car I own is rebellious

Q40 - BC25 The brand of the car I own is defiant

Q41 - BC26 The brand of the car I own is not afraid to break the rules

Q42 - BC27 If I were to use the brand of the car I own, it would make me stand apart from others

Q43 - BC28 The brand of the car I own helps people who use it stand apart from the crowd

Q44 - BC29 People who use the brand of the car I own are unique

Q45 - BC30 I identify with people who purchase the brand of the car I own

Q46 - BC31 I feel I almost belong to a club with other car owners that have the same brand of the car I own

Q47 - BC32 I feel a deep connection with others who purchase the same brand of the car I own

Q48 Please select your favorite movies from below options (Attention Question)

Brand loyalty

Select one of the options

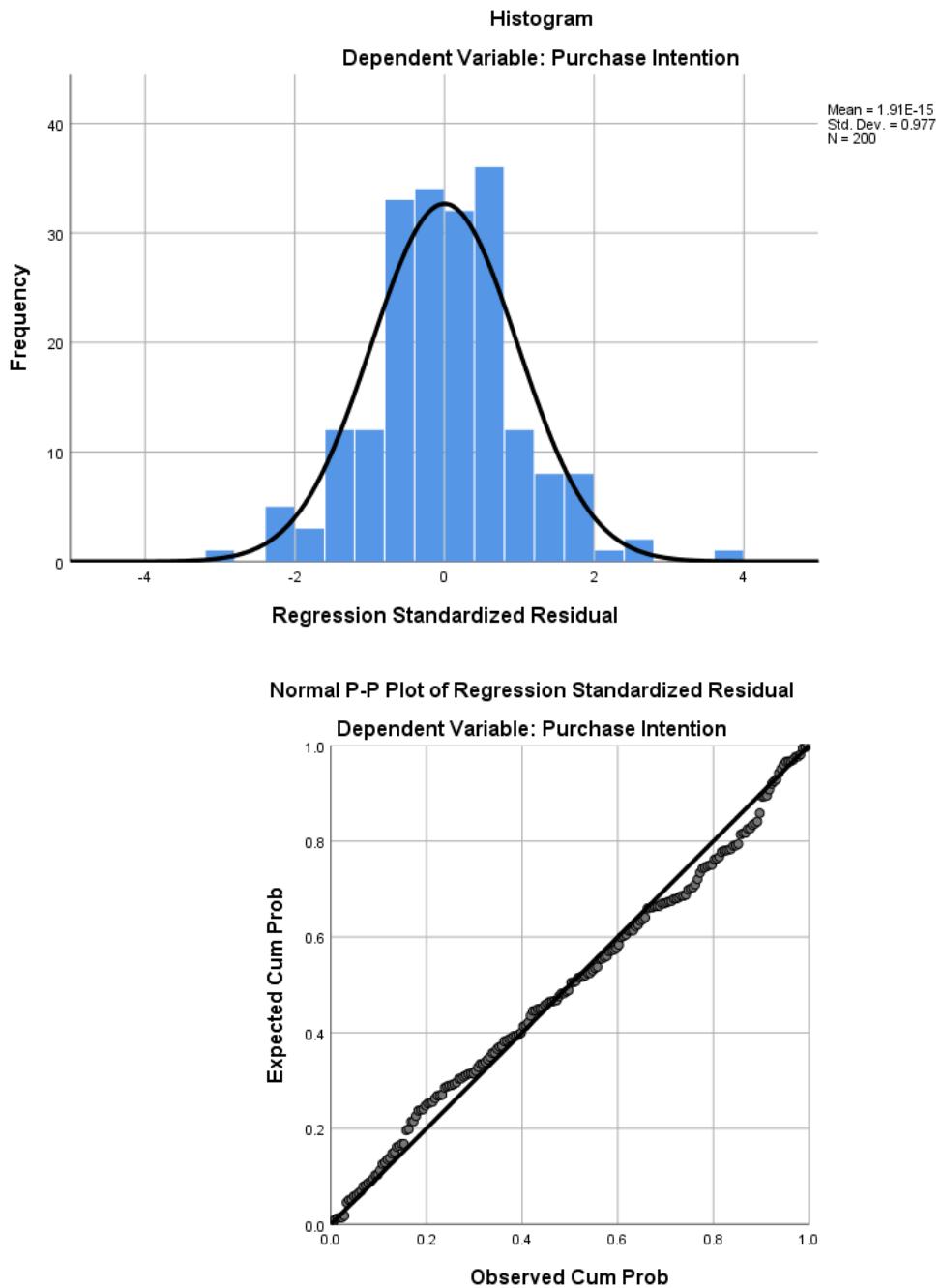
Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
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Q49 - BL1 the brand of the car I own would be my first choice

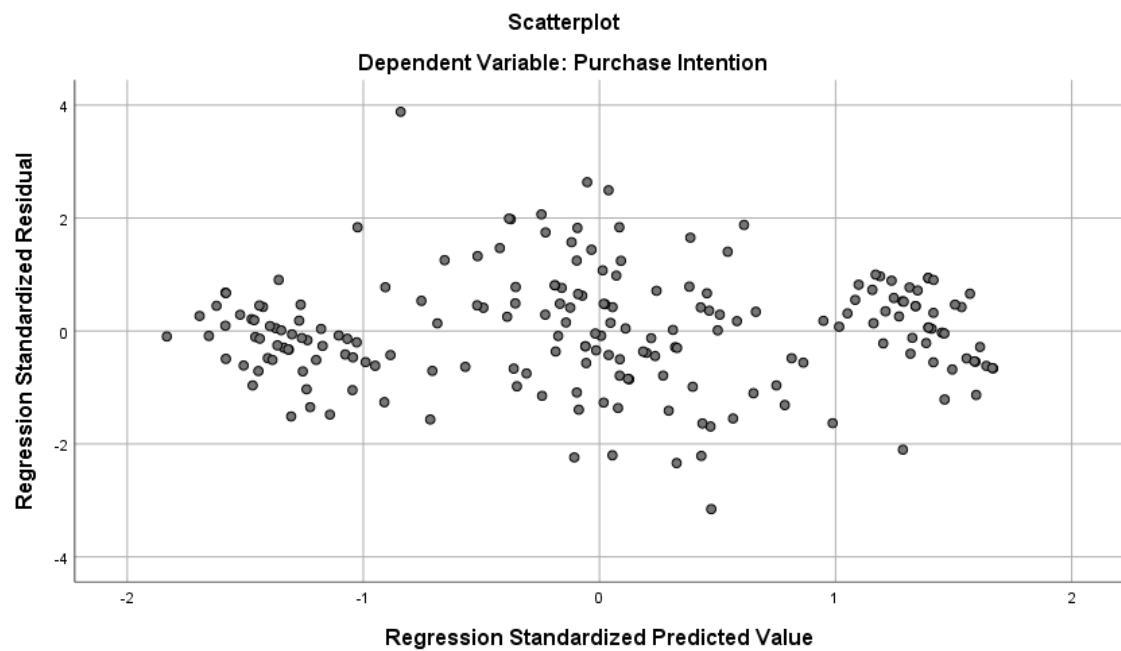
Q50 - BL2 I will not buy other brands if the brand of the car I own of car is available

Q51 - BL3 If another brand is not different from the brand of the car I own, it seems smarter to purchase

Appendix 2: Test of Normality: Purchase Intention



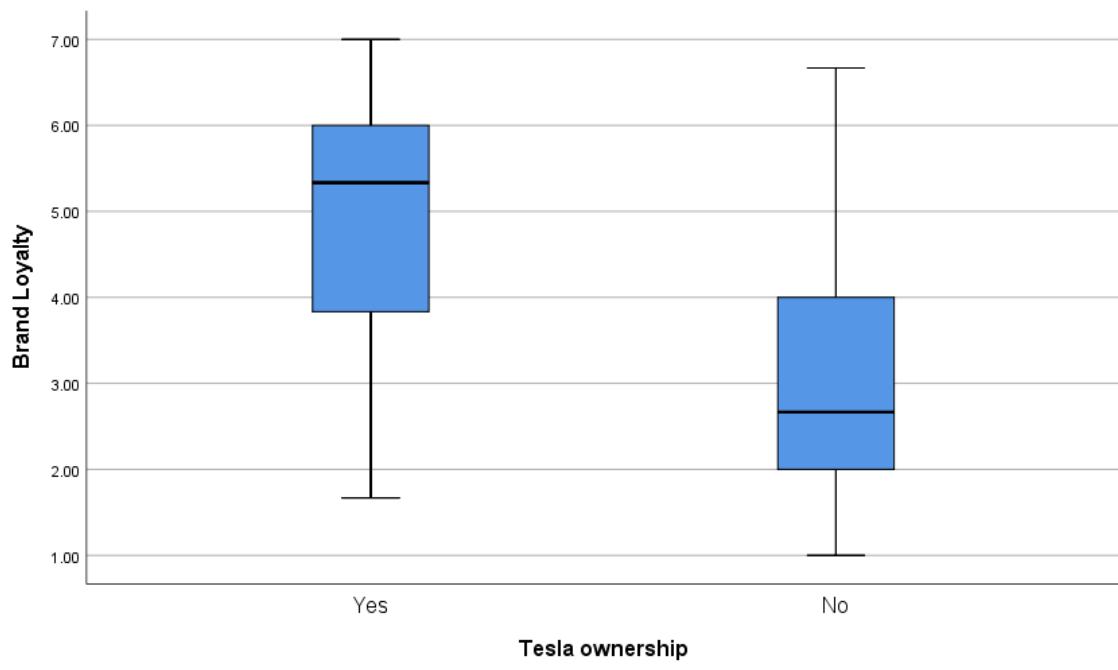
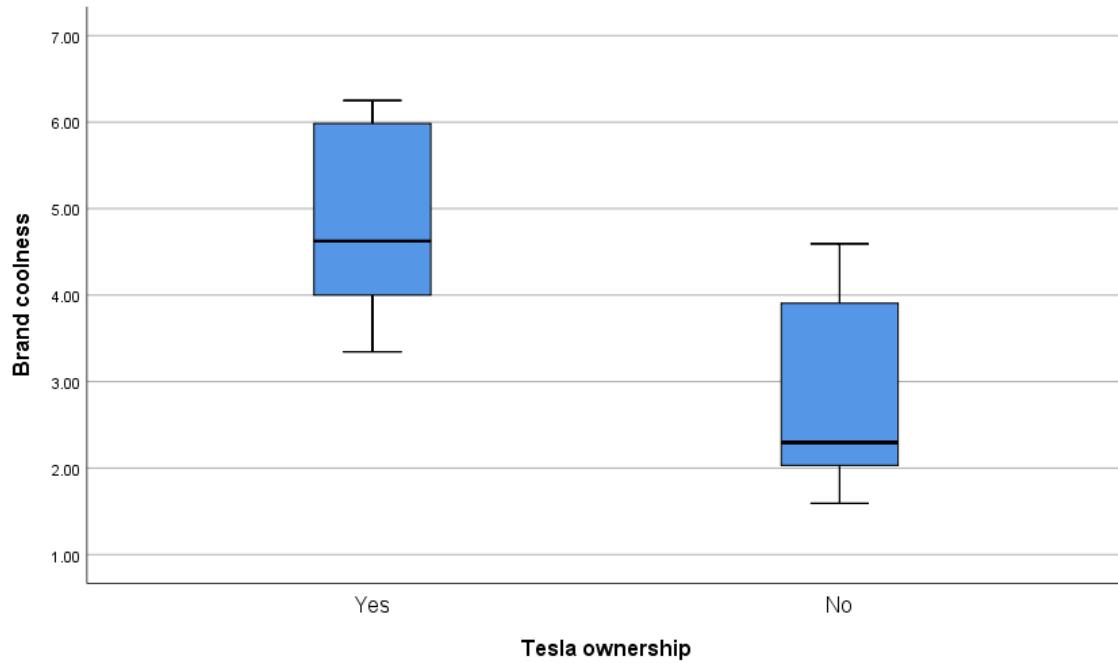
Appendix 3: Test of Linearity: Purchase Intention

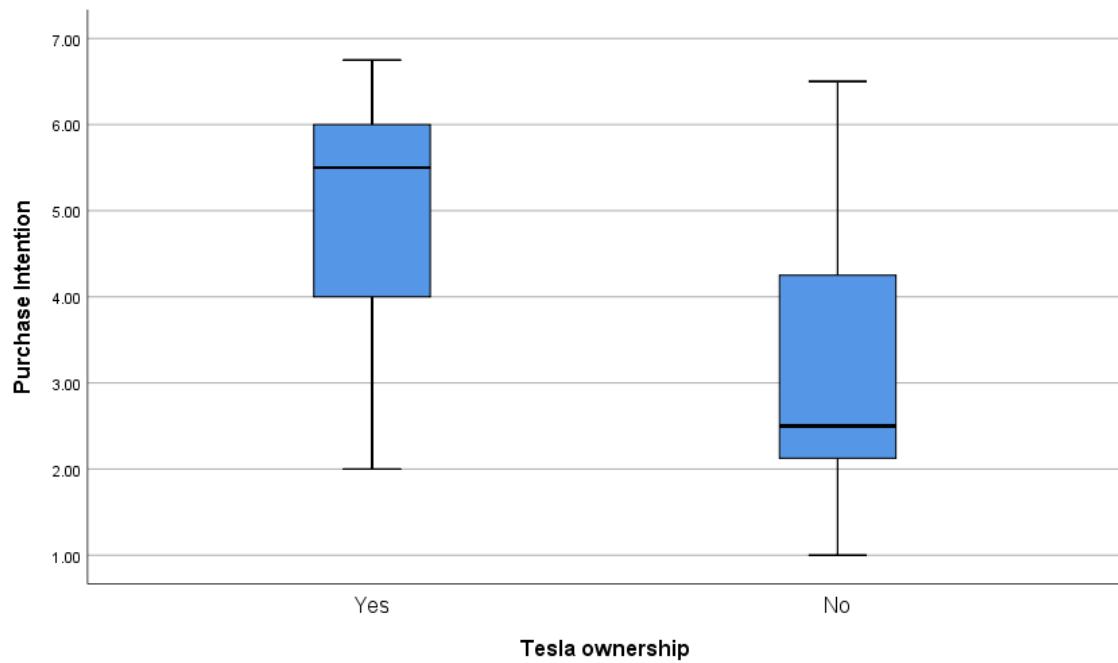
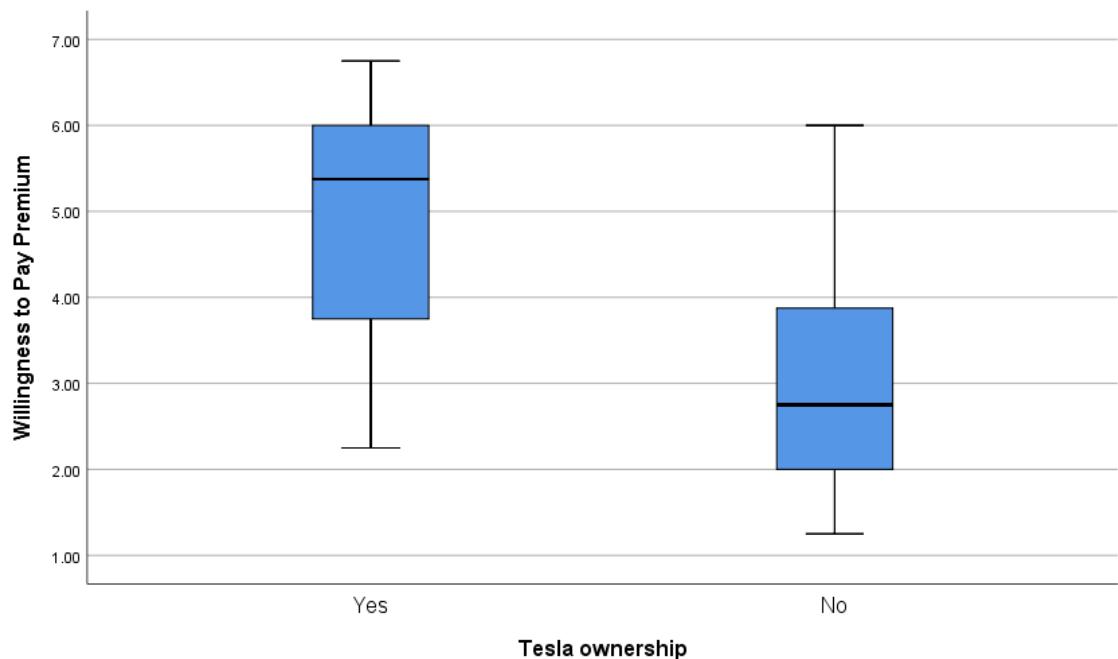


Appendix 4: Correlation: Control Variables, Independent and Dependent Variables (n = 200)

		Correlations									
		Purchase Intention	Age	Gender	Educational level	Household income	Race	Tesla ownership	Exciting	Popular	Rebellious
Pearson Correlation		1.000	-.114	-.177	.026	.084	.287	-.618	.778	.777	.736
	Purchase Intention		1.000	-.114	-.177	.026	.084	.287	-.618	.778	.777
	Age		-.114	1.000	.073	.049	-.144	-.005	.143	-.082	-.071
	Gender		-.177	.073	1.000	-.128	-.121	-.026	.213	-.193	-.180
	Educational level		.026	.049	-.128	1.000	-.059	-.054	.025	.037	.059
	Household income		.084	-.144	-.121	-.059	1.000	-.144	-.090	.070	.045
	Race		.287	-.005	-.026	-.054	-.144	1.000	-.154	.283	.242
	Tesla ownership		-.618	.143	.213	.025	-.090	-.154	1.000	-.635	-.640
	Exciting		.778	-.082	-.193	.037	.070	.283	-.635	1.000	.762
	Popular		.777	-.071	-.180	.081	.045	.242	-.640	.762	1.000
	Rebellious		.736	-.072	-.208	.059	.053	.234	-.633	.713	.694
Sig. (1-tailed)	Purchase Intention		.	.054	.006	.358	.120	.000	.000	.000	.000
	Age		.054	.	.154	.247	.021	.473	.022	.125	.158
	Gender		.006	.154	.	.035	.044	.359	.001	.003	.005
	Educational level		.358	.247	.035	.	.205	.222	.361	.302	.126
	Household income		.120	.021	.044	.205	.	.021	.103	.161	.265
	Race		.000	.473	.359	.222	.021	.	.015	.000	.000
	Tesla ownership		.000	.022	.001	.361	.103	.015	.	.000	.000
	Exciting		.000	.125	.003	.302	.161	.000	.000	.	.000
	Popular		.000	.158	.005	.126	.265	.000	.000	.	.000
	Rebellious		.000	.156	.002	.204	.229	.000	.000	.	.

Appendix 5: Test of Outliers





Appendix 6: Mediation Analysis – Brand Loyalty Mediating Brand Coolness – Purchase Intention Relationship

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error			
1	(Constant)	0.015	0.634		0.024 0.981
	Age	-0.004	0.003	-0.043	-1.136 0.257
	Gender	0.049	0.087	0.022	0.558 0.577
	Educational level	0.008	0.038	0.008	0.200 0.841
	Household income	0.064	0.065	0.038	0.996 0.321
	Race	0.109	0.077	0.056	1.409 0.160
	Tesla ownership	-0.077	0.170	-0.024	-0.451 0.652
	Brand coolness	0.914	0.061	0.820	14.925 0.000
2	(Constant)	-0.024	0.627		-0.038 0.970
	Age	-0.004	0.003	-0.039	-1.036 0.301
	Gender	0.021	0.087	0.009	0.239 0.811
	Educational level	0.001	0.038	0.001	0.038 0.970
	Household income	0.069	0.064	0.041	1.077 0.283
	Race	0.106	0.076	0.054	1.393 0.165
	Tesla ownership	-0.047	0.168	-0.015	-0.281 0.779
	Brand coolness	0.778	0.085	0.697	9.150 0.000
	Brand Loyalty	0.147	0.064	0.153	2.287 0.023
a. Dependent Variable: Purchase Intention					

Appendix 7: Willingness to Pay Premium Mediating Brand Coolness – Purchase Intention Relationship

Coefficients ^a						
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	
	B	Std. Error	Beta			
1	(Constant)	0.015	0.634		0.024	0.981
	Age	-0.004	0.003	-0.043	-1.136	0.257
	Gender	0.049	0.087	0.022	0.558	0.577
	Educational level	0.008	0.038	0.008	0.200	0.841
	Household income	0.064	0.065	0.038	0.996	0.321
	Race	0.109	0.077	0.056	1.409	0.160
	Tesla ownership	-0.077	0.170	-0.024	-0.451	0.652
	Brand coolness	0.914	0.061	0.820	14.925	0.000
2	(Constant)	0.009	0.631		0.014	0.989
	Age	-0.004	0.003	-0.040	-1.049	0.296
	Gender	0.049	0.087	0.022	0.561	0.576
	Educational level	0.005	0.038	0.005	0.127	0.899
	Household income	0.068	0.064	0.041	1.059	0.291
	Race	0.116	0.077	0.059	1.507	0.133
	Tesla ownership	-0.096	0.169	-0.030	-0.565	0.573
	Brand coolness	0.766	0.107	0.687	7.151	0.000
	Willingness to Pay Premium	0.143	0.085	0.142	1.674	0.096
a. Dependent Variable: Purchase Intention						

Appendix 8: Brand Coolness as a Predictor of WTP

Model Summary^c

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics			Sig. F Change	Durbin-Watson
						F Change	df1	df2		
1	.640 ^a	.410	.391	.78010008	.410	22.334	6	193	.000	
2	.900 ^b	.809	.802	.44479529	.399	401.660	1	192	.000	2.072

a. Predictors: (Constant), Tesla ownership, Educational level, Household income, Age, Race, Gender

b. Predictors: (Constant), Tesla ownership, Educational level, Household income, Age, Race, Gender, Zscore: Brand coolness

c. Dependent Variable: Zscore: Willingness to Pay Premium

Coefficients^a

Model	Unstandardized Coefficients		Beta	t	Sig.	Collinearity Statistics	
	B	Std. Error				Tolerance	VIF
1 (Constant)	.941	.510		1.844	.067		
Age	-9.206E-5	.003	-.002	-.029	.977	.960	1.042
Gender	-.091	.081	-.065	-1.121	.264	.923	1.083
Educational level	.044	.035	.070	1.245	.214	.970	1.031
Household income	.007	.060	.006	.109	.913	.935	1.070
Race	.182	.070	.148	2.610	.010	.947	1.056
Tesla ownership	-1.158	.116	-.581	-10.018	.000	.910	1.098
2 (Constant)	.085	.294		.288	.773		
Age	-.001	.002	-.024	-.753	.453	.958	1.043
Gender	2.120E-5	.047	.000	.000	1.000	.914	1.094
Educational level	.012	.020	.020	.612	.541	.964	1.037
Household income	-.017	.034	-.016	-.486	.627	.934	1.071
Race	-.032	.041	-.026	-.777	.438	.884	1.132
Tesla ownership	.084	.091	.042	.933	.352	.483	2.070
Zscore: Brand coolness	.934	.047	.934	20.041	.000	.458	2.184

a. Dependent Variable: Zscore: Willingness to Pay Premium

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