Norwegian School of Economics

Bergen, Spring 2019

Antecedents for green purchase intention:

Moderating effect of masculinity-femininity on the relationship between antecedents and green purchase intention

Iffat Tarannum and Timofei Kovalev

Supervisor: Herbjørn Nysveen

Master Thesis – Marketing and Brand Management

NORWEGIAN SCHOOL OF ECONOMICS

Abstract

At present, green consumer behavior is an emerging topic for both academia and business. According to various scholars, individual factors, including motivation, environmental concern, attitudes, personal values, etc. as well as external factors, including socioeconomic conditions, availability of the products, etc. are considered to be major factors for the adoption of green products. Studies also show that green purchase behavior also varies across gender. Brough et al. (2016) claimed that men and women vary in terms of green behavior to adhere to the socially accepted concept of masculinity and femininity. Therefore, this study aimed to further identify the antecedents of green purchase behavior and to examine the moderating effect of masculinity-femininity concept on the relationship between the antecedents and the green purchase intention.

The conceptual framework was based on Theory of Planned Behavior, Identity Expressiveness Theory, and Theory of Trying. Masculinity-femininity concept was measured using both one-dimensional (bipolar, traditional way of measurement) and two-dimensional (contemporary view) scales. Cross-sectional survey (N=203) on NHH students was conducted to test the conceptual model. Results illustrate that frequency of past behavior, perceived behavioral control and attitude towards green products had a strong positive influence on green purchase intention, while subjective norms negatively influenced the intention. Furthermore, the direct effect of masculinity-femininity was not found significant on the purchase intention. Additionally, out of all interaction effects between masculinity-femininity and the antecedents, interaction effect between masculinity and subjective norms was proven to be positive. Overall, the conceptual model explained 62.8% of the variance of the intention to purchase sustainable products.

Based on the results, theoretical and managerial implications were proposed, followed by future research and model extension suggestions.

Key words: *Green products, Sustainable consumption, Identity expressiveness, Theory of Planned Behavior, Masculinity, Femininity, Gender*

Acknowledgements

This master thesis is a part of the MSc in Economics and Business Administration program with major in Marketing and Brand Management (MBM) at the Norwegian School of Economics (NHH). Green consumerism and gender-related aspects within this domain are highly relevant for the modern society and its development, and this topic was immensely rewarding and educational for us.

We would like to thank Professor Herbjørn Nysveen for all his valuable comments and directions, for his close cooperation and engagement in this research, for his encouragement to extend our knowledge and to think critically. We also want to thank NHH employees for providing us with all necessary resources and all NHH students, who participated in our survey and contributed to our study.

May 2019, Bergen

Iffat Tarannum and Timofei Kovalev

Table of contents

List of tables and figures

List of abbreviations

ABS – Association of Business Schools

AJG – Academic Journal Guide

AVE – Average Variance Extracted

BLUE – Best Linear Unbiased Estimator

BP – Breusch-Pagan Test

CFA – Confirmatory Factor Analysis

CFI – Comparative Fit Index

COP21 – United Nations Climate Change Conference, Paris Climate Agreement

CR – Construct Reliability

CSR – Corporate Social Responsibility

GII – Gender Inequality Index

MMS – Multimedia-Messaging Service

MSV – Maximum Shared Variance

OECD – Organization for Economic Co-Operation and Development

OLS – Ordinary Least Squares

PBC – Perceived Behavioral Control

PPS – Purchasing Power Standards

RMSEA – Root Mean Square Error of Approximation

SCP – Sustainable Consumption and Production

SDG – Sustainable Development Goal

SEM – Structural Equation Modelling

SRMR – Standardized Root Mean Residual

TAM – Technology Acceptance Model

TLI – Tucker-Lewis Index

TORA – Theory of Reasoned Action

TPB – Theory of Planned Behavior

TT – Theory of Trying

UN – United Nations

VIF – Variance Inflation Factor

WTP – Willingness to Pay

10YFP – 10-Year Framework of Programmes on Sustainable Consumption and Production Patterns

1. Introduction

1.1 Backgrounds

By 2050, the world population is estimated to be 9.6 billion, and it would take the natural resources of three planets to fulfill the needs of those inhabitants (United Nations, n.d.). The two main drivers of the human impact on the planet are population growth rate and the increasing consumption speed. To reduce the human impact on the planet, the consumption of products and services requiring the least amount of ecological footprint is essential for sustainable development of the planet and the society (Sherbinin, Carr, Cassels, & Jiang, 2007). Fortunately, both business and consumers are showing increasing concern to protect natural resources. For instance, the consumer demand for products with social and ethical consideration is on the rise (Chen, 2001). To remain competitive in the market, plenty of organizations has already adopted green marketing initiatives to promote the sustainable consumption to their existing and potential customers. This trend has created a new consumer segment called '*green or ecological consumers*' (do Paço & Rapposo, 2009).

Sustainable consumption can be defined as the usage of goods and services that ensures a better standard of life, while the consumption and the production of those goods and services minimizes the usage and negative tracks on natural resources, protecting the well-being of the future generation (Norwegian Ministry of the Environment, 1994). As threats to the environment are being intensified, the need for research on how to increase sustainable consumption becomes more apparent (Brough, Wilkie, Ma, Isaac, & Gal, 2016). In addition, Jansson, Marell, and Nordlund (2010) stated that knowledge of green consumer behavior is and will remain an important concern for environmental and business reasons all over the globe. In fact, the evolution of the scientific investigation of environmental challenges and issues goes in the same direction with the development of environmental trends and consciousness within the society (Straughan & Roberts, 1999). Connolly and Prothero (2008) also argued that green consumption is crucial for the maintenance and constitution of '*green subjectivity*' – the idea that consumption is detrimental to the environment.

However, several barriers to make sustainable consumption widespread among consumers exist. Gleim, Smith, Andrews, and Cronin (2013) named the price and the level of consumer knowledge as significant barriers for green consumption, whilst Moser (2015) highlighted

that personal norms and willingness-to-pay (WTP) have significant adverse effects on green purchasing intentions. Individual factors like motivations, environmental concern, values, attitudes, etc. can play imperative roles in the purchase of sustainable consumption (Mainieri, Barnett, Valdero, Unipan, & Oskamp, 1997; Ebreo, Hershey, & Vining, 1999). External factors like socioeconomic condition, availability of green products, etc. influence the adoption of green products as well (Tanner & Wölfing Kast, 2003).

Moreover, research in general reveals that men, compared to women, tend to purchase less eco-friendly products (Davidson & Freudenburg, 1996). Cottrel (2003) and Levin (1990) also claimed that women often show more apprehension and behavioral intention for the environment. Khan and Trivedi (2015) attempted to investigate the role of gender influencing pro-environmental consumption, and proved that gender differences exist between green behaviors of men and women. Yet, there is still a research gap, providing an opportunity to further investigate the influence of gender on green consumer intention (Zelezny & Schultz, 2000).

In order to illustrate the scope of the existing literature on the relation between green consumerism and gender, systematic literature review was conducted. Appendix A1 shows search results of the existing literature, related to gender differences on sustainable behavior based on key words and their synonymous variations (related to sustainability, gender, and behavior) with the help of Google Scholar search engine. The search principle included the usage of advanced filters with three descriptive words within various categories. Filters '*with all of the words*' and '*in the title*' were used to narrow down the results to the most relevant works. Aggregated data, presented in the form of a table with the featured articles, shows the amount of academic work appeared in the search results. All articles are mentioned only once: the list does not include repetition, as several works appear in different variations of the key words. Some of the items are marked bold, representing the most relevant and comprehensive studies for the research area, based on Academic Journal Guide (AJG) rating of the journal and the subjective perception of the quality and relevance of the source. This surface literature review highlights the lack of extensive research on explaining gender differences in sustainable consumption.

1.2 Research questions

Green purchase behavior can be a high-effort ethical and socially responsible decision-making process (Meulenberg, 2003). There can be several factors that prompt green purchase behavior. Green consumers often consider how their private consumption has an effect on public welfare and societal change (Moisander, 2007). Individual factors, like e.g. environmental concern, have a positive impact on sustainable purchase intention and behavior (Padel & Foster, 2005), while habits and past behavior often pose a hindrance to the green purchase behavior (Tsakiridou, Boutsouki, Zotos, & Mattas, 2008). Gleim et al. (2013), Gupta and Ogden (2009) argued that perceived consumer effectiveness – the consumers' perception regarding the impact of their behavior on the actual problem – often increases the purchase intention for the green products. Joshi and Rahman (2015) identified other individual (trust, knowledge) and situational factors (subjective norms, product availability, certification of eco-friendliness, the financial situation of customers, etc.) that play crucial roles in attitude and purchase intention for green products.

Although demand for green product is on the rise (Chen, 2001), the market share of green products is still low, compared to the non-green alternatives (D'Souza, Thagian, & Kholsa, 2007). D'Souza et al. (2007) discussed that many organizations, offering green products, still find it strenuous to anticipate consumer reaction for their green products, and up-to date research on the factors driving green purchase is essential for the new product development for green products. Especially in this era, when consumer and market dynamics are continuously evolving, it is vital to identify the crucial factors that lead to higher purchase intention for green products (Chen, 2011). So based on the arguments, the following research question was formulated:

RQ1: *What are the antecedents for green purchase behavior intention?*

As mentioned before, men and women significantly vary in their decision-making process for green product purchase. According to Eisler, Eisler, and Yoshida (2003), scholars need to pay more attention to the explanation of gender differences in the consumer decision-making process for green products. Blocker and Eckberg (1997) also called for additional research to understand how gender differences interact with other constructs like environmental knowledge, religion, personal values, subjective norms, when it comes to green behavior.

To understand how men and women differ in decision-making process regarding green products Vicente-Molina, Fernández-Sainz, and Izagirre-Olaizola (2018) studied the role of environmental knowledge and attitude. Authors found that gender does have an influence on pro-environmental behavior, and women tend to engage more in green behavior. The authors also argued that as nurturing attitude and femininity are highly associated, women, compared to men, engage more in pro-environmental behavior. Women have more perceived consumer effectiveness, thus women engage more in green behavior (Vicente-Molina et al., 2018). Other factors, such as environmental concern, peer pressure, and types of personality, have also been examined by Luchs and Mooradian (2012). Women not only want to but also engage more in pro-environmental consumption behavior to maintain their personal and social identities (Costa Pinto, Herter, Rossi, & Borges, 2014). According to Kollmuss and Agyeman (2002), women tend to have less extensive sustainable literacy than men do, but women are more involved in pro-environmental behavior due to the emotional concerns and general willingness for a change. Luchs and Mooradian (2012) pointed out that women engage in sustainable behavior more, because they possess '*agreeableness*' personality traits. Sreen, Purbey, and Sadarangani (2018) claimed that due to the fact that men and women are raised with different cultural orientation, they vary in green behavior.

One important factor that influences the difference of green purchase behavior between men and women is the '*masculine-feminine*' concept, existent in the society (Brough et al., 2016; Obermiller & Isaac, 2018). The general social perception of individuals engaging in green consumption behavior is highly associated with femininity (Watson, 1994). Bennett and Williams (2011) also strengthened this argument by proving that the popular concept of '*going green*' is considered to be feminine rather than masculine by the majority of the population in the U.S. Additionally, Brough et al. (2016) examined the gender gap in sustainable consumption behavior. The authors found that consumers engaged in sustainable behavior are highly connected with being feminine in the society. Brough et al. (2016) posited that men often engage in less eco-friendly behaviors to avoid being associated with the feminine image in the society. Moreover, the authors also claimed that extensive research on attitudes and behaviors towards sustainable consumption interconnected with gender-identity perspective still remains under-examined. An in-depth analysis of drivers and barriers related to the purchase of green products by consumers, influenced by masculine-feminine stereotypes in the context of subjective norms, is much needed (Brough et al., 2016). Consequently, another purpose of this thesis is to understand how masculine-feminine

concept has a moderating effect on the relationship between the antecedents and the purchase intention for green products. Based on the above, the following research question is articulated:

RQ2: *How does masculine-feminine gender concept influence the antecedents' effect on green purchase behavior intention?*

1.3 Contribution

1.3.1 Theoretical contribution

A thorough understanding on how to promote sustainable consumer behavior is crucial for business and society (Jansson et al., 2010). This research work adds to the existing literature related to sustainable consumer behavior. Several theories including, Theory of Planned Behavior (TPB; Ajzen & Fishbein, 1980), Identity Theory (Stryker, 1968), and Identity Expressiveness Theory (Stryker & Burke, 2000) are often used to explain decision-making process in the high involvement context (Hoyer, Maclnnins, & Pieters, 2012). Fielding, McDonald, and Louis (2008) argued that TPB has been widely used to predict a wide range of green behaviors, for example water preservation, recycling, purchase of eco-friendly products, etc. Besides TPB, Identity Expressiveness Theory is also used to predict behavioral intention (Sparks & Shepherd, 1992; Cook, Kerr, & Moore, 2012). When it comes to sustainable behavior, Mannetti, Piero, and Livi (2004) used Identity Theory to predict intention to recycle as well.

This thesis contains an integrative multiattribute conceptual model, primarily based on TPB and Identity Expressiveness Theory, to examine the application of those two theories in explaining why consumers intend to engage in green behavior. This study also adds to the findings by Fielding et al. (2008), who used TPB and Identity Theory to understand why individuals engage in various behaviors to protect environment. Therefore, this study contributes not only to the existing literature on understanding the green consumer behavior, but also to the application of TPB and Identity Expressiveness Theory in explaining the green consumption intention.

Furthermore, the conceptual model also includes additional relevant variables. This research work tests an extended version of TPB and Identity Expressiveness Theory merged together

in the green behavior context. Theory of Trying (TT), developed by Bagozzi and Warsaw (1990) is an expanded version of TPB and is often used to predict the intention to try a new behavior (Ahuja & Thatcher, 2005). This study also incorporates TT to explain the intention to purchase green products, as the model includes influence of past behaviors as one of the antecedents. Thus, another contribution of this study is to propose and test a holistic model, combining three distinct theories in the green behavior context.

Moreover, this study aims to minimize the research gap on understanding the gender differences in the green behavior domain. The concept of masculinity and femininity has dramatically evolved during last decades (Hoffman, 2001). A link between consumer's self- and social identity and the tendency to engage in green behavior is a vast and well-researched area; however, the research on the gender-identity effect on the consumers' intention to purchase green products is still an emerging topic (Costa Pinto et al., 2014). This study includes the effect of masculinity and femininity, based on the contemporary views from gender studies, and contributes to the understanding of gender differences from masculinity-femininity perspective for sustainable products. It also enables observing moderating effects of gender-identity maintenance (masculinity-femininity) between the antecedents and the intention to engage in green behavior. The study also extends original studies conducted, for instance, by Brough et al. (2016); Costa Pinto et al. (2014); Obermiller and Isaac (2018) etc., and tests the model in the Norwegian setting.

1.3.2 Methodological contribution

According to Hoffman (2001), two school of thoughts prevail regarding the conceptualization of masculinity and femininity. Masculinity-femininity can be defined as a single and bipolar dimension dictating that the attributes of masculinity and femininity are mutually exclusive. Contrarily, masculinity-femininity can be also interpreted as two different dimensions: an individual can possess at the same time masculine and feminine attributes (Bem, 1981).

As part of methodological contribution, this study, measured masculinity-femininity concept both as one-and two-dimensional concept. Furthermore, masculinity-femininity can be measured by examining the attitude towards behaviors (Terman & Miles, 1936), attitude towards social norms (Mahalik, 2000) and perception about personal attributes (Brough et

al., 2016). This study measured masculinity-femininity by self-perception about personal attributes.

1.3.3 Managerial contribution

With the increasing importance of pro-environmental actions and the need to act in a socially responsible way, the scope of research within this area has gained a significant importance in the society on a global scale (Schultz & Zelezny, 1998). The drivers for pro-environmental consumer behavior can fluctuate, if examined in different markets, settings, and backgrounds (cf. Schultz & Zelezny, 1999; Eisler et al., 2003; Mostafa, 2007; Sreen et al., 2018). Globally, the market share of green products is still low (D'Souza et al., 2007), even in many European countries, where consumers in general are conscious about the environment (Eurobarometer, 2013).

Chen (2011) argued that companies should utilize consumers' growing concern for environment to differentiate their brands from competition. This research work aims to understand the drivers for sustainable consumption. The findings should enable managers to boost effective and efficient marketing strategies for local and global market players. As the study investigates consumer behavior in detail, managers should be able to make informed decisions regarding the product, price, place, and promotion. The comprehension of the consumer motivation to engage in conscious behaviors and sustainable consumption in particular would help recognize and eliminate any potential behavioral gaps, acting as barriers for adoption.

The study enables the suitable design of sustainable products and their further innovation and development that satisfies the functional and emotional needs of consumers. Investigation on whether the consumers have full control over purchasing of the green products, would allow managers to adopt appropriate pricing strategies for consumers. Furthermore, managers would be able to develop and adopt distribution channels and promotion strategies having better impact and coverage regarding sustainable consumer behavior. Finally, it also can be useful for businesses and marketers all over the world, who are trying to understand and adapt to the new trends and new behavioral patterns among consumers, allowing them to react accordingly.

Production plants and systems, global economic legislation and policies, environmental technology and social initiatives – will all play significant role in the pursuit of sustainable

development of the planet and the society, but their contribution will not be impactful enough without changes in consumers' own consumption and behavioral patterns (Spaargaren, 2003). This study investigates whether consumers use sustainable products to express their social and self-identity and gives enough light to design a promotional campaign. Brough et al. (2016) and Isaac and Obermiller (2018) found that consumers in the U.S., in order to maintain their masculine or feminine social identity, avoid brands that contradict with their gender-identity. According to the research topic, findings, presented in this work, will contribute to the understanding of the role of the gender-identity in sustainable practices and will help in the development of the strategies on how to disrupt commonly perceived relation between sustainability and femininity, resulting in higher barriers for green behavior adoption for a bigger audience.

1.4 Assumptions

Many scholars, including Brough et al. (2016); Isaac and Obermiller (2018); Luchs and Mooradian (2012), used '*green behavior*' word combination in their work, while scholars, including Cornelissen, Pandelaere, Warlop, and Dewitte (2008); Vermeir and Verbeke, (2006) used '*sustainable consumer behavior*' to refer to the similar concept. Therefore, throughout this paper, the terms '*green behavior*', '*sustainable behavior*', and '*(pro-) environmental behavior*' are used interchangeably with no variation in the meaning inflicted in them.

Moreover, Luchs, and Mooradian (2012) pointed out that in many sustainable consumer behavior related literature, the terms '*sex* and '*gender*' have been used to refer to the concept of '*sex*'. The term '*sex*' refers to state when the biological distinction is predominant, while the term '*gender*' – is cultural which refers to the social identity of an individual (APA, 2010, p. 71; Gentile, 1993; Wood & Eagly, 2010). This paper distinguishes between gender and sex. In the beginning of Chapter 3.3, differences in sustainable behavior between men and women (from the sex point of view) are explored, while in Chapters 3.3.1 and 3.3.2, the differences in green behavior are discussed from the gender point of view. In particular, masculinity-femininity concept is closely related to gender, and its influence on behavior intention was investigated.

1.5 Structure

As the research questions are presented in Chapter 1, this thesis further provides with a review of sustainable consumption phenomena in Chapter 2 – it describes general concepts of sustainability and global trends; it later shifts attention to customer-oriented and Nordic-specific view. This chapter, answering the question why the topic is so relevant, lays the foundation of the research topic and presents a general overview of the situation in the world

Chapter 3 dives further into the literature review of the fundamental theories, including the Theory of Planned Behavior (TPB), Identity and Identity Expressiveness Theory, and Theory of Trying. The literature review is logically divided into two major parts – (1) theoretical background, and (2) theoretical application to sustainability. Theoretical application to sustainability part composes of the impact of the antecedents from TPB, Identity Expressiveness Theory and Theory of Trying on green behavior intention. This part also looks into the development of the masculinity-femininity concept in the research field driven from the past; it discusses the moderating role of masculinity-femininity concept on the relationship between the antecedents and intention to engage in green behavior. Considering the existing literature, hypotheses and the conceptual model are proposed to answer the research questions.

In Chapter 4, research design, including measurement and sampling, together with possible biases have been described and discussed. Chapter 5 presents the analysis of the results.

Chapter 6, finally, draws a general conclusion about the implication of the findings on theoretical and managerial level. Together with the results, the limitations of the current study are being discussed, followed by future research ideas and model extension possibilities.

2. Sustainable consumption

'*Sustainability*' has been a buzzword for the last few decades among scientists and the general public. It is a broad concept that can be defined from many perspectives. From the economists' point of view, sustainability is described as economic advancement without jeopardizing the current resources for the upcoming generation (Gatto, 1995; OECD, 2002). Sustainable consumption can be also understood as the search of workable ideas and solutions to "social and environmental imbalances" (Glavič & Lukman, 2007, p. 1883) through responsible practices by all members of society. This idea is applied in most of the definitions; for instance, the Department for Environment, Food, and Rural Affairs in the UK (2003, p. 6-7) described sustainable consumption as "continuous economic and social progress that respects the limits of the Earth's ecosystems, and meets the needs and aspirations of everyone for a better quality of life, now and for future generations to come."

At the Oslo Symposium in 1994 sustainable consumption was explained as "the use of goods and services that respond to basic needs and bring a better quality of life, while minimizing the use of natural resources, toxic materials and emissions of waste and pollutants over the life cycle, so as not to jeopardise the needs of future generations" (Symposium on Sustainable Consumption, 1994). Pro-environmental consumption is linked directly to the value-creation chain, including production, distribution, usage, and disposal of products or services, aimed to reduce or avoid any environmental damage. The United Nations Sustainable Development Goal (UN SDG) 12 – '*Sustainable consumption and production*' – can be named as the milestone for the future development on the governmental and private levels. The core of the goal is managing the integration of environmental sustainability and economic growth, at the same time decoupling the usage of natural resources from rapid economic prosperity – in other words following the principle of '*doing more and better with less*' (UN Environment, n.d).

2.1 Sustainable consumption approaches

The business case for adopting and promoting sustainable consumption can be divided into three major approaches: innovation, choice influencing, and choice editing (World Business Council for Sustainable Development, 2008).

Firstly, innovation can be found in many fields of business, starting with eco-efficiency of operational processes within. Some examples of eco-efficiency can be named as the minimization and optimization of packaging, waste management, re-use and recycling initiatives, optimization of logistics, reduction of water, energy, fuel used in manufacturing, and so on. Product innovation and design play a crucial role in this area, where R&D of new products, services or technologies can be an effective way to increase green efficiency and to reduce environmental and social impacts.

Business model innovation, including an updated and greener supply chain management, can be a strength for stimulating green initiatives in the business world. Green supply chain, like the same way as new product development, can reduce or eliminate the environmental impact of the operations, most importantly, without sacrificing quality, performance, or without increasing the cost level (Srivastava, 2007). Sustainable business model can be defined as the business practices, which create, capture, and deliver value to the society; which reduce negative impact and increase positive contribution on environment and social paradigm (Jørgensen & Pedersen, 2015). Now, many companies are gradually starting to adopt sustainable business models, as they are giving an equal amount of importance on the financial performance and the contribution to social as well as environmental well-being. Many companies are also motivated to work towards sustainability to leverage the rules established by the Paris Climate Agreement (COP21) and the UN's SDGs. Business Commission, resulting from achieving targeted SDGs, also incentivizes companies to work towards sustainability. In many countries, legal encouragement has been provided to many business organizations for meeting SDGs (UN Environment, n.d).

Secondly, choice influencing refers to sustainable marketing approaches with an aim to help "to facilitate both innovation and choice influencing for sustainable consumption" (World Business Council for Sustainable Development, 2008, p. 28). Gordon, Carrigan, and Hastings (2011) defined existing sustainable marketing as a set of existing sub-disciplines such as green marketing, social marketing, and critical marketing. Peattie and Charter (2003, p. 727) defined green marketing as "the holistic management process responsible for identifying, anticipating and satisfying the requirements of customers and society, in a profitable and sustainable way." Simply put, green marketing is aimed to encourage and support sustainable consumption by influencing all levels and parts of marketing initiatives. However, it can be an inefficient tool to target individual attitudes and behavior. Thus combining green marketing together with social marketing can initiate more sustainable

solutions on a bigger scale (Peattie & Peattie, 2009). Social marketing is "the design, implementation, and control of programs calculated to influence the acceptability of social ideas and involving considerations of product planning, pricing, communication, distribution, and marketing research" (Andreasen, 1994, p. 109). Lastly, critical marketing is an essential system, buckling together the components of sustainable marketing. Critical marketing stimulates changes to the marketing system at a whole, as it evaluates green and social marketing performance and their efficiency. The drawback of the concept of sustainable marketing is that it should be incentivized by the government or business environment itself (Gordon et al., 2011).

Thirdly, "choice editing refers to the decisions that directly control the impacts of consumption" (World Business Council for Sustainable Development, 2008, p. 32). More and more businesses, governmental, and regulatory organizations, policy-makers, and other stakeholders have started controlling the operational processes of the market and all of the elements of the supply chain, applying green choice editing practices.

2.2 Sustainability trends on a global scale

'*Sustainable consumption*' emerged as an important subject in international policy in the 1992 Rio Earth Summit, as the leaders of the states realized that overconsumption in the developed world is detrimental for achieving sustainability. Since then, the concept of sustainable consumption has evolved to a great extent through international policies (Seyfang, 2005). Between 1990 and 2010, for instance, natural capital, i.e. the global stock of natural resources and assets, declined in 116 out of 140 countries with available data. In particular, over the past fifty years, global groundwater withdrawals have tripled, with agriculture accounting for the majority of the global water footprint (Dugarova & Gülasan, 2017). The global average human footprint was 2.7 hectares per capita in 2007 (total of 18.0 billion), while average biocapacity of the planet is 1.8 hectares per capita (total of 12.0 billion) (Global Footprint Network, 2010 as cited in PACITA, 2014). There has been a huge increment in terms of per capita 'material footprint' in the developing countries, with an increase of 4 metric ton from 2000 to 2017. The increase of non-metallic minerals significantly contributed to the increment. The footprint of fossil fuels grew four times higher for developed countries than in developing countries (The Sustainable Development Goals Report, 2018).

Many international governmental and non-governmental organizations are now expressing concern about the future of the human population and the planet. The raising central role of sustainable development in all areas of life is widespread around the world: 108 countries had national policies regarding sustainable consumptions and production by 2018, and 95% of the largest business organizations have taken sustainability under their reporting (United Nations, 2018). It has recently become a matter of legal obligation and control in the advanced economies of the world as well. United Nations at the National Assembly approved and published a resolution called '*The future we want*' (2012), aimed to integrate economic, social, and environmental aspects together, where the need to further popularize sustainable development at all levels was expressed.

Private sector also plays a key role in shifting attention towards social and environmental issues in their own operations and supply chains, as large corporations have the same responsibility to move forward and to help achieving the SDGs (WWF & ISEAL, 2017). PwC's SDG Engagement Survey in 2015 showed that around 33% of companies planned to assess the impact on some of the SDGs and other indicators relevant to operations, where only about 2% of the companies planned to assess the impact on all seventeen SDGs and indicators (PwC, 2015).

BBMG and GlobeScan (2017) in their consultancy report reported that interviewed companies prioritized essential human rights and dangers related to climate change as part of their corporate program. There is undoubtedly a high impact of COP21 and SDGs on the business and its direction. Global commitment to decarbonization is crucial for businesses. Nevertheless, the results of the study also showed that application of activities addressing human rights, supply chain management, waste-free production, etc. appeared to be plateauing (BBMG & GlobeScan, 2017).

2.3 Sustainable consumption and consumers

Consumer markets have an increase in demand for sustainable products and services (Sabapathy, 2010). According to the International Trade Administration in the U.S. (2016), the global market for environmental technologies, goods, and services in 2015 reached USD 1.05 trillion. UNs Environment Programme forecasted the market size for low-carbon and energy efficient technologies would go up to USD 2.2 trillion by 2020 (Korosec, 2013).

Consumers are getting more acknowledged and involved in the matter; they want to see actions from the companies and the proof of ethical and respectful production. It is expected from corporations to have independently verified results, thus green and ethical certification remains under scrutiny (Bisang, 2018). According to WWF and ISEAL report in 2017, extensive implementation of credible standard systems can help "shape corporate policies and set sector-wide agendas or commitments, but also measure progress and verify whether such policies and commitments have been followed through" (WWF & ISEAL, 2017, p. 18) on a higher level with possible sanctions from regulators.

Since 2009, for the first time consumers have started penalizing companies for their actions more: 28% of surveyed consumers "punished" organizations, whilst only 26% "rewarded" them for the actions related to CSR (BBMG & GlobeScan, 2017). According to this study, approximately 63% of consumers surveyed believed that they could make a difference and influence "corporate behavior." According to PwC, 90% of surveyed consumers said it was vital for a business to sign up to the SDGs and embed them in their everyday operation (PwC, 2015). But at the same time, transparency remains to be an important factor in order to win the trust and disposition of the customers. For management it is recommended to develop and implement a clear set of indicators to report on social, economic, and environmental actions.

A study in the U.S. (Augustine, 2018) presents that nearly 60% of American consumers did not prioritize brand's pro-environmental association, while 42% considered this issue. Figure 1 shows that 57% of surveyed women preferred green products and brands, comparing to the male population (43%). Furthermore, the results from the British research conducted by Mintel (2018) claimed that men were adopting less environmentally friendly habits: 71% of women were increasing their commitment to ethical and sustainable lifestyle, where only 59% of males were shifting towards the new lifestyle over the past year (Mintel, 2018). Figure 2 highlights sustainable habits in the UK household and gender gap following the same report.

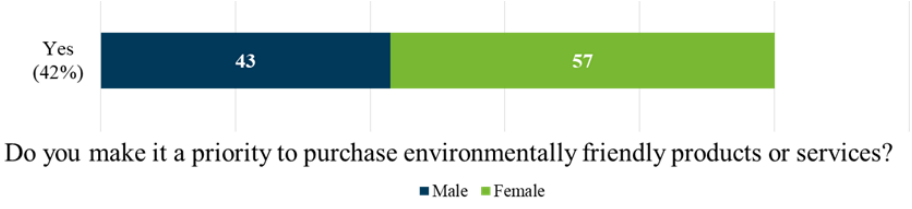


Figure 1. Gender differences in prioritizing environmentally friendly products or services in the U.S., 2018 (%), (Augustine, 2018)

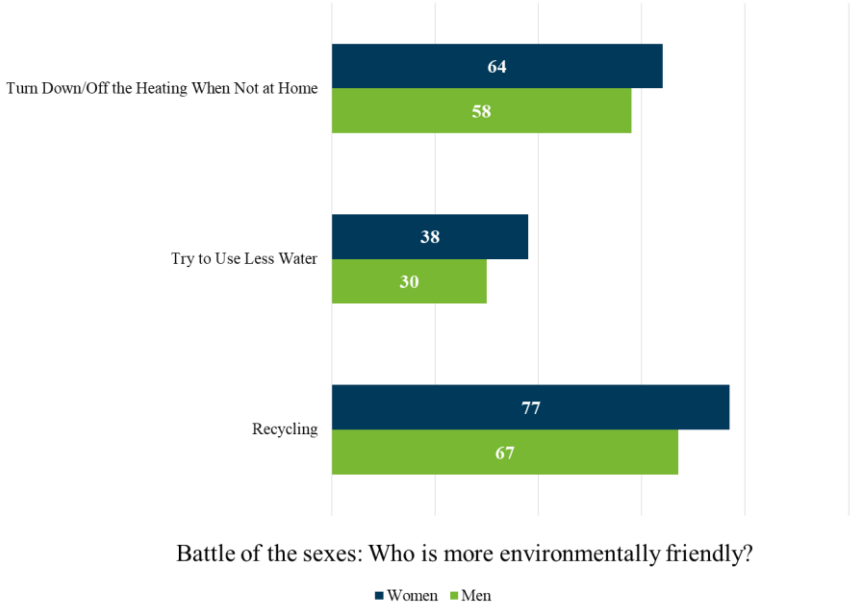


Figure 2. Gender differences in environmentally friendly habits consumers do all the time in the UK, April 2018 (%), (Mintel, 2018)

2.4 Sustainability trends in Nordics and in Norway

Recently, the Nordic Council of Ministers has adopted the Generation 2030 programme, aimed to support the Nordic countries in the development and implementation of the 2030 Agenda, which places a big emphasis on sustainable consumption and production – part of SDG 12 of the UN. The report states: "The Nordics demonstrate relatively good achievements in terms of policies and strategies (SDG 12, [target] 12.1), reducing food waste ([target] 12.3), sustainable business practices ([target] 12.6), sustainable public procurement ([target] 12.7), information and awareness ([target] 12.8) and SCP [Sustainable Consumption and Production] support to developing countries ([target] 12.A)" (Nordic Council of Ministers, 2018, p. 7). Norwegian government was recognized in announcing that procurement processes would be deforestation-free (WWF & ISEAL, 2017). Nordic countries are also ranked among 40 highest performing countries on two indexes according to SDG 12 in the world: municipal solid waste and e-waste management.

When it comes to Norway in particular, one of the challenges identified at the national level was ensuring sustainable infrastructure in the country. Following the report by the United Nations (2016, p. 19-20), "Norway has contributed financially and with the expertise to the establishment of the 10-year framework of programmes on sustainable consumption and

production patterns (10YFP), and continues to follow the programmes on sustainable lifestyles and education and sustainable public procurement." According to PwC's SDG 12: Responsible Consumption and Production Report (PwC Global, 2016), Norway was placed high in terms of percentage of wastewater treated, but rather low on municipal solid waste (kg/person/year) value. Eurostat (2018) stated the recycling rate of the municipal waste in Norway in 2011 and in 2016 remained the same, being approximately 40%.

Norway showed commendable results in the share of renewable energy in gross final energy consumption, which was reported to be 70% in 2016 (Eurostat, 2018). The report also concluded, that the EU achieved considerable gains in resource and energy productivity, where Norway showed almost 1.5 PPS (Purchasing Power Standards) per kg in 2017, slightly behind Sweden and Denmark.

Consumption has more than tripled since 1958 (SSB, 2018). However, a recent independent study by Sustainable Brand Index (2018) showed that Norway had the lowest percentage of respondents, who said that sustainability impacted their buying decision (62%) and who discussed sustainability (50%) in Nordics. 34% of consumers were ready to pay a 10% premium for greener alternatives. Moreover, the study reflected that Norway had the highest level of so-called 'ego-behavioral', price-sensitive group – in comparison to neighboring countries (Norway – 35%, Denmark – 27%, Sweden – 24%). At the same time, even though being relatively behind the Nordic neighbors, Norway still performs extremely high on a global scale, where Nordic countries are considered to be advanced in the adoption of green initiative. Nevertheless, there still remains a huge potential for further development.

3. Literature review

3.1 Consumer decision-making process

Consumers continuously take decisions about choice, purchase or usage of goods and services. Sometimes decisions are difficult to take for consumers as they are often exposed to a wide range of alternatives. The difficulty of the consumer decision-making process depends on the variety of factors: the number of attributes, information overload, associated uncertainty, etc. (Payne, Bettman, & Johnson, 1991). Consumers may go through a central processing decision-making route for high effort situations or consumers may take a peripheral processing decision-making route for low effort situations (Hoyer et al., 2012). Emotions can affect cognitive processing and social behavior as well (Aaker, Stayman, & Hagerty, 1986). Scholars have developed several theories to explain how consumers make decisions about their actions. The Theory of Planned Behavior (TPB; Ajzen & Fishbein, 1980), elaborating on how attitude may lead to behavioral intention, often explains the decision-making process for green behavior by consumers. Although TPB has gained broad support for explaining the behavior, the inclusion of other variables often increases the ability to predict behavior more accurately (Terry, Hogg, & White 1999). For instance, Theory of Trying, an elaborated version of TPB, can also identify the factors influencing behavior (Bagozzi & Warshaw, 1990). In addition to TPB, constructs related to self-identity expressiveness and social identity expressiveness often predict consumer behavior, and those constructs could shed a light on the consumer decision-making process for green products too (Fielding et al., 2008).

It is worthwhile to note that TPB along with identity expressiveness concepts was used to predict behavior by various scholars in different fields. For example, Biddle, Bank, and Slavings (1987) examined students' intention for completing their bachelor's programs at universities, while Charng, Piliavin, and Callero (1988) tried to understand decision-making process for blood donation. Both studies applied TPB and identity expressiveness concepts in their works. Thorbjørnsen, Pedersen, and Nysveen (2007) also used those constructs to study multimedia-messaging service (MMS) technology adoption; Fielding et al. (2008) used TPB and Identity Theory to understand intentions to engage in environmental activism as well.

3.1.1 Theory of Planned Behavior

The Theory of Planned Behavior, developed by Ajzen (1985), aims to explain why humans behave in a certain way. According to TPB, the most proximate indicator of the behavior of an individual is her intention to engage in that behavior. The author defined behavior from the target, action, context, and time (TACT) dimensions. For example, "walking on a treadmill in a physical fitness center for at least 30 minutes each day in the forthcoming month" (Ajzen, 2002b, p. 2) can be defined as a behavior. Behavioral intention can be described as motivational reasons for that behavior, and it indicates the level of an effort, an individual is keen to exert to perform the behavior. Figure 3 illustrates the path model of TPB.

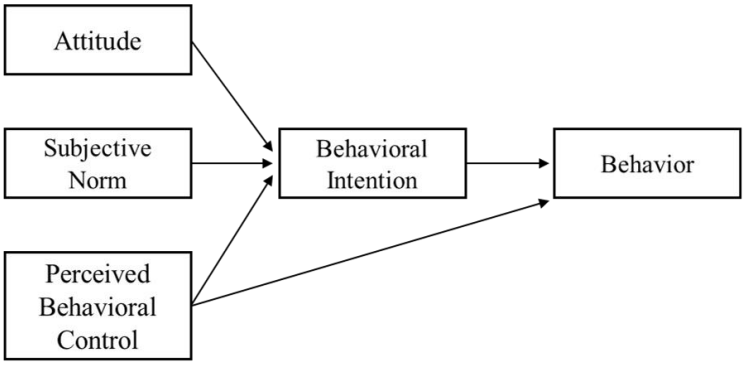


Figure 3. Path models for the Theory of Planned Behavior (Madden, Ellen & Ajzen, 1992)

As seen from the figure above, behavioral intention can be predicted by three factors: attitude, subjective norms, and perceived behavioral control. Behavioral beliefs are the conviction about the probable outcomes of a behavior; they lead to a favorable or unfavorable attitude towards the behavior. Normative beliefs include the social expectation to perform a behavior, and they lead to the perceived level of subjective norms for that behavior. Control beliefs, working as a basis for perceived behavioral control, indicate the perceived degree of ease or difficulty to conduct a behavior. The author posited that if an individual has a positive attitude, favorable subjective norm, and high perceived behavioral control, her behavioral intention would be high (Ajzen & Fishbein, 1980). Ölander and Thørgersen stated that "consistency between attitudes and behaviour can be expected only if the behavior depends solely on the actor's free choice, that is, if the actor commands the

necessary and sufficient will-power, ability, resources, and technical means to perform the behavior" (1995, p. 360; cf. Ajzen, 1988; Bagozzi & Warshaw, 1990).

So, when the opportunity arises, and a person has an actual control over the behavior, she is expected to perform the behavior. Perceived behavioral control, often used as a proxy variable for an actual control, also directly influences the behavior, which could be out of volitional control of that individual (Ajzen, 2002a). It is important to note that TPB is an extension of the Theory of Reasoned Action (TORA), previously developed by Ajzen and Fishbein (1980). The TORA model does not include perceived behavioral control construct as a predictor for the behavioral intention.

Attitude

Attitude is "a mental and neural state of readiness, which exerts a directing, influence upon the individual's response to all objects and situations with which it is related," as described by Allport (1935, as cited in Chen & Chai, 2010, p. 30). Fishbein (1967, as cited in Bonfield, 1974, p. 380) preferred a rather simple and single-dimensional concept, referring to "the amount of affect for or against a psychological object."

Olson and Zanna (1993) argued that there is no comprehensive definition of the attitude concept; it is primarily defined and used in terms of evaluation, emotion, knowledge, and behavioral predisposition. From an evaluation perspective, Eagly and Chaiken (1993, p. 1) explained it as "a psychological propensity that is conveyed by assessing a particular entity with some degree of favor or disfavor." From an affect perspective, Greenwald (1989, p. 432) interpreted attitude as "the affect associated with a mental object." Kruglanski (1989, p. 139; 2013) defined attitude from a knowledge perspective – "a special type of knowledge, notably knowledge of which content is evaluative or affective." Triandis (1991, p. 485) described attitude in terms of behavioral predispositions as "a state of a person that predisposes a favorable or unfavorable response to an object, person, or idea."

Subjective norms

Subjective norms are guidelines and standards that shape the behavior of an individual in the society (Cialdini & Trost, 1998). Because of subjective norms, an individual learns how to interact in a social setting and understands the traditions, values, rules, standards, fashions of the society (Sherif, 1936). Even though there is a large amount of the research about the influence of subjective norms, empirical findings are not consistent (Melnyk, van Herpen &

Trijp, 2010). There exist two major schools of thought regarding subjective norms with a contrasting perspectives.

Some academics (Darley & Latané, 1970; Krebs 1970; Marini, 1984; Krebs & Miller, 1985; as cited in Minton & Rose, 1997) criticized subjective norms as they have limited explanatory or predictive value of the behavior: those authors argued that even though subjective norms are always present in the society, individuals may or may not choose to behave according to subjective norms. On the other side, Berkowitz (1972), Fishbein and Ajzen (1977), Triandis (1977) saw subjective norms as a critical component for exploring social behavior (Minton & Rose, 1997). It was also argued by Schultz et al. (2007) that subjective norms could significantly influence consumer decision-making process too.

Perceived behavioral control

Perceived behavioral control is another predictor for the behavioral intention, as it explains the behavior of an individual in the context, where she may not have full control over the situation. Perceived behavioral control indicates the perception of a person regarding how much control she possesses to perform a behavior. The concept can be used as a substitute for an actual control over the situation and can predict a behavior (Ajzen, 2002a). An individual may perceive that she possesses internal control over the situation, if she has all necessary resources like skill, confidence, ability to plan, etc. to perform such behavior. A person with a higher internal control should show higher intention for that behavior. She may also perceive that she has external control, when she believes that the behavior can be conducted easily and free from externally created barriers like affordability, availability, lack of information, etc. It can be inferred that the individual should have more behavioral intention for an easier task than a harder task. The concept of internal control is similar to the concept of self-efficacy, while the concept of external control is similar to the concept of facilitating conditions (Kidwell & Jewel, 2003). It has been argued that internal and external control interact with each other to form behavioral intention (Steinberg, 2001). If a person perceives that the environment of performing the behavior is adverse, she may experience a negative attitude, or possess less confidence (Wittenbrink, Judd, & Park, 2001).

Theory of Trying

Bagozzi and Warshaw (1990) proposed the Theory of Trying (TT), as an extension of the Theory of Planned Behavior (Ajzen, 1985), with the aim “to build on the theories of goal pursuit and planned behavior to explain goal-directed behaviors” (Bagozzi & Warshaw,

1990, p. 130). Following the theory, Mathur (1998) narrated that "intention reflects a state of mind that drives one to take action as opposed to trying, which reflects action and even some parts of actual behavior" (p. 244). Bagozzi, Wong, Abe, and Bergami (2000) suggested that consumers have behavioral goals rather than behavioral intentions in various settings, which require purposive endeavour to achieve set goals. Unlike TPB, which did not explicitly consider the influence of past trying on future trying, TT adds "independent predictiveness over attitude and social norm in the determination of behavioral intention" (Bagozzi & Warshaw, 1990, p. 130).

According to Bray (2008), number of studies (Bagozzi & Kimmel, 1995; Leone, Perugini & Ercolani, 1999; Norman & Conner, 1996) identified that past behavior influences consumer decision-making process. Additionally, Bagozzi (1981) and Wittenbraker, Gibbs, and Kahle (1983) discovered an additional direct effect of the past behavior on the future actions along with the effect of the intention itself.

3.1.2 Identity expressiveness

In the consumer behavior domain, it is often argued that consumers often purchase brands that represent their personality traits and choose brands to express their own identity and values (Solomon, 1983). Identity-based motivation model claims that as a part of personal identity, people perceive themselves as individuals with unique traits, characteristics, values, etc. and as a part of social identity, people perceive themselves as a part of a group with common traits, characteristics, values, etc. (Oyserman, 2009).

Consumer's perception of the ability of a given product to portray the aspects of social and personal identity of an individual can be called expressiveness (Mittal, 1994). Expressiveness is believed to be a powerful indicator of an intention and behavior towards the consumption of products or services in a social setting (Johar & Sirgy, 1991). The identity expressiveness assumes that behavior is often interpreted by other individuals in the society to form the idea of identity. This concept is a strong determinant for purchase of products that convey social identity and role-oriented self-identity (Thorbjørnsen et al., 2007). Identity Theory, initially developed by Stryker in 1968, explains the role-related behaviors of an individual (Hogg, Terry & White, 1995). The theory says that an individual has various role-identities for all the roles they play in the society. For example, a person may play the role of a teacher, parent, friend, and environmental activist, etc. The need for

maintaining the role-identity often explains an intention to behave and an actual behavior in various circumstances (Marcus, 1980; Sparks & Guthrie, 1998).

Self-identity expressiveness

Self-identity can be viewed as a strong predictor for behavior in both social and psychological domain. Self-identity can be interpreted as "labels people use to describe themselves" (Biddle et al., 1987, p. 326). Self-identity or self-concept can be defined as a dynamic multidimensional concept, which covers "images, schemas, conceptions, prototypes, theories, goals, or tasks" about oneself (Markus & Wurf, 1987, p. 301). Many scholars argued that a person's self-identity can impact the behavior (e.g. Epstein, 1973; Markus, 1980; Rosenberg, 1981; Turner, 1982, as cited in Sparks & Shepherd, 1992). It has been also claimed that self-identity can influence the behavior regardless of attitudes (Biddle et al., 1987). In addition, Granberg and Holmberg (1990) stated that self-identity, independent of behavioral intention, can influence the behavior. As self-identity often predicts behavioral intention and behavior, the concept can be also applied in consumer behavior domain to predict purchase (Smith, Terry, Manstead, Louis & Wolfs, 2008). Self-identity expressiveness explains why one behaves in a certain way for maintaining the role-related identity (Dutton, Roberts, & Bednar, 2010, as cited in van Zoonen, Verhoeven, & Elving, 2014). People tend to behave in a certain manner, which would express their self-identity and self-images (Sparks & Shepherd, 1992).

Moral identity expressiveness

Markus and Kunda (1986) highlighted that a consumer has multiple identities, where some of them are more significant to the self-concept. Moral identity expressiveness is more likely to regulate judgments only when it is salient and when it is more essential for a self-concept (Reed, Aquino, & Levy, 2007). Aquino and Reed (2002) suggested that individuals possess a cognitive schema of the moral identity which is "organized around a set of moral traits" (p. 1424). Further, Reed et al. (2007, p. 180) defined moral identity as "a mental representation (i.e., a self-image) that a consumer may hold about his or her moral character." Definitions presented by authors are almost trait-specific and are based on social cognition-oriented definitions of the identity. In addition, Kihlstrom and Klein (1994) claimed that moral identity can be related to a distinct mental image about the thoughts, feelings, and actions of an ideally moral person. Consumer's moral identity expressiveness, according to authors, can influence and motivate choices and decisions, demonstrating social responsiveness.

Social identity expressiveness

Originally developed by Tajfel in 1959, Social Identity Theory aims to explain the relationship mechanism among group members. The theory argued that every individual falls in various social categories, like nationality, political affiliations or sports team, etc., and belongingness to that particular group provides a clear definition of the social identity of an individual. Social identity can become prominent for self-regulation and can help one form an evaluation. Social Identity Theory has two different socio-cognitive processes: self-categorization and self-enhancement (Hogg et al., 1995). The Self-categorization Theory, a recent addition to the Social Identity Theory, emphasizes the perceived similarities and perceived differences among members of the same and other groups (Turner, 2010). While self-categorization sharpens the intergroup boundaries of the group, self-enhancement refers to the phenomenon where group members usually prefer in-group members than out-group members.

Social identity expressiveness describes how and to what extent consumers expressively engage in a certain behavior in order to relate to other in-group members. In contrast to self-identity expressiveness, where it refers to the ways in which individuals' behavior portraits their self-identity for themselves and for others, social identity expressiveness relates to more explicit and social way to behave for the sake of impressing or influencing other social group participants (Thorbjørnsen et al., 2007).

Social identity and intergroup behavior are highly interrelated (Tajfel, 1974). Turner (1982) claimed that members of a group often formulate group norms to define the appropriate behaviors of group members, while subjective norms describe the rules and standards of behavior of a person in a social setting (Sherif, 1936). As social identity expressiveness is the act of expressing behavior in a group setting (Thorbjørnsen et al., 2007), it can be argued that the concepts of social identity expressiveness and subjective norms are highly interrelated also.

3.2 Factors affecting decision-making for sustainable consumption

TPB has been used to predict the consumer's intentions to engage in composing, water conservation, recycling, and many other pro-environmental behaviors (Fielding et al., 2008),

while Identity Expressiveness Theory also offers an explanation of why consumers engage in green behavior. Costa Pinto et al. (2014) used self- and social identity to predict the consumer choice to engage in green behavior. The decision-making process for sustainable consumption depends also on the social responsibility of the consumers (Meulenberg, 2003). In their experiment on how moral regulations affects the green purchase behavior, Mazar and Zhong (2010) found that consumers attribute higher social and ethical values to sustainable consumerism rather to conventional one. It was suggested that consumption and social identity together with moral-self are highly interconnected (Mazar & Zhong, 2010).

3.2.1 Attitude

Numerous studies have shown the positive association between attitude and purchase intention (e.g. Bredahl, 2001; Chen, 2007; Michaelidou & Hassan, 2010; Lane & Potter, 2007; Tang & Medhekar, 2010; as cited in Sreen et al., 2018). Building on Ajzen's Theory of Planned Behavior, Kaiser, Wölfing, and Fuhrer (1999) established environmental attitude as a powerful predictor of an ecological behavior. Environmental attitude is defined as a "psychological tendency expressed by evaluating the natural environment with some degree of favour or disfavour" (Milfont & Duckitt, 2010, p. 80). According to Kaiser et al. (1999), two types of environmental attitude are used for green behavior prediction: (a) attitudes towards the environment, and (b) attitudes towards pro-environmental behavior (Kaiser et al., 1999; Hines, Hungerford, & Tomera, 1986/87).

Research shows that attitude related to the different aspects of green products, such as quality, green certification, safety, and brand trust, plays a major role in the purchase decision for green products (Krystallis & Chryssohoidis, 2005). Rashid (2009) claimed that when consumers are knowledgeable about the eco-labels of green product, they tend to engage in purchase more often and freely. Ottman (1992) found that positive attitude regarding the functional attributes of the green products (for example, performance, ease of usage, quality etc.) often leads to the purchase of such products. Besides, Straughan, and Roberts (1999) also discovered that consumer's attitude to purchase green products in order to solve the environmental problems strongly influences green consumer behavior. Therefore, the suggested hypothesis would be:

H1a: Attitude towards green products has a positive influence on the green purchase intention.

According to Schultz and Zelezny (2000), purchase intentions for green products are based on pro-environmental attitudes of the customers (Schwepker & Cornwell, 1991). Laroche, Bergeron, and Barbaro-Forleo (2001) found that perceived attitude regarding the seriousness of environmental issues and convenience to purchase green products highly influence the willingness to pay premium price for green products. According to Tanner, Wölfing, and Kast (2003), favorable attitude regarding the protection of the environment prompts green food purchase. Based on the arguments, it is possible to build a hypothesis:

H1b: Attitude towards the environment has a positive influence on the green purchase intention.

3.2.2 Subjective norms

Subjective norms have an impact on green consumption and are, of course, a fundamental construct for numerous theories and models concerning consumption (Zukin & Maguire, 2004). According to Peattie (2010), the concept of subjective norms consists of both descriptive norms (e.g. common practices or what is considered to be normal) and injunctive subjective norms (e.g., what consumers perceive morally to be right or wrong). Jackson (2005) claimed, that even though both of these types of norms have a strong influence on pro-environmental consumer behavior, research area has a tendency to focus more on descriptive norms and whether an action considered a common practice or an "alternative." Injunctive subjective norms, closely related to the concept of moral-self (Peattie, 2010), however, would be discussed further in Chapter 3.2.5 under moral identity expressiveness sub-chapter.

Barr (2007) discovered that the adoption of the recycling practices was proven to be a successful initiative in the UK, as it was perceived as a norm for the public. However, reduction of the consumption volumes for the environmental purposes was only adopted by a small group of consumers, as consuming less was considered to be "an alternative" behavior. Goldstein, Cialdini, and Griskevicius (2008) studied normative appeals in the hotel industry. Results showed that the usage of normative appeals (e.g. "the majority of guests reuse their towels", p. 472) had a bigger impact rather than conventional messages (e.g. "Help save the environment …," p. 473). Developing on the idea further, the authors found that designing a normative message targeting a specific individual and/or situation can reinforce the effect through stronger self-identification. Peattie (2010) argued that it is already established as a

subjective norm that green products are luxurious. Thus, to conform to that subjective norm, consumers are willing to pay a premium price for the green products. Hence, the following hypothesis has been formulated:

H2: Subjective norms have a positive influence on the green purchase intention.

3.2.3 Perceived behavioral control

Ajzen (2002a) argued that perceived behavioral control is added to TPB to explain a behavior more accurately in the context, where an individual may not have full volitional control over the behavior. If the performance of the behavior depends on some factors like time, affordability, availability, support from peers, etc., where an individual does not have full control over, perceived behavioral control often influences behavioral intention. The higher perceived behavioral control is, the higher the behavioral intention would be (Ajzen, 2002a).

Perceived behavioral control influences sustainable consumer behavior as well (Joshi & Rahman, 2015). When it comes to the external control, Robinson and Smith (2002) discovered that despite having the intention of purchasing green food products, 52% of surveyed consumers in the U.S. could not purchase green food products due to external barriers like unavailability, prices, and inconvenience. Additionally, Suchomel (2005) found that according to the opinion poll, 80% of the college students in the U.S. are willing to purchase sustainable products, if the price and the availability of a product are within their range. Padel and Foster (2005) pointed out that unavailability of information often works as a barrier for purchasing green food products. Wang, Liu, and Qi (2014) found that in rural China, a lot of consumers did not engage in green behavior, because they believed that they did not have sufficient levels of income or knowledge to get involved in the green behavior. Consumers often do not trust the certification process for green products, and as a result often refuse to purchase green products (Krystallis, Chryssohoidis, & Perrea, 2008). So based on the discussion, the following hypothesis was derived:

H3: Perceived behavioral control has a positive influence on the green purchase intention.

3.2.4 Past behavior

Goal-directed behavior, discussed in TT, has been conceptualized by various researches differently. For example, Ajzen (1991) claimed that past behavior does not sufficiently represent all the factors of the goal-directed behavior prediction model. Inclusion of past behavior in a model can be seen as an estimate of its limitations; while, other researchers believed in substantial contribution of the influence of past behavior to the future one. For instance, Sheppard, Hartwick, and Warshaw (1988) concluded that past behavior predicts future behavior "even after controlling for attitude, subjective norm, and intention" (Bay & Daniel, 2003, p. 676).

Ryan (2014) applied TT to analyze eco-friendly acts and their role in green purchase behavior and environmental movement, while in their study, Sandve and Øgaard (2013) used TT to examine the intentions of the hospitality industry to be involved in sustainable CSR practices. It was concluded that performance of the past behavior led to an increased expected intention to engage in CSR activities. Ertz (2016) incorporated past behavior, including its frequency and recency, in her conceptualization model as one of the crucial variables in assessing socially responsible consumption behavior.

Following the above arguments, it is seen as an opportunity to test an additional explanatory variable from TT in a sustainable behavior setting, and add this construct along with the main constructs of the conceptual model of this research. Therefore, the hypothesis is developed:

H4: Past behavior has a positive influence on the green purchase intention.

3.2.5 Identity expressiveness

Self-identity expressiveness

When an individual puts emphasis on self-identity, she often engages in the purchase that affirms her self-identity. The Self-congruity Theory also states that if an individual perceived higher match between the purchase and self-image, her intention for purchase would be higher (Wright, Claiborne & Sirgy, 1992). Possessions of certain products can also reinforce and express one's self-identity, differentiating one person from another one (Escalas & Bettman, 2003).

Sparks and Shepherd (1992) claimed that consumers who have identified themselves as green consumers would have higher purchase intentions for green products. The effect of self-identity on behavior is substantially independent of attitudes and past consumptions (Sparks & Shepherd, 1992). Terry et al. (1999) found that intention to engage in recycling activities are influenced by the desire to maintaining self-identity. Nyborg, Howarth, and Brekke (2006) discussed the survey conducted in Norway by Bruvoll, Halvorsen, and Nyborg (2002) in order to examine recycling habits in the country. According to the survey results, 73% of the respondents agreed with the statement concerning self-identity: "I recycle partly because I want to think of myself as a responsible person." Mannetti, Piero & Livi (2004) found that consumers' self-identity of being an environment-friendly individual positively contributed to the intention of engaging in waste disposal for recycling. Hence, following hypothesis was proposed:

H5a: Self-identity expressiveness as a pro-environmental individual has a positive influence on the green purchase intention.

Moral identity expressiveness

Numerous psychologists and sociologists consider the connection between an individual's view on herself and her preferences towards various actions as an essential fragment of the morality as a whole. Blasi (1993) claimed that for some customers moral identity expressiveness can play the role of an antecedent and the desired result in order to maintain self-consistency between self-identity and the behavior. The author pointed out that for the purpose of maintaining consistency with own moral identity, individuals often engage in morally significant behaviors. Erikson (1964) also stated that individuals engage in moral behavior as they want to be authentic to themselves. Damon and Hart (1992, p. 455) contended: "there are both theoretical and empirical reasons to believe that the centrality of morality to self may be the single most powerful determiner of concordance between moral judgment and conduct [...] People whose self-concept is organized around their moral beliefs are highly likely to translate those beliefs into action consistently throughout their lives."

Van der Werff, Steg, and Keizer (2013) attested that environmental self-identity is associated with obligation-based central motivation (moral obligation) to engage in sustainable behavior, which leads to an actual behavior. Furthermore, Rodriguez-Rad and Ramos-Hidalgo (2018) suggested that moral identity has a mediating effect between spirituality and sustainable behavior. The study, conducted by Cherrier (2006), presented and described

consumers from both conservative side (obligations towards ethical actions) and more liberal views (free choice for ethical actions) in their sustainable lifestyles choices. The author found that both conservative views and liberal views together influence the consumer choice to reduce the usage of plastic bags for grocery shopping in Australia.

H5b: Moral identity expressiveness has a positive influence on the green purchase intention.

Social identity expressiveness

According to Social Identity Theory, an individual accepts and acts according to the normative dimensions of the group, where one belongs (Terry et al., 1999). Burke (2006) argued that, when an individual embraces the role she is supposed to portray as a part of social identity, self-verification takes place. The author also claimed that in order to strengthen that particular role in the society and in order to gain the acceptance of other in-group members, an individual complies to behave according to the rest of the group members.

Gupta and Ogden (2009) described the predictive influence of social identity on environmentally friendly behavior: the research suggested that consumption patterns and decisions are influenced by the reference groups. Bartels and Hoogendam (2011) argued that environmentally conscious behavior (e.g. recycling, waste management etc.) is more relatable to the general public, in comparison to more specific or dedicated actions (e.g. organic consumption behavior). Thus, authors assumed that social identification with environmentally concerned group plays an important role in adopting, executing and maintaining green behaviors. Nyborg et al. (2006) in their survey regarding recycling habits and attitudes in Norway discovered that 41% of respondents, engaged in recycling activities, agreed with the statement about the reasoning of the action: “I recycle partly because I want others to think of me as a responsible person” (p. 352). Bruvoll et al. (2002) discovered that 88% of surveyed households recycle as they believe that it could be an example for others: “I should do what I want others to do” (p. 342). Another illustrative example can be seen in Cialdini’s study (2005). He found that social identity plays a role in promoting towel reuse in hotels as guests at the hotel tend to reuse towels more when the information card contains information about towel reuse about other members of society. Consumers also tend to increase curbside recycling when they get positive feedback from the neighborhood (Schultz, 2001). Consequently, following hypothesis is suggested:

H5c: Social identity expressiveness as a pro-environmental individual has a positive influence on the green purchase intention.

3.3 The role of gender in sustainable consumer behavior

Lee, Park, and Han (2013) argued that from the beginning of the twenty-first century, many studies around the globe have identified certain level of differences between environmental attitudes of men and women, showing that women have higher green attitudes than men (e.g. Brown & Harris, 1992; Tikka, Kuitunen & Tynys, 2000). Davidson and Freudenburg (1996), and Lee and Holden (1999) found out that women are more favorably inclined towards the attitude, choice, and behaviors related to sustainability. Mostafa (2007) examined how men and women in Egypt vary in attitude, environmental knowledge, environmental concern, etc. Contrary to the studies conducted in the Western countries, the result showed that men are more concerned about environmental issues and have a more positive attitude towards green purchase behavior.

The consumer decision-making process is highly influenced by sex and gender (Palan, 2001). When it comes to green consumer behavior, to identify the differences between the behaviors of a man and a woman, many researchers have used the term ‘sex’ as a tool to measure gender (Luchs & Mooradian, 2012). While ‘sex’ refers to biological variables, such as being male or female, ‘gender’ actually is the socially and culturally accepted definition of behaviors related to each sex in a particular society at a particular time (Lerner, 1986). Palan (2001) discussed that both sex and gender have been studied thoroughly in the consumer behavior domain and those two words have often been used interchangeably in the consumer behavior literature. Previously, it was believed that sex and gender are indivisible, and that those constructs are highly correlated. According to that assumption, all men were supposed to be, for instance, masculine, while all women – feminine. However, Palan (2001) pointed out that many researchers in the consumer behavior domain have also acknowledged that some men could be more feminine, while some women could be more masculine. According to those researchers, it could be possible that an individual, regardless of being male or female, can be both masculine and feminine. That is why many scholars have questioned the underlying assumption of measuring gender by sex dimension and agreed that distinguishing sex from gender is more important in today’s consumer behavior literature (Palan, 2001).

The underlying reasons for the differences in green behavior by men and women are not well discussed (Luchs & Mooradian, 2012). Zelezny and Schultz (2000) also called for additional research to investigate the reasons for the differences between the green behavior by men and women. The differences of green behavior by gender can be investigated from various perspectives, such as personality perspective (Luchs & Mooradian, 2012), national cultural orientation perspective (Sreen et al., 2018) and so on. Brough et al. (2016) argued that the difference in green behavior between men and women can be explained from a new perspective: gender-identity maintenance. Gender-identity maintenance, also referred to as a psychological sex of an individual, is the degree to which an individual associates herself to the socially established definition of masculinity and femininity (Spence, 1985). As gender is defined on the basis of cultural aspect, gender-identity also depends on the cultural understanding of the stereotypical traits of masculinity and femininity (Firat, 1991).

3.3.1 Masculinity-femininity concept

The definition of masculinity and femininity concept is continuously evolving over time and societal development. Masculinity and femininity are abstract constructs (Hoffman, 2001), that describe the attributes or characteristics related to each type of the gender (Raguz, 1991). Those constructs can also be defined as sets of socially accepted attributes that differentiate between males and females, and can also be used to describe conventional sex roles in the society (Spence & Buckner, 1995). Attributes like “independence, assertiveness, reason, rationality, competitiveness and focus on individual goals” (Palan, 2001, p. 3) are commonly accepted as masculine traits in the western society, while “understanding, caring, nurturance, responsibility, considerateness, sensitivity, intuition, passion, and focus on communal goals” (Palan, 2001, p. 3) are the generally recognized feminine attributes (Cross & Markus, 1993). Mahalik (2000) defined masculinity and femininity as gender role norms – the values that guide and restrict the behavior regarding being a man or woman in the society. Eagly (2009) stated that gender role norms are similar to the concept of subjective norms, and they can be both descriptive and prescriptive. Descriptive part of gender roles describes the typical behavior from each gender, while prescriptive roles of gender describe admired behavior or attributes from each gender (Eagly, 2009). For example, the society communicates explicitly masculine norms, when people observe that men tend to avoid pink colored clothes or the male protagonists in the movies are shown as strong and courageous personalities (Mahalik, 2000).

The view that masculine-feminine concept is one bipolar, unifactorial dimension was prevalent in the literature of social and behavioral science in the past (Bem, 1981; Spence & Helmreich, 1979). The main idea prevailed was that feminine attributes tend to exclude masculine ones, and the absence of feminine attributes could be defined as masculinity and vice versa. A strong relationship between the masculine-feminine dimension and sex roles has been assumed and psychological dimensions of masculine-feminine concepts have often been measured by the rubrics of the sex roles. Attitude Interest Analysis Survey (AIAS; Terman & Miles, 1936), masculinity-femininity scale of the Strong Vocational Interest Blank (SVIB; Strong, 1927), Minnesota Multiphasic Personality Inventory Masculinity-Femininity Scale (MMPI; Hathaway & McKinley, 1943) are several well-known examples of the conceptual frameworks that considered and measured masculinity-femininity as one bipolar dimension. Those scales were commonly used to assess "persons tending to identify with the opposite sex, rather than their own" (Thorndike & Hagen, 1977, p. 425).

However, Helgeson (1994) argued that many researchers have criticized the unidimensional concept and the measurement scale for assessing masculinity and femininity. The author also stated that contrary to the past view, various scholars insisted that the psychological dimensions of masculinity and femininity are two different dimensions, and in contemporary times, masculinity and femininity are hardly associated with sex-role behaviors. For instance, in 1973 in her work, Constantinople was the first major researcher to review and criticize existing masculinity-femininity measures (Hoffman, 2001). Following 1974, Bem Sex-Role Inventory (BSRI) was developed, introducing the concept of psychological androgyny ('andro' = male, 'gyne' = female) – "the idea that healthy men and women could possess similar characteristics" (Hoffman, 2001, p. 476). According to the author, the BSRI is one of the most common used measures in all areas of the research related to gender.

In 1985, Spence suggested to conceptualize masculinity and femininity as a gender-identity, rather than as a set of attributes associated with men or women (Spence, 1985, p. 91). It was argued that gender-identity is mostly maintained by characteristics added in personal definition "of what it mean to be a woman or a man" (Hoffman, 2001, p. 479) of an individual, and does not focus on the missing gender-associated characteristics in the personal definition. Additional research and continuation of the idea was presented by Lewin (1984), Kimmel (2000), Spence and Buckner (2000) etc.

3.3.2 Masculinity-femininity concept in sustainable consumer behavior

In this thesis, in order to understand the impact of masculinity-femininity concept on green behavior in the research field, a systematic literature review was conducted using different keywords (Appendix B1). The literature review is originated from the initial literature screening (see Appendix A1); it is based on ABS journal guide score (AJG in 2018) score and subjective evaluation of the relevance to the research questions of our study. The aggregated table highlights the case/product used for research, dependent, moderating, mediating and independent variables, and main results from the studies.

Masculinity-femininity and subjective norms

Eagly (2009) argued that the concept of masculinity-femininity often works as a subjective norm, describing both expected and desired behaviors from each gender. Subjective feminine (masculine) norms defines the perception of important rules or guidelines on how women (men) should act in a society (Wong, Ringo, Ho, Wang, & Fisher, 2015). Sreen et al. (2018) argued that women have higher purchase intention for green products, because from the childhood, women are taught to be compassionate and nurturing – that is why they show higher degree of care for the society and environment in general. This state of caring about family, society and environment is regarded as a feminine trait in the society (Palan, 2001; Mahalik et al., 2005). As discussed previously, several research works showed that subjective norms have a positive influence on the behavioral intention for green products, and women, compared to men, have higher purchase intention for green products. Chen-Yu et al. (2002) argued that women are more prone to adhere to subjective norms than men are. Noble, Griffith, and Adjei (2006) found that women are more affected by peer influence and social interactions for purchase decision making than men. Consequently, to check the moderating effect of femininity, the following hypothesis is proposed:

H6a: The positive relationship between subjective norms and green purchase intention is stronger for high femininity than low femininity.

On the other hand, Vandello, Bosson, and Cohen (2008) argued that men, in general, are more conscious to maintain their masculine persona in the society. The authors explained that masculinity can be viewed as a status, that needs to be protected and approved from the public. The concept of masculinity is precarious, when men feel questioned about their

manhood, so they often feel pressured to act in the way that confirms their masculinity. Wong et al. (2015) found that avoidance of femininity is considered to be a subjective masculine norm in Singapore. Moreover, Bennett and Williams (2011) argued that socially accepted concept of 'going green' is considered more feminine by the majority of the population in the U.S. Brough et al. (2016) also found that consumers of the green products are perceived feminine, and men often avoid purchasing such products in public to avoid associating with being feminine. Thus, it can be hypothesised:

H6b: The positive relationship between subjective norms and green purchase intention is weaker for high masculinity than low masculinity.

Masculinity-femininity and self-identity expressiveness

Fischer and Arnold (1994) claimed that gender-identity helps to form the self-identity of an individual. Self-identity is usually explored in adolescence, and individuals often engage in activities that would define and express their own identity (Waterman, 2004). Spence (1985) argued that the idea of being a man or a woman is one of the earliest developments of the self-concept; it works as a guiding principle for a behavior. It was already discussed, individuals engage in behavior that is consistent with their self-identity (Smith et al., 2008).

Costa Pinto et al. (2014) proposed that when self-identity is dominant, female consumers are inclined to engage in green consumption to adhere to their feminine personal values: caring for society, maintaining harmony in the society and environment, etc. However, when their study was conducted in Germany, neither gender nor different types of identity played a significant direct effect on sustainable consumption behavior. Nevertheless, the interaction effect between gender and identity type has a statistically significant role in green consumption (Costa Pinto et al., 2014). Brough et al (2016) also found that green behavior and femininity is also prevalent in the perception of women as well. Lee (2009) argued that from childhood, women are taught to acquire feminine attributes, like being compassionate and nurturing to the society and the environment. According to Fisher and Arnold (1994), women should acquire feminine traits or behave in a feminine way to form the self-identity of a woman. Consequently, they hypothesis is formulated:

H7a: The positive relationship between self-identity expressiveness and green purchase intention is stronger for high femininity than low femininity.

In her study, Avery (2012) discussed the power of the gender-identity as the main influence of the perception of masculinity-femininity and other social stereotypes on the self-identity for the SUV vehicles usage, where men were acting very protective of their self-image, avoiding engagement or relation with feminine vehicle. Brough et al. (2016) discovered that green-feminine stereotype is highly prevalent in the minds of both males and females. Men even avoided purchasing green products in private . They also found that men rated their own past act of the green behavior as feminine. Thus, the following hypothesis is articulated:

H7b: The positive relationship between self-identity expressiveness and green purchase intention is weaker for high masculinity compared to low masculinity.

Masculinity-femininity and moral identity expressiveness

According to Gilligan and Attanucci (1988), the moral orientation between men and women differs. As from the childhood, women are taught to acquire feminine attributes like nurturing, caring for others, they tend to have the responsibility orientation to the morality: women emphasize on nurturing, maintaining relationship, and being selfless for moral reasoning.

Contrariwise, men have a justice orientation to morality: they evaluate the degree of morality by the concepts of justice, fairness and equality. Lee (2009) investigated the role of moral responsibility and intention to engage in green behavior and found out that women scored higher in both moral responsibility and green purchase behavior. Moreover, Zelezny, Chua, and Aldrich (2000) in their study discovered that female youth reported higher level of personal responsibility for the state of the environment.

Based on the arguments, it can be assumed that the concept of moral identity expressiveness may not apply sufficiently for masculinity to draw a hypothesis about green purchase intention. Yet, femininity has an effect on moral-self and pro-environmental behavior, thus, it is hypothesized:

H7c: The positive relationship between moral-identity expressiveness and green behavior intention is stronger for high femininity compared to high masculinity.

Masculinity-femininity and social identity expressiveness

Eagly (2009) argued that men and women vary in prosocial behavior because of varied gender roles. The author argued that women are expected to be “friendly, unselfish,

concerned with others, and emotionally expressive" (p. 645) in the society. The author also claimed that women often engage in prosocial behavior to maintain a social bond or to foster a relationship. Besides, expressing emotions is often considered to be a feminine trait in the society (Franklin II, 1987). Balswick and Avertt (1977) stated that women express wider ranges of emotions like love, happiness, etc. Taylor and Hall (1982) also found that many feminine traits and expressiveness are inter-connected. In contrast, men are expected to be assertive and competitive: men get often ridiculed for exhibiting feminine traits (Eagly, 2009). Gilbert, Deutsch, and Strahan (1978) claimed that the image of an average man and woman in the society conforms to the established concepts of masculinity and femininity. Therefore, it can be argued that in general, men and women follow the behavior of their sex-role models as they want to belong to those groups respectively (Bem, 1981).

In their study, Costa Pinto et al. (2014) discovered that when social identity is prominent, women tend to engage in sustainable consumption. Usage of different brands can be one way to signal in which particular group an individual belongs to (Hoyer et al., 2012). Brough et al. (2016) revealed that women prefer to use brand, associated with femininity to express themselves. As a part of the extension of the study conducted by Brough et al (2016), Obermiller and Isaac (2018) also identified that masculine brand image of a charity organizations lowers women's intention to donate.

H8a: The positive relationship between social-identity expressiveness and green behavior intention is stronger for high femininity than low femininity.

Brough et al. (2016) also found that men, in order to avoid being associated with femininity, avoid green products in public. When it comes to the brand image of a green product, men tend to show more purchase intention for brands that portray masculine image. Therefore, the following hypotheses are being formulated:

H8b: The positive relationship between social-identity expressiveness and green behavior intention is weaker for high masculinity compared to low masculinity.

Figure 4 summarizes the proposed conceptual model. One of the research questions of this study is to examine the moderating effect of masculinity and femininity on the antecedents' effect on green purchase intention. However, examining the direct effect of masculinity and femininity on the intention to purchase green products can create additional understanding on explaining the green purchase behavior. Therefore, it was decided to include direct effect of masculinity and femininity on behavioral intention in the conceptual model. With the direct effect, it would be possible to observe the relationship between variables directly, in contrast to hypothesized ones, introducing analysis from different perspectives.

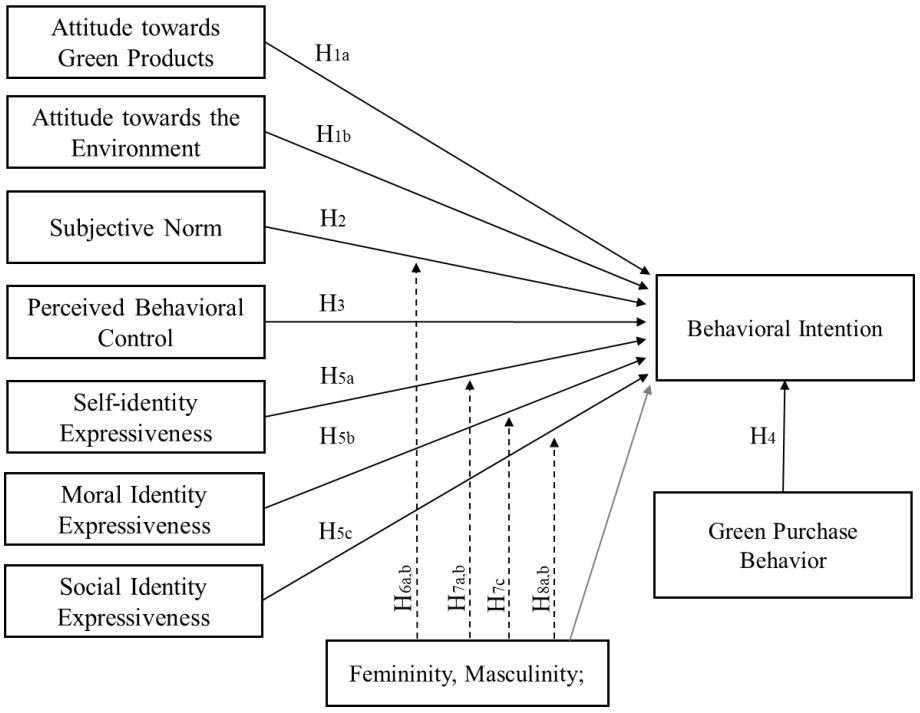


Figure 4. Proposed conceptual framework integrating femininity-masculinity concept as a moderating variable

4. Research methodology

4.1 Research design

The research design is an overall scheme for answering the research questions (Saunders, Lewis & Thornhill, 2012). A deductive approach was used to answer the research questions, and quantitative data was collected to test the hypotheses. Saunders et al. (2012) argued that the survey is highly associated with a deductive approach and allows to collect standardized data from a pool of respondents in an efficient way. The authors also claimed that the survey can help explore the relationship between different variables and conceptualize a model for the relationships. It may also produce a representative result of the population. Therefore, cross-sectional survey was chosen as a research strategy for this thesis. An online self-reported questionnaire was developed as a tool to collect data, using the official survey software, provided and recommended by the institution – Qualtrics.

4.1.1 Population and sample

Students of the bachelor and master levels from the Norwegian School of Economics (NHH) were selected as a target population. The reasoning for choosing the students of NHH is two folds. Firstly, NHH students are expected to be homogenous in terms of demographic variables like (age, disposable income, and educational level) and psychographic variables (attitude towards the environment, the perception of masculinity and femininity in society, etc.) This homogeneity also controls for the effect of demographic and psychographic variables on the relationship between the independent and dependent variables; it also rules out the possibilities of confounding variables to some extent in explaining the relationship. Secondly, NHH students are highly likely to become a future target market for green products and currently, some of the NHH students already purchase green products on a regular basis. So it is imperative to understand the consumer behavior related to green behavior of the NHH students for managerial decision-making.

Non-probability self-selection sampling was chosen to collect the data. One email invitation, followed by two reminders (see Appendix C4) to participate in the survey has opted for the main distribution channel. Additionally, students were exposed to the survey link in closed internal social media groups. Participation was voluntary and students were free to withdraw

the questionnaire at any time. Many scholars (e.g. Nysveen, et al., 2018; Brough et al., 2016; Costa Pinto et al., 2014) also used the self-selection sampling method in their respective studies. That is why this method of sampling was implemented in this research, as it allowed collecting data faster from more motivated respondents.

Nearly equal gender distribution (55.67% – female students, 44.33% – male) in the sample (with female students prevailing) represents the gender distribution among students in Norway. Prevalence of the age group of 18-24 among respondents is also representative for the country population (cf. SSB, 2019). However, it does not represent the gender distribution within NHH, where there are 35.1% of female students on bachelor level, 40% – in EBA[1] programmes, and 49% – in AA[2] programmes (NHH, 2018).

4.1.2 Pretest

A pretest on 7 respondents was done from April 1-2, 2019 in order to to finalize the questionnaire and test the survey software performance. Respondents were selected, taking into consideration gender (4 male and 3 female NHH students) for the purpose of maintaining the current gender ratio of the NHH students (NHH, 2018). The questionnaire was distributed using social media channels with anonymous Qualtrics link, generated for the pretest purposes only. Data, provided by the respondents, was not recorded or stored.

Several inputs, collected from the pretest, led to few adjustments in the questionnaire, related to the language aspects, usability, and ease of comprehension etc. Most of the participants raised concern about the repetitive nature of some of the questions. Consequently, few changes were made in the text message on the landing page stating the purpose of the repetition: “Some questions might look similar – this was done deliberately for our research purpose – so please fill in your answers carefully” (see Appendix C3).

4.1.3 Data collection and screening

In the period between 4 April and 16 April 2019, an online survey (see Appendix C3 – C4) was conducted among the NHH students, including Norwegian and international students

[1] Master’s degree in Economics and Business Administration

[2] Master’s degree in Audit and Accounting

from both bachelor and master levels. The responses to the survey were fully anonymized with the help of Qualtrics setting: collection of IP-addresses was canceled. Additionally, the collected personal data included only gender and age, which made it impossible to track back a respondent. As the questionnaire progressed, the respondents might have guessed the purpose of the study and might have altered their previous answers. That is why it was decided to disable the possibility to go to a prior page.

The survey was distributed in two ways: an invitation to participate in the survey through the school emails and anonymous link in NHH student group on social media channels ('MEBA student group 2018/2019', 'Vi som begynner på NHH høsten 2018' on Facebook). Email invitation to 3046 students generated 357 (11.7%) surveys started, while the social media involvement (aimed to draw more attention for those who did not see the email invitation, and served as a reminder for the rest) contributed only 8 (0.3%) responses, bringing total sample size to 365. No compensation or any other incentives were offered for the participation to avoid incentivized responses. Surveys that were started, but never completed (N=141) were not recorded, bringing the completion rate to approximately 61%. In addition, it was decided to eliminate responses due to the repetitive identical responses (9 answers in a row as a criteria; N=17) and those completed under 2 minutes (N=3). The final sample number was 203. Table 1 contains the summary of the demographics of the final sample.

It was decided not to eliminate any obtained responses based on age, as none of the respondents were minors. The link was distributed only among the NHH student body with the possibility to submit one survey per respondent that eliminated chances to submit multiple responses, as well as to share the link with students from other institutions or non-students.

Table 1. Sample demographics

	Full sample (N=203)
Gender	
Male	44.33%
Female	55.67%
Age groups	
18 – 24	58.62%
25 –29	35.96%
30 – 39	4.43%
40+	0.98%

4.2 Measures

The conceptual model consists of ten constructs: most of them are well-established concepts in the research field. Some of them have an updated measurement scales, adapted to the needs of the modern society. The survey was conducted with the use of a seven-point Likert scale throughout all the questions. The full survey, presented to the respondents, is available in Appendix C3.

Attitude

Concerning the attitude cluster, measures of the attitude towards the environment ('*To me, protecting the environment is ...*') as well as the attitude towards green products ('*Buying green products is ...*') were based on the work by Thorbjørnsen et al. (2007) and included three bipolar adjectives – bad/good, foolish/wise, unfavorable/favorable – that indicated different characteristics of the subjects' attitude. The items were also similar to those used by, e.g. Schuhwerk & Lefkoff-Hagius (1995).

Perceived behavioral control

Measurements of perceived behavioral control, taken from Nysveen, Pedersen, and Thorbjørnsen (2005, p. 338-339), Ajzen (2002), and from Thorbjørnsen et al. (2007) articles, are almost identical and are adapted to the subject of the research: '*Buying green products is not a problem for me*;' '*Finding green products in stores is easy*;' '*I feel free to buy green products as I like*;' '*Buying green products is entirely within my control*.' Two last items mentioned are based on those applied by Bhattacherjee (2000) and Taylor and Todd (1995).

Identity expressiveness

In the proposed conceptual model, identity expressiveness consists of self-identity, social identity, and moral identity expressiveness constructs. Measures linked to self- and social identity expressiveness were taken from Thorbjørnsen et al. (2007), but adapted in terms of green products. **Self-identity expressiveness** included: '*I buy green products to express who I want to be*;' '*I express my personality by buying green products*;' '*I buy green products to express my personal values*.' **Social identity expressiveness** included: '*I often talk to other people about buying green products;*' '*I often show the green products I bought to others*;' '*Other people are often impressed that I buy green products*.'

Moral identity expressiveness measurement is based on Reed, Aquino, and Levy (2007). Their measurement scale used of a set of attributes (caring, compassionate, fair, friendly,

generous, helpful, hardworking, honest, kind) for describing a person. It was decided to eliminate attributes considered to be feminine or masculine (according to Hoffman and Borders study (2001, p. 51-52) and their list of attributes), leaving out the words only neutral in meaning: fair, honest and helpful. This was done in order not to contradict with further measures of masculinity and femininity (which also use the word set as a basis) and to avoid multicollinearity. The set of characteristics was presented as a description of an individual in the third person. Respondents answered the two questions on Likert-type items (1 = "strongly disagree," and 7 = "strongly agree"), also taken from Reed et al. (2007, p. 191): '*It would make me feel good to be a person who has these characteristics*;' '*Being someone who has these characteristics is an important part of who I am*.'

Subjective norms

Three items, almost identical to Thorbjørnsen et al. (2007), were used to measure subjective norms, adapted to green products. The authors based their items on Mathieson (1991), Battacherjee (2000), and Venkatesh and Davis (2000). The three elements implemented were: '*People like me are expected to buy green products*;' '*People who matter to me expect me to purchase green products*;' and '*People I look up to expect me to buy green products*.'

Past behavior

Measurement of the frequency of the past behavior was adopted from Chan (2001), who used similar measure to assess the past self-reported behavior: '*How often do you buy green products*.'

Intention

Purchase intention measurement was based on Howard & Ostlund (1973) and Nysveen et al. (2005), who used a two-item scale also measured on a 7-point scale: '*I intend to buy green products in the next month*;' '*In the next month, I intend to buy green products frequently*.' It was decided to use a one-month time scale, instead of a six-month scale used by authors, due to the nature of the subject of research, where consumer goods are purchased on a more frequent basis.

Masculinity-femininity as two dimension

The measurement of masculinity and femininity concepts was implemented from both two- and one-dimensional perspectives. This study measured those concepts from both perspectives to examine the effect of them on the purchase intention separately. The measurement scale of masculinity and femininity, as a two-dimensional measurement,

originates from Brough et al. (2016) study. The authors used 5-point scale and used 11 traits in the scenario situation, where a respondent was asked to describe and characterize a person using those traits in the case context. Personality traits used in the study include two manipulation check attributes, three associated with masculinity ('masculine, macho, and aggressive'), three – with femininity ('feminine, gentle, and sensitive'), and three neutral ones ('athletic, attractive, curious'). The selection of these personality traits and their classification under masculine, feminine and neutral was empirically based, emerging from prior study of perceptions of the gender affiliations, conducted by Hoffman and Borders (2001, p. 51-52), and Holt and Ellis (1998, p 934-936), which is based on Bem Sex-Role Inventory (BSRI; Bem, 1974).

In this research design, it was decided to exclude the words used for manipulation check (due to irrelevance to the case) and three neutral traits, for the sake of avoidance of overloaded data set and for more narrow focus on masculinity and femininity traits. Besides, 7-point was used instead of original 5-point, as 7-point scale was chosen as a primarily scale set for this thesis. Third person perspective of the scenario cases from the Brough et al. (2016) study was changed to the question about personal, first-person characterization of the respondent: '*Rate the attributes that describe your personality*.'

Furthermore, for the sake of "reducing social desirability bias in item wording" (Podsakoff, MacKenzie, & Podsakoff, 2012, p. 552) or not causing a negative reaction from a respondent during the self-perception measurement of masculinity and femininity, words with negative meanings have been replaced by synonyms with more neutral connotation instead. Original trait definition of the words was remained (synonyms were chosen from empirical study by Hoffman and Borders (2001, p. 51-52) list of masculine-feminine adjectives). For example, the word 'aggressive' has been changed to 'assertive', while 'macho' has been changed to 'tough', that are still considered to be masculine.

Masculinity-femininity as one dimension

In addition to the two-dimensional measurement of masculinity-femininity, those constructs were measured also from the one-dimensional perspective. According to Spence and Helmreich (1979), the view that masculine-feminine concept is one bipolar dimension was prevalent in the literature of social and behavioral science in the past. As it was claimed before, feminine attributes tend to exclude masculine attributes, and the absence of feminine attributes could be defined as masculinity and vice versa. As a part of the methodological

contribution of this research, it was settled to include both dimensions in the survey. So, bipolar adjectives were organized in three sets, formed from the existing ones: masculine – feminine; assertive – gentle; tough – sensitive. This allowed looking at the variables from two separate viewpoints.

Table 2. Measurement of variables

Variable	***№***	***Measurements***	***References***
Environmental Attitude	1	To me, protecting the environment is (Foolish/Wise; Bad/Good; Favorable/Unfavorable);	Thorbjørnsen et al. (2007); Schuhwerk & Lefkoff-Hagius (1995)
Attitude for Green Products	2	Buying green products is (Foolish/Wise; Bad/Good; Favorable/Unfavorable);	Thorbjørnsen et al. (2007); Schuhwerk & Lefkoff-Hagius (1995)
Perceived Behavioral Control	3	Buying green products is not a problem for me Finding green products in stores is easy	Ajzen (2002)
		I feel free to buy green products as I like	Thorbjørnsen et al. (2007)
		Buying green products is entirely within my control	Nysveen, Pedersen & Thorbjørnsen (2005)
Purchase Intention	4	I intend to buy green products in the next month In the next month, I intend to buy green products frequently	Howard & Ostlund (1973), Nysveen et al. (2005)
Frequency of the Past Behavior	5	How often do you buy green products?	Chan (2001)
Subjective Norms	6	People who matter to me, expect me to buy green products People like me are expected to buy green products People I look up to expect me to purchase green products	Thorbjørnsen et al. (2007)
Social Identity Expressiveness	7	I often talk to other people about buying green products I often show the green products I bought to others Other people are often impressed that I buy green products	Thorbjørnsen et al. (2007)
Self-identity Expressiveness	8	I buy green products to express who I want to be I express my personality by buying green products I buy green products to express my personal values	Thorbjørnsen et al. (2007)
Masculinity	9.1	Word set: masculine, tough, assertive;	Brough et al. (2016)
Femininity	9.2	Word set: feminine, sensitive, gentle;	
Masc./fem. as 1 dimension	9.3	Attribute ranking: masculine – feminine; tough – sensitive; assertive – gentle;	
Moral Identity Expressiveness	10	*Word set: fair, helpful, honest;* It would make me feel good to be a person who has these characteristics Being someone who has these characteristics is an important part of who I am	Reed, Aquino & Levy (2007)
Age	11	-	-
Gender	12	Male/Female	-

The complete overview of the measures used in the work is presented in the Table 2, aggregated from the literature and measures review table from Appendix C1. The choice of the measures and scales was adapted from the subjective relevance to the research purpose, as well as based on the empirically proven scales, or scales that are adaptive and flexible.

All of the items were presented as statements (except for self-reported behavior, age and gender questions), expecting participants to indicate their attitude to or agreement with by the usage of 7-point Likert scale across questionnaire. Measurement of the frequency of the past behavior (self-reported behavior) used 7-point Likert scale as well. The reasoning behind this lies in the prevalence of the 7-point scale across the examined literature (see Table 2, Appendices C1-C2).

On top of that, many scholars emphasized that 7-point scale, comparing to a 5-point one, has less radical indifference from each other adjacent options. For example, Dawes (2008) stated that more expanded spectrum of options offers higher degree of independence for a participant to choose the closest choice. Chang (1994) and Cox III (1980) argued that 7-point scale can provide more varieties of options, increasing the probability of "meeting the objective reality of people" (Joshi, Kale, Chandel, & Pal, 2015, p. 398). Providing higher amount of options helps to reduce ambiguity in the responses (Finstad, 2010) and increases sensitivity of the data.

4.3 Biases in research design

4.3.1 Reliability

Reliability refers to the degree of consistency of the data collection and analysis process. If data collection and analysis are repeated in a different time by a different researcher and if it produces the consistent results, reliability will be high (Saunders et al, 2012). Several measures were taken to ensure the reliability of this research work. The data for the study was collected and stored electronically to reduce researcher error. Researcher bias was reduced by making the questionnaire close-ended and the answers to the questionnaire were not subject to the interpretation of the researchers.

An online questionnaire was used to collect data, and respondents could fill out the survey at their convenient time at their convenient places, leading to reduced participant error.

Participant bias, especially social desirability bias (Maccoby & Maccoby, 1954) is a significant concern for this study as many respondents may feel the social pressure to provide positive answers for behavioral intentions for green products and conform to the established concepts of masculinity and femininity. Full anonymity was ensured and guaranteed to all the respondents in the introductory message on the landing page in order to reduce the social desirability bias. To avoid hypothesis guessing and alteration of the previous answers, two questions (two-dimension and one-dimension measurements) were separated by the moral-identity question. Moreover, it was decided to place questions, related to femininity-masculinity measures, at the end of the questionnaire.

The questionnaire did not require any interaction with the researchers or other respondents, and therefore, acquiescence bias is reduced. The phenomenon, where respondents try to presume the purpose of an experiment and change their original answers accordingly, is called demand characteristics (Orne, 2009). It could be possible that respondents would try to presume the hypotheses of the study and alter their answers. To avoid demand characteristics, participants were not informed about the real purpose of the study: instead of communicating the specific objectives, the questionnaire revealed a broad topic of the study to the respondents. For example, the description stated that this study looked into sustainable consumer behavior, asking to provide opinions on this matter by indicating how much they agreed/disagreed with a set of statements and descriptions. The questionnaire did not include the options to go back and to alter previous answers as respondents could guess the true objectives of the research as they progress in filling out the questionnaire.

4.3.2 Validity

"Whether the findings or results of the research relate to and are caused by the phenomena under investigation and not other unaccounted for influences" can be defined as internal validity (Winter, 2000, p. 9). Simply put, internal validity of the research indicates the degree to which a causal relationship can be deduced from the research. Well-accepted theoretical frameworks for explaining behavior, including TPB, TT, and Identity Expressiveness Theory, were used to ensure internal validity in this study. Internal validity of the questionnaire indicates whether the questionnaire is measuring what it is supposed to measure, whereas content validity of the questionnaire specifies the level of coverage of the relevant topics (Saunders et al., 2012). To ensure the internal and content validity of the questionnaire, a thorough literature review of the measures was conducted (Appendix C1).

Besides, all the measurement items were adapted from established scales from the similar types of the research. External validity refers to the degree to which the findings of the study can be generalized to other relevant scenarios (Saunders et al., 2012). Nordic countries scores high in gender equality index (Gender Equality Index, 2017), are similar in national culture (Hofstede Insights, n.d), and citizens of those countries emphasize sustainability to a higher extent than the rest of the world (Sustainable Brand Index, 2018). So it can be argued that the findings of this study can be generalized to the young population of the Nordic countries. However, as the sample of the study consists of both Norwegian and international students, and non-probability sampling was used, the external validity of the findings can be limited to some extent. Criterion-related validity, also known as predictive validity, refers to the ability of the measurement items of independent variables to predict the outcome (Saunders et al., 2012). The objective of this research is to predict behavioral intention for purchasing green products and TPB along with theories related to identity expressiveness are already well-known theories to predict behavior. Moreover, Ordinary Least Squares (OLS) multiple regression was conducted to check the criterion validity of the independent variables (Appendix D3). Construct validity specifies "the extent to which your measurement questions actually measure the presence of those constructs you intended them to measure" (Saunders et al., 2012, p. 430). Although the measurement items were taken from the globally accepted academic journals, confirmatory factor analysis (CFA) was conducted to ensure construct validity (Appendix D1). The details of the results of the CFA and OLS multiple regression were discussed in Chapter 5.

4.3.3 Common method bias

Method bias can be defined as "the difference between the measured score of a trait and the trait score that stems from the rater instrument, and/or procedure used to obtain the score" (Burton-Jones, 2009, p. 448). Podsakoff et al. (2012) discussed several ways to reduce common method bias that ensure both reliability and validity of the research. The authors called for "temporal, proximal or psychological separation between predictor and criterion" (p. 549) to reduce the respondents' tendency to repeat the answers. Blank space was inserted between the measurement items for different constructs in the online questionnaire. Temporal space was added after two/three constructs as respondents had to click on 'next' button to continue the study. The option that respondents could not go back to previous answers also reduced the chance of replication of previous answers by the respondents.

Labelling different constructs in the questionnaire was avoided to decrease within-measure correlational systematic error (Viswanathan & Kayande, 2012). The authors also argued that halo error occurs when respondents use one general answer to rate different dimensions and two measurement items usually generates halo error. That is why the questionnaire uses three or four measurement items most of the time to measure one construct (except for past behavior construct).

Podsakoff et al. (2012) also called for avoiding vague, lengthy, and difficult questions in the questionnaire. Therefore, simple and concise formulations were used in this study. Additionally, the authors suggested the questionnaire should be designed in a way, that increases the respondents' motivation to respond accurately. A short questionnaire also often increases respondents' motivation to finish it. However, designing a short questionnaire can be challenging, as multiple measurement item is often required to measure a construct. The questionnaire used in the study maintained a balance between its brevity and content validity.

Furthermore, Feldman & Lynch (1988) noted that method bias can occur if the respondents perceive the questionnaire formats to be similar in nature. Similar format of the question might lead respondents to replicate answers of one question to another one. The questionnaire of this study contained different types of questions: some questions were related to the opinion about green purchase behavior, while some of them were associated to the opinion about respondents' personal characteristics. Structural variation in the the questionnaire was present as well: some questions used the group of statements, whereas some questions incorporated the usage of word sets.

In addition, to check for common method bias, Harman's single factor test was conducted (Appendix D2). Harman's single factor test is often used to check for common method variance, as the test utilizes an exploratory factor analysis with unrotated factor solutions to check if one single factor explains the majority of the covariance (Harman, 1976). According to Podsakoff (2003), one single factor should not explain more than 50% of the variance to affirm the absence of common method variance. Harman's single factor test showed that one single factor explains almost 23.27% variance, and therefore, the presence of common method bias is not evident in the dataset.

5. Data analysis

This chapter is divided into two parts. The first part discusses the result of the Confirmatory Factor Analysis (CFA) to check for construct validity (Appendix D1). CFA is a well-accepted method of examining how well the measurement items are measuring their respective constructs. CFA often provides a confirmatory analysis on how the variables, used for the measurement, are logically and systematically defined in a theoretical model (Hair, Black, Babin & Anderson, 2014). The latter part discusses the results of Ordinary Least Squares (OLS) multiple regression for hypothesis testing and validation of the proposed model. OLS multiple regression is often considered to be Best Linear Unbiased Estimator (BLUE) under certain conditions (Wooldridge, 2015).

5.1 Construct validity

According to Hair et al. (2014), construct validity should ensure that the constructs have both convergent validity and discriminant validity. Convergent validity indicates that the items used for measuring the same construct should have high proportion of variance in common. Several measures, including factor measures, may indicate convergent validity. High factor loading for a factor implies that the measurement items converge to the latent constructs and the factor loading should be statistically significant. The authors claim that factor loading exceeding 0.5 is acceptable, although ideally, factor loadings should be higher than 0.7 (Hair et al., 2014). Table 3 (see also Appendix D1) presents the factor loading of all the latent constructs. It has been observed that all factors, except for Fem1, Fem3, Masc1, Masc3, MF1, MF3, have factor loading more than 0.5. The low factor loading indicates that the word set of ‘tough’ and ‘assertive’ does not converge to masculinity. Word set of ‘gentle’ and ‘sensitive’ does not converge to femininity either.

Average variance extracted (AVE) and construct reliability (CR) were also calculated. The items (Fem1, Fem3, Masc1, Masc3, MF1, MF3) with low factor loadings were excluded in the calculation. In Confirmatory Factor Analysis, AVE can be referred to “the mean variance extracted for the items loading on a construct and is a summary indicator of convergence” (Hair et al., 2014, p. 619). An AVE score more than 0.5 indicates sufficient convergences among the item, while an AVE score less than 0.5 indicates that a latent factor adds more error and less variance explained in the model (Hair et al., 2014). Table 3 contains AVE of

all the latent constructs. All the factors, except for perceived behavioral control, fulfill the acceptable cut-off points for AVE. There exists a debate on which method of measuring reliability is the appropriate one. Construct Reliability (CR) is often used in the Structural Equation Modelling (SEM) model, as high CR values refer to the internal consistency and show that all the measures constantly measuring the same construct. Hair et al (2014) argued that CR value more than 0.7 often indicates good reliability, while CR values from 0.6 to 0.7 are acceptable. According to Table 3, all the constructs, except for femininity, have an acceptable score of CR.

Mitchel (1996) claimed that measuring the internal consistency of all responses from the questionnaire is one way of ensuring reliability. Cronbach alpha score should be higher than 0.7. Table 3 contains the Cronbach alpha score of the all measurement items for each construct. It has been observed that all the items, except for masculinity, femininity, and masculinity-femininity as 1 dimension, have the desired Cronbach alpha score.

According to Hair et al. (2014), discriminant validity is the degree to which one construct is different from other constructs. High discriminant validity indicates that the constructs are highly unique. Measurement items of other constructs are not applicable for measuring that constructs. Fornell and Larcker (1981) argued that discriminant validity can be checked with the following measure: comparing AVE score for any two constructs with the inter correlation score between those constructs. If AVE score is higher than the correlation value between those constructs, it signifies that the latent construct explains more variance of the constructs measured than other constructs, and thus has discriminant validity. Furthermore, another measure to check discriminant validity could be comparing Maximum Shared Variance (MSV) with AVE. Lower MSV score indicates discriminant validity. Table 4 contains CR, AVE, MSV, Correlation Matrix, and Square of AVE score of the retained items to check discriminant validity. For all the constructs square value of AVE score is higher than the correlation between all combinations of correlations, indicating acceptable discriminant validity. The comparison of MSV score with AVE shows no sign of discriminant validity as well.

From the analysis of CFA, it can be deduced that the measurement for masculinity, femininity and masculinity-femininity as 1 dimension is not up to the mark. Therefore, items Fem1, Fem3, Masc1, Masc3, MF1, and MF3 were excluded for conducting regression

analysis. Mono-operationalized constructs, the usage of the word masculine and feminine, were used to measure masculinity-femininity constructs in the regression analysis.

Table 3. Item wording and standardized factor loadings, Cronbach's alphas, CRs and AVEs (confirmatory factor analysis)[4]

Dimension	*Item*	*Items*[3]	*Loadings*	*α*	*CR*	*AVE*
Environmental attitude	AtE1	To me, protecting the environment is Foolish/Wise	0.84	0.783	0.816	0.600
	AtE2	To me, protecting the environment is Bad/Good	0.82			
	AtE3	To me, protecting the environment is Favorable/Unfavorable	0.65			
Attitude for Green Products	AtP1	Buying green products is Foolish/Wise	0.90	0.881	0.887	0.724
	AtP2	Buying green products is Bad/Good	0.84			
	AtP3	Buying green products is Favorable/Unfavorable	0.81			
Subjective norm	SN1	People who matter to me, expect me to buy green products	0.75	0.782	0.786	0.549
	SN2	People like me are expected to buy green products	0.70			
	SN3	People I look up to expect me to purchase green products	0.77			
Perceived behavioral control	PBC1	Buying green products is not a problem for me	0.63	0.750	0.752	0.430
	PBC2	Finding green products in stores is easy	0.63			
	PBC3	I feel free to buy green products as I like	0.70			
	PBC4	Buying green products is entirely within my control	0.66			
Social Identity	SoI1	I often talk to other people about buying green products	0.75	0.846	0.854	0.661
	SoI2	I often show the green products I bought to others	0.91			
	SoI3	Other people are often impressed that I buy green products	0.77			
Self-identity	SI1	I buy green products to express who I want to be	0.93	0.899	0.906	0.763
	SI2	I express my personality by buying green products	0.92			
	SI3	I buy green products to express my personal values	0.76			
Moral Identity	MI1	It would make me feel good to be a person who has these characteristics	0.67	0.730	0.743	0.594
	MI2	Being someone who has these characteristics is an important part of who I am	0.86			
Femininity	Fem1	Sensitive	0.37	0.488	0.579	0.578
	Fem2	Feminine	0.76			
	Fem3	Gentle	0.24			
Masculinity	Masc1	Tough	0.33	0.471	0.740	0.740
	Masc2	Masculine	0.86			
	Masc3	Assertive	0.28			
Masc./fem. as 1 dimension	MF1	Tough – Sensitive	0.49	0.596	0.709	0.706
	MF2	Masculine – Feminine	0.84			
	MF3	Assertive – Gentle	0.23			
Intention	INT1	I intend to buy green products in the next month	0.92	0.901	0.903	0.810
	INT2	In the next month, I intend to buy green products frequently	0.88			

[3] Dropped items include 'sensitive', 'gentle', 'tough', 'assertive', 'tough – sensitive', and 'assertive – gentle.'

[4] The factor loadings, α, CR and AVE of femininity, masculinity, and masc. /fem. as 1 dimension are shown for the retained items.

Table 4. CR, AVE, MSV, correlations, square roots of AVEs (along the diagonal) and means

		CR	AVE	MSV	1	2	3	4	5	6	7	8	9	10	11	Mean
1	Attitude_Env	0.816	0.600	0.321	*0.775*	-	-	-	-	-	-	-	-	-	-	6.62
2	Attitude_Product	0.887	0.724	0.321	0.567	*0.851*	-	-	-	-	-	-	-	-	-	5.87
3	SN	0.786	0.549	0.227	0.219	0.222	*0.741*	-	-	-	-	-	-	-	-	3.55
4	PBC	0.752	0.430	0.114	0.042	0.164	0.124	*0.656*	-	-	-	-	-	-	-	4.53
5	Social_Identity	0.854	0.661	0.429	0.197	0.359	0.368	-0.015	*0.813*	-	-	-	-	-	-	3.19
6	Self_Identity	0.906	0.763	0.429	0.315	0.411	0.476	0.029	0.655	*0.873*	-	-	-	-	-	3.50
7	Moral_Identity	0.743	0.594	0.100	0.288	0.181	0.242	0.031	0.178	0.316	*0.771*	-	-	-	-	6.14
8	Femininity	0.579	0.578	0.546	0.075	0.168	0.130	-0.149	0.243	0.273	0.195	*0.760*	-	-	-	4.32
9	Masculinity	0.740	0.740	0.400	0.001	-0.081	-0.071	0.115	-0.117	-0.086	-0.031	-0.522	*0.860*	-	-	3.87
10	MF_1Dimension	0.709	0.706	0.546	-0.049	0.124	0.128	-0.082	0.153	0.192	0.169	0.739	-0.633	*0.840*	-	4.25
11	Intention	0.903	0.810	0.228	0.316	0.477	0.353	0.338	0.435	0.476	0.146	0.068	0.095	-0.004	*0.900*	4.55

Numbers in italic – are the square root of each constructs of AVE. Numbers in the same row or column should be smaller that AVEs square root. (Fornell & Larcker, 1981).

5.2 Descriptives

Table 5 illustrates the descriptive statistics of the eight independent variables, three moderating variables and one dependent variables (see Appendix C5 for histograms). The table includes the retained items from CFA. Masculinity and Femininity variables measure masculinity and femininity as two separate dimensions while FM_1Dimension measures masculinity and femininity as a single dimension. High score in FM_1Dimension would indicate that the respondents are more feminine and less masculine, and vice versa. Relatively low mean is observed for perceived expressiveness of Social_Identity (3.19), while Attitude_Env (6.62) has a relatively high mean. The highest positive skewness was found for Behavior (0.79), while Attitude_Env has the highest kurtosis (4.40).

Table 5. Descriptives statistics

Variable	Mean	Std. Dev.	Min	Max	Skewness	Kurtosis
Attitude_Env	6.62	0.52	4.67	7.00	-1.35	4.40
Attitude_Product	5.87	0.87	3.33	7.00	-0.49	2.69
SN	3.55	1.18	1.00	6.33	0.03	2.43
PBC	4.53	1.07	1.50	7.00	-0.35	2.64
Social_Identity	3.19	1.44	1.00	7.00	0.33	2.46
Self_Identity	3.50	1.60	1.00	7.00	0.04	1.88
Moral_Identity	6.14	0.75	3.50	7.00	-0.80	3.34
Femininity	4.32	0.96	2.33	7.00	-0.38	2.16
Masculinity	3.87	0.93	2.00	7.00	0.01	2.11
MF_1Dimension	4.25	1.08	1.67	7.00	0.11	1.90
Behavior	3.42	1.10	1.00	7.00	0.79	3.29
Intention	4.55	1.43	1.50	7.00	-0.18	2.26

5.2.1 Goodness-of-fit of CFA

To check how well all the observations from the survey fit the statistical model, several measures for goodness-of-fit were conducted (Appendix D3). An acceptable goodness-of-fit score indicates that the data from the sample is expected to represent the distribution of the population (Cheung & Rensvold, 2002). They claimed that the Chi-square test is a well-accepted measure to check goodness-of-fit. Table 6 shows that Chi-square value ($\chi 2$) is 795 with p = 0.000. As the null hypothesis for the Chi-square test is that the sample data comes from a specified distributed model, the low p-value rejects the null hypothesis. Thus, the model performs poorly in the Chi-square test. However, the potential problem for the Chi-

square test is that the test requires data from a large sample, and in this study the sample might not be sufficient (N=203). Therefore, it can be suggested that the Chi-square test may not be an appropriate measure for the model fit for this particular research project.

Table 6. Goodness-of-fit results of CFA

Goodness-of-fit Test	Ranges indicating good fit[5]	Measurement model
Chi-square (model vs. saturated) (*χ2*)	-	794.485 (p=0.0000)
Degree of freedom (*df)*	-	409
Normed chi-square *(χ2/df)*	≤ 2	0.043
Root mean square error of approximation *(RMSEA)*	< 0.05	0.068[6]
Standardized root mean Residual *(SRMR)*	< 0.05	0.070
Tucker-Lewis Index *(TLI)*	> 0.95	0.848
Comparative fit index *(CFI)*	> 0.95	0.875

To solve the problem with smaller sample size, Normed Chi-square (χ2/df), the ratio of Chi-square value and degree of freedom, is measured. Normed Chi-square value less than 2 indicates a good model fit. For this data set, the value 0.043 is acceptable. Root Mean Square Error of Approximation (RMSEA) and Standardized Root Mean Square Residual (SRMR) are also well-accepted goodness-of-fit accounts for the differences between the sample covariance and model covariance. For RMSEA and SRMR, values closer to 0 indicate a good model fit. Although values lower than 0.05 are desired for those measures, values lower than 0.08 are satisfactory (Kline, 1998). For this model, both RMSEA and SRMR value: 0.068 and 0.070 respectively, are acceptable, indicating a good model fit. Comparative Fit Index (CFI) compares the fit of a model with a baseline model with the assumption that the correlation of all the observed variables in the baseline model is nil. CFI is assumed to be an appropriate measure for small sample, although there is a criticism that the baseline model is impossible to achieve. For a good model fit, CFI score should be less than 0.95. Inn this study, the CFI score (0.875) is satisfactory. Lastly, Tucker-Lewis Index (TLI) is another measure for goodness-of-fit, which controls for negative bias in estimating model fit. The TLI score should be less than 0.95 for a good model. The TLI score is 0.875,

[5] According to Hair, Black, Babin and Anderson (2014)

[6] RMSEA < 0.06 can be the identification of an acceptable model fit (Hu & Bentler, 1999)

ensuring a good model fit as well. To sum up, it can be concluded that the model of this study is acceptable in terms of goodness-of-fit.

5.3 Hypothesis testing and model validation

5.3.1 Assumption of OLS

Multiple Regression Analysis allows for controlling several independent variables that simultaneously affect the dependent variables. It is used widely to formulate better models to predict dependent variables. To test the conceptual model, Ordinary Least Squares (OLS) multiple regression was used. OLS estimator is often considered to be an efficient and unbiased estimator (Wooldridge, 2015). Wooldridge (2015) discussed that according to Gauss-Markov theorem, five conditions need to be satisfied to draw a conclusion from the OLS regression.

Firstly, the relationship between independent and dependent variables should be linear in the parameter. The linearity nature of the relationship was checked by the scatterplot of dependent and each independent variables (Appendix D4). A visual inspection of all the scatterplots showed that a linear relationship can be drawn from the relationship between independent and dependent variables.

Secondly, samples should be randomly chosen. As self-selection sampling was implemented for the data collection, from a statistical point of view, a generalization of the findings from the study cannot be applied to the population. However, it is possible that the findings of the study could create an insight to the understanding of the factors affecting green purchase behavior.

Thirdly, the values of all independent variables cannot be the same for all the values of dependent variables. There must be a variation in the values of independent variables in the dataset. It was expected that the respondents filled out the questionnaire in privacy and did not communicate with each other, while filling out the questionnaire. Therefore, the answers of independent and dependent variables should not be the same for all respondents. Furthermore, variation in independent variables was ensured by manual data screening (responses with the same answers repeated 9 times or more in a row were eliminated).

Fourthly, the error term should be fully independent of independent variables, fulfilling the zero-conditional mean. Wooldridge (2015) argued that it is not possible to test the zero-conditional mean, as the true error of the population is unknown. Thus, it was assumed that the data does not vailate zero-conditional mean assumption.

The fifth assumption is related to homoskedasticity, indicating that the error term has a constant variance for any given value of independent variables. For testing homoskedasticity, a scatterplot of residuals and the fitted value of dependent variables was visually examined to check the presence of heteroskedasticity (Appendix D5). To further check for heteroskedasticity, a Breusch-Pagan (BP) test was conducted (Appendix D6). Wooldridge (2015) suggested that BP test often over-rejects for heteroskedasticity, when the sample size is small. As N=203, the BP test indeed showed the presence of heteroskedasticity. Woolridge (2015) claimed that for smaller sample size, a regression between the residuals (û), fitted value of y (ŷ), and square of fitted value of y (ŷ^2) should indicate the presence of heteroskedasticity. That regression (Appendix D7) showed that there is not relationship between residuals and fitted value of dependent variable. Thus it is concluded that heteroskedasticity should not be a concern in this study.

Furthermore, multicollinearity assumption states that independent variables can be not correlated with each other. To check for multicollinearity, correlation matrix among all the constructs was produced (Table 5). It has been found that none of the Pearson's correlation among the constructs, used in the same regression model, exceeds 0.7 (Hair et al, 2014), ruling out the presence of multicollinearity. The high correlation between Femininity and MF_1Dimension should not pose a multicollinearity problem to the regression analysis, because those two variables were not used in the same regression model. Variance Inflation Factor (VIF) was calculated to check for multicollinearity as well (Appendix D8). According to Hair et al (2015), the VIF value should be lower than 10. It has been found that VIF values for the explanatory variables range from 1.15 to 2.23, indicating no multicollinearity.

Normality assumption is one of the key assumptions for OLS. Normality assumption indicates that the residuals of explanatory variables follow normal distribution. Violation of normality assumption affects the calculated t-statistic and F-statistic. For checking the normality assumption, there are several tests with their respective positive and negative aspects. First of all, a regression between the dependent variable and all independent variables was run; a histogram was made with the residual values from the regression

(Appendix D9). A visual examination shows the normality assumption. In addition to the histogram, the Jarque-Bera test was conducted (Appendix D10), as it is often used to test the normality assumption (Jarque & Bera, 1980). The Jarque-Bera normality test score is 0.35 with a probability of 0.84, which supports for normality assumption.

5.3.2 Result of OLS Multiple Regression:

Several multiple regression models were conducted to find the effect of independent variables on the dependent variable – intention to purchase green products (Appendix D11).

Antecedents for green purchase intention

In Model 1, the independent variables from TPB and Identity theory were used to predict intention. From Model 1, it is discovered that attitude toward green products ($\beta = 0.380$, $p = 0.001$), perceived behavioral control ($\beta = 0.376$, $p = 0.000$), social identity expressiveness ($\beta = 0.183$, $p = 0.012$) and self-identity expressiveness ($\beta = 0.175$, $p = 0.015$) predict the intention to purchase green products. However, the influence of subjective norm and moral identity on intention is not found in the model.

Influence of masculinity-femininity

In Models 2, 3 and 4 (Table 7), the effect of masculinity and femininity was controlled for to predict the intention to engage in the behavior. In those models, masculinity and femininity were measured as two dimensions. At first, the direct effect of masculinity and femininity has been controlled for in Model 2, which shows that apart from attitude towards product ($\beta = 0.400$, $p = 0.001$), perceived behavioral control ($\beta = 0.358$, $p = 0.000$), self-identity ($\beta = 0.168$, $p = 0.019$), social identity ($\beta = 0.191$, $p = 0.009$), self-perception about how masculine an individual is ($\beta = 0.148$, $p = 0.020$), have a positive impact on the intention to purchase green products. In Model 3, all the antecedents and the interaction effect between masculinity-femininity and antecedents have been controlled for. In Model 3, only attitude regarding products ($\beta = 0.442$, $p = 0.000$), perceived behavioral control ($\beta = 0.329$, $p = 0.000$) have a positive effect and subjective norm ($\beta = -0.994$, $p = 0.024$) has a negative effect on behavior to intention. However, the moderating effect of masculinity on the relationship between subjective norms and behavior is also positive ($\beta = 0.174$, $p = 0.004$) and statistically significant in Model 3. Model 1, 2 and 3 explained the total variance by 40.9%, 42.1% and 43.2% respectively.

In Model 4, according to the Theory of Trying (Bagozzi & Warsaw, 1900), the behavior is also controlled for to see the effect on dependent variables. When the behavior is controlled for, it is seen that behavior has the highest positive coefficient (β = 0.725, p = 0.000), followed by attitude toward products (β = 0.293, p = 0.002), perceived behavioral control (β = 0.205, p = 0.001). Subjective norms have a negative impact (β = -0.808, p = 0.024) while the interaction effect between masculinity and the subjective norms (β = 0.147, p = 0.003) is positive. It is important to note that the interaction effect between social identity and masculinity is positive (β = -0.021, p = 0.51) at 90% confidence interval. to Model 4 explains 62.6% of the total variation of dependent variables.

Influence of Masculinity- femininity concepts as single dimension

In this research work, masculinity and femininity were measured as a single dimension as well. Table 8 contains the regression results with Femininity as a single dimension. To check the effect of masculinity-femininity as a single dimension, three regression models were conducted. In Model 5, the variables from TPB and Identity Expressiveness Theory and the direct effect of femininity (as an opposite of masculinity) were controlled for predicting behavioral intention. Model 5 shows that attitude towards the product (β = 0.407, p = 0.001), perceived behavioral control (β = 0.363, p = 0.000), self-identity (β = 0.183, p = 0.011), social identity (β = 0.184, p = 0.012) are significant predictors, while femininity (as an opposite of masculinity) has no effect on behavioral intention. In Model 6, all the variables of Model 5 along the interaction effect between femininity and subjective norm, self-identity, social identity and moral identity were controlled for, and none of the interaction effects were significant. When interaction effects were controlled for, self- and social identity expressiveness were no longer statistically significant as well. In the last model (Model 7), all the variables of Model 6 and past behavior were controlled for. The direct and indirect effects of femininity are also absent in Model 7. The significant predictors in Model 7 are attitude towards green product (β = 0.246, p = 0.015), perceived behavioral control (β = 0.228, p = 0.001), and past behavior (β = 0.716, p = 0.000). Models 5, 6 and 7 explain 41.3%, 40.23%, and 56.56% respectively.

If F-test score of regression analysis is more than 10 with probability less than 0.05, it means that the all variables in the model have joint significance (Wooldridge, 2015). F-test results of all the regression models (Appendix D11) show that variables used in all the models (Models 1-7) have joint significance.

Table 7. Aggregated results of multiple regression coefficients (masc.-fem. as two-dimension)

	Model 1	**Model 2**	**Model 3**	**Model 4**
Attitude_Env	0.176	0.150	0.027	0.007
Attitude_Product	0.380***	0.400***	0.442***	0.293**
SN	0.122	0.132	-0.994**	-0.808*
PBC	0.376***	0.358***	0.329***	0.205***
Social_Identity	0.183*	0.191**	0.269	0.456
Self_Identity	0.175*	0.168*	0.543	0.395
Moral_Identity	-0.082	-0.087	0.112	0.010
Femininity	-	0.033	0.018	0.135
Masculinity	-	0.148*	-0.208	0.019
Femininity x SN	-	-	0.099	0.049
Femininity x Self_Identity	-	-	-0.033	-0.018
Femininity x Moral_Identity	-	-	-0.039	-0.021
Femininity x Social_Identity	-	-	0.003	-0.024
Masculinity x SN	-	-	0.174**	0.147**
Masculinity x Self_Identity	-	-	-0.059	-0.048
Masculinity x Social_Identity	-	-	-0.019	-0.084
Past behavior	-	-	-	0.725***
R^2 Adj	40.9%	42.1%	43.2%	62.8%

Table 8. Aggregated results of multiple regression coefficients (masc.-fem. as a single dimension)

	Model 5	**Model 6**	**Model 7**
Attitude_Env	0.117	0.122	0.117
Attitude_Product	0.407***	0.402***	0.246**
SN	0.128	0.228	0.199
PBC	0.363***	0.363***	0.224***
Social_Identity	0.184*	0.111	-0.131
Self_Identity	0.183*	0.162	0.055
Moral_Identity	-0.056	-0.098	-0.070
MF_1Dimension	-0.076	-0.128	-0.021
MF_1Dimension x SN	-	-0.024	-0.048
MF_1Dimension x Self_Identity	-	0.004	0.018
MF_1Dimension x Moral_Identity	-	0.011	-0.004
MF_1Dimension x Social_Identity	-	0.017	0.035
Past behavior	-	-	0.716***
R^2 Adj	41.3%	40.2%	56.6%

* significant at 0.05
** significant at 0.01
*** significant at 0.001

6. Discussion and conclusions

6.1 General discussion

"*There is no planet B*" – Berners-Lee claimed (2019), while discussing the adverse effect of the human footprint on the environment. As natural resources of our planet are quickly diminishing, the knowledge on sustainable consumer behavior is increasingly becoming indispensable (Jansson et al., 2010).

Antecedents for green purchase intention

The first research question (RQ1) tends to identify the antecedents for green purchase intention. Model 1 (Table 7), which represents the findings of the model, without considering the influence of masculinity-femininity construct, shows that attitude towards green products, perceived behavioral control, self- and social identity expressiveness have a significant positive influence in explaining intention to purchase green products. Those findings confirm the role of the attitude towards green products, discussed by Krystallis & Chryssohoidis (2005), Chen (2010), etc. The results are also in accordance with Robinson and Smith (2002), Suchomel (2005), etc. for the influence of perceived behavioral control. The findings on the positive influence for self- and social identity expressiveness are also in congruence with Sparks and Shepherd (1992), Terry et al. (1999), Gupta and Ogden (2009), Schultz (2001) etc. Nyborg et al. (2006) discovered the positive effect of social identity expressiveness on green behavior intention in Norway as well.

However, in the same model (Model 1, Table 7) three variables – attitude towards environment, subjective norms, and moral identity – do not influence the purchase intention. Darley and Latané (1970) argued that subjective norms often do not explain behavior, as they are omnipresent in the society, no matter if an individual engages in the behavior or not. The results of this thesis strengthened the view by those authors.

Similar to the findings of this research work, Chan and Lau (2000) and Wolsink (2007) did not find any effect of the environmental concern on green behavior. Table 5 shows that the mean of Attitude_Env is 6.62 of and Moral_Identity is 6.14 followed by negative skewness

score (-1.35 and -0.80 respectively) and high kurtosis score (higher than normal distribution[7] – 4.40 and 3.34 respectively). It can be inferred that majority of the respondents responded similarly in those questions (Appendix C5) and lack of the significant variation in response may lead to no impact on explaining behavioral intention (Wooldridge, 2015).

Moderating effect of masculinity and femininity

The second research question (RQ2) of this study aimed to find the moderating effect of masculinity-femininity concept on the relationship between behavioral intention and four antecedents: subjective norms, self-, social and moral identity expressiveness. When all the variables and the interaction effect between them were accounted for in the conceptual model (Model 4, Table 7), attitude towards green products, perceived behavioral control and past behavior emerged as strong positive factors, while subjective norms turned out as a strong negative factor for the green purchase intention. Model 4, which examines the interaction effect between the antecedents and masculinity-femininity, presents only the interaction effect between masculinity and subjective norm as a positive one. In accordance with Brought et al. (2016), the interaction effect between masculinity and social identity indicates that masculine individuals may avoid green products to express their social identities. Interactions between masculinity-femininity concept and other variables are found to be non-significant in the final model (Model 4; see Table 7, Figure 5).

Although these findings contradict with numerous well-established research works (Davidson & Freudenburg, 1996;Cottrel (2003);Levin (1990); Khan & Trivedi (2015), a few studies did not find any relation between the sex of an individual and socially accepted masculine and feminine norms connected to sustainable behavior. For instance, Sreen et al. (2018) found that sex of the consumers has no moderating effect on the relationship between subjective norms, perceived behavioral control, and attitude on the intention to purchase green products in Indian setting. Furthermore, Vicente-Molina et al. (2017) found that, contrary to the established knowledge, stereotypical female gender role-identity or femininity concept do not always explain why individuals engage in green behaviors in Spain. Authors attributed that the increasing gender equality level and changes in subjective norms could be the possible reasons for these findings. Furthermore, similar to the findings of Connel (2010), the influence of subjective norms on purchase intention for green product

[7] Normal distribution score is 3.0 Heir et al. (2014)

is found to be negative in this thesis. Connel (2010) argued that in Hong Kong, the societal pressure for fashion and appearance is high, and that is why many young consumers tend to avoid buying eco-friendly clothes to adhere to the societal norms.

Several explanations can be proposed for the non-existent moderating influence of masculinity-femininity concept on the relationship between antecedents (self-identity expressiveness, social identity expressiveness, moral identity expressiveness) and intention to the behavior. Bennett and Williams (2010) and Brough et al. (2016) found that green products and femininity are highly associated in the U.S., and to maintain gender-identity, men and women tend to vary in green behavior. However, this thesis was conducted in the Norwegian setting, where consumers are in general concerned with sustainability (Hanss & Böhm, 2011). It can be possible that green behavior is considered neither to be masculine nor to be feminine in Norwegian society. Hence, the concept of masculinity and femininity might not apply in explaining green purchase intention in Norway. It is also important to note that Norway ranks very high in terms of gender equality (Gender Equality Index, 2017). In the countries with high gender equality score, traditionally accepted gender norms are often challenged (Jütting, Morrisson, Dayton-Johnson, & Drechsler, 2008). It is probable that the Norwegian respondents of this study were not concerned with adhering to the traditionally defined masculinity and femininity attributes. Furthermore, the study controlled for education and age of the respondents (NHH students, no minors in responses), and it has been found that educated and young adults are indeed more concerned about the environment, as they tend to grow up in the period, where environmental issues are being highly discoursed (Straughan & Roberts, 1999). Thus, they are less prejudiced about maintaining their gender identity, when it comes to the green behavior. Although the Norwegian government has taken various initiatives to popularize sustainable products, existing alternative products are still mainstream ("Norway's follow-up of Agenda 2030 and the Sustainable Development Goals", 2016). That is why the existing subjective norms may influence green purchase behavior adversely. Nonetheless, people who perceived themselves as masculine may perceive themselves also as 'assertive', 'confident', 'courageous' etc. (Palan, 2001), leading to the situation, when masculine individuals may challenge the existing subjective norms due to their confidence in their character. That is why the interaction between subjective norms and masculinity emerges as positive. Another plausible reasoning for the marginal outcome of masculinity-femininity on green purchase intention can be the lack of a modern, flexible, and empirically proven scales for the measurement of

femininity-masculinity as a contemporary two-dimensional concept, prevalent in the modern society. The CFA analysis (Table 3) shows that the scales used in this research were not fully validated, and mono-operationalized constructs were used to measure those concepts. Usage of an appropriate modern scale to measure masculinity-femininity could lead to a potentially different result.

6.1.2 Summarized results

Table 9 contains the summarized result of testing the hypotheses. P value of 0.05 or lower was used as a standard. It is important to note that hypothesis H8b does not get rejected with 90% of confidence interval. It can be said that 4 out of 16 hypotheses did not get rejected in the study.

Figure 5 depicts the empirical results of the conceptual model of the study. The bold arrows indicate statistically significant coefficients. It is important to note that subjective norms has a strong negative coefficient.

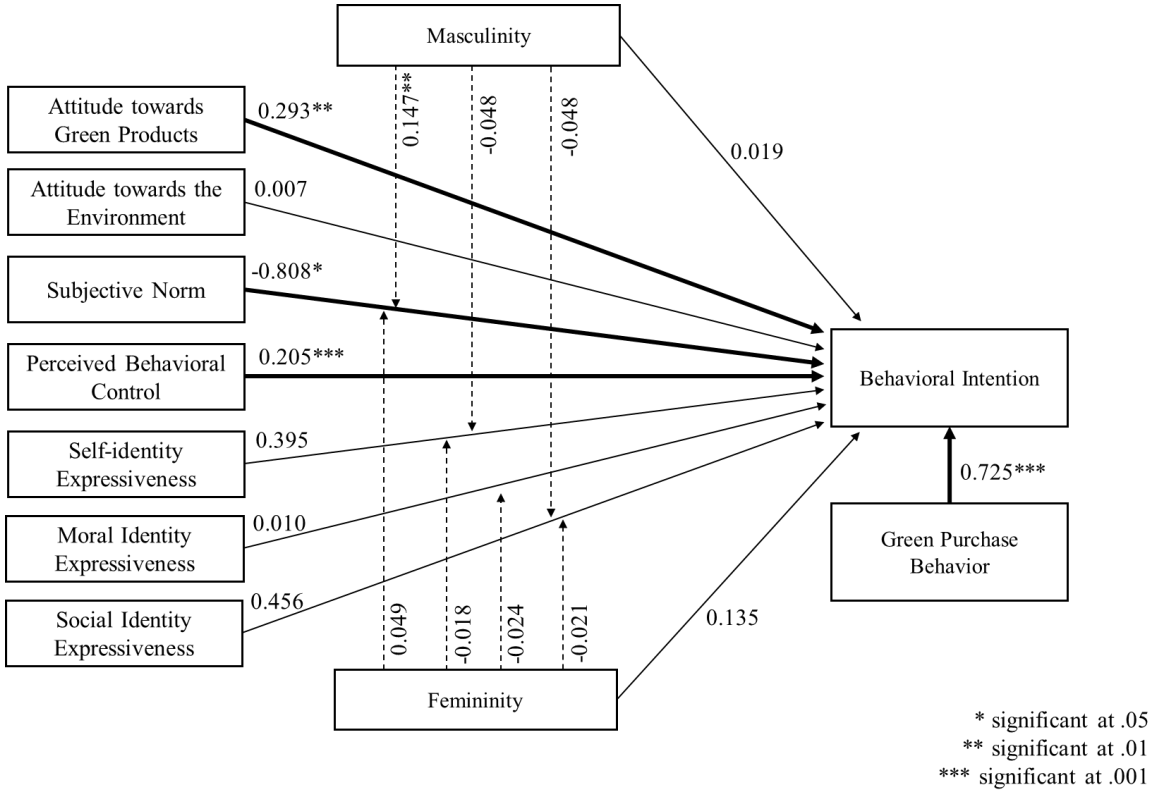


Figure 5. Empirical results of the conceptual model

(based on Model 4 from Table 7)

Table 9. Hypotheses rejection/support (based on Model 4)

	Relationship	Direction	β	*p*	Rejected
H1a	*Attitude towards green products → intention*	+	**0.293**	**0.002**	**No**
H1b	*Attitude towards the environment → intention*	+	0.007	0.966	Yes
H2	*Subjective norms → intention*	–	-0.808	0.024	Yes
H3	*Perceived behavioral control → intention*	+	**0.205**	**0.001**	**No**
H4	*Past behavior → intention*	+	**0.725**	**0.000**	**No**
H5a	*Self-identity expressiveness → intention*	+	0.395	0.258	Yes
H5b	*Moral identity expressiveness → intention*	+	0.010	0.969	Yes
H5c	*Social identity → intention*	+	0.456	0.159	Yes
H6a	*High/low femininity → (subjective norms → intention)*	+	0.049	0.308	Yes
H6b	*High/low masculinity → (subjective norms → intention)*	+	0.147	0.003	Yes
H7a	*High/low femininity → (self-identity expressiveness → intention)*	–	-0.018	0.699	Yes
H7b	*High/low masculinity → (self-identity expressiveness → intention)*	–	-0.048	0.284	Yes
H7c	*High/low femininity → (moral identity expressiveness → intention)*	–	-0.024	0.722	Yes
H8a	*High/low femininity → (social identity expressiveness → intention)*	–	-0.021	0.600	Yes
H8b	*High/low masculinity → (social identity expressiveness → intention)*	–	**-0.048**	**0.051**[8]	**No**

6.2 Theoretical implications

Development and validation of a new model

Several theoretical implications can be drawn from the findings of this research project. First of all, this research work tests and compares the predictive powers of several integrated models derived from different combinations of TPB, Identity Expressiveness Theory, Theory of Trying and masculinity-femininity concept for sustainable consumer behavior. It is found that variables from TPB and Identity Expressiveness theories explain almost 41% of variation. When masculinity and femininity and its interaction effect were included, an additional 2% variation was explained. However, an increase of 22% of explaining behavior was observed, when all the variables from the mentioned theoretical frameworks and their interaction effects were controlled for. The all-inclusive research model (Model 4) explains approximately 63% variation of purchase behavior intention for green products. Especially, past behavior emerged as a strong predictor for behavioral intention, when frequency of the past behavior from Theory of Trying was included in the model. Terry et al. (1999) claimed that TPB along with other variables often explains more variation in dependent variables and the findings of this research are in accordance with the authors.

[8] H8b is rejected at 95% confidence interval. However, the p value for H8b is marginally higher than 0.05 and the hypothesis will not be rejected with 90% confidence interval and it has been decided that hypothesis was not rejected.

Scholars like Lee (2009), Costa-Pinto et al. (2014) used self- and social identity expressiveness as a part of Identity Expressiveness theories to explain sustainable consumer behavior. This research project also includes moral identity expressiveness (as an extension of Identity Expressiveness Theory), basing on the fact that Doran (2009) and Makatouni (2002) found that moral identity explains green purchase behavior. Furthermore, Kaiser et al. (1999) proposed that attitude towards environment could also explain the green purchase intention. Those two variables – moral identity expressiveness and environmental attitude – were added to the model as extensions of Identity Expressiveness theories and TPB respectively. Although both variables turned out to be insignificant, inclusion of those extended variables shed more light to knowledge in the subject.

Bagozzi and Warshaw (1990) formulated Theory of Trying as an extension of TPB, but it was not always successful in explaining behavior empirically (Bay & Daniel, 2003). The findings of this research project open new avenues for application of the Theory of Trying in sustainable consumer behavior context. Scholars like Bagozzi, Davis, and Warshaw (1992), Bagozzi and Warshaw (1990) found partial evidence for Theory of Trying. Ouellette and Wood (1998) investigated the effect of past behavior in predicting behavioral intention – they found past behavior to be a strong predictor. Xie, Bagozzi, and Troye (2008) also examined Theory of Trying, concluding that past behavior is a strong predictor for food consumption. However, the application of Theory of Trying in explaining the effect of gender on sustainable consumption is rarely seen (Appendix B1). This research project aimed to explain the effect of gender on sustainable consumption with partial incorporation of some elements from Theory of Trying. The result shows that the frequency of the past behavior is a strong predictor, so it opens new avenues for using Theory of Trying in sustainable consumption domain as well.

Brought et al. (2016) and Isaac and Obermiller (2018) studied the effect of masculinity-femininity on green consumer behavior. The authors examined the mediating role of gender-identity maintenance to explain green behavior. The authors found that men and women want to adhere to socially established gender norms, and as a result they decide to engage or not to engage in green behavior. This research project examined the role of masculinity and femininity as a moderating variable in the relationship between four antedencents (subjective norms, self-identity expressiveness, social identity expressiveness, moral identity expressiveness) and behavioral intention.

Gender and sex – new perspective in consumer behavior

Secondly, a plenty of research was conducted to understand the gender differences in sustainable consumer behavior. Davidson and Freudenburg (1999), Cottrel (2003), Khan and Trivedi (2015) identified that men and women vary in sustainable consumer behavior. Some researchers tried to explain dissimilarities from different angles, including personality traits (Luchs & Mooradian, 2012), cultural orientation of the country (Sreen et al., 2018), masculinity-femininity concept (Brough et al., 2016; Obermiller & Isaac, 2018) etc. Palan (2001) claimed that many researchers often used 'sex' and 'gender' interchangeably, as they had followed to the old views of 'sex' and 'gender' as indivisible constructs. This research project applied the modern contemporary view, stating that 'sex' and 'gender' are not the same constructs in explaining the behavior for sustainable consumption. In this project masculinity and femininity were measured both as single dimension and dual dimension constructs, and in both cases, the relationship between sex and measurement of masculinity and femininity was not presumed. The result shows that when all the variables and the interaction effects are controlled for, the effect of masculinity-femininity is marginal.

Measurement scale of masculinity-femininity

The socially acceptable definition for masculinity and femininity varies over time and society (Palan, 2001). There existed a range of scales to measure masculinity and femininity constructs. It has been found that scales for measuring masculinity and femininity in the beginning of the 20th century were used as one-dimension scale for identifying socially deviant behavior, including marriage counselling, work environment interactions, identifying queer individuals, etc. (Hoffman, 2001). It can be suggested that a specific scale for measuring masculinity and femininity in marketing domain is yet to be formulated. For this research project, the scale was adopted from Brugh et al. (2016) and Obermiller and Isaac (2018). The context of those studies included the U.S. consumer, and the scale did measure masculinity and femininity.

However, the same scale was applied to measure masculinity and femininity in the Norwegian setting. Based on the results of the Confirmatory Factor Analysis, it was identified that the measurement was not effective enough to measure masculinity or femininity of the respondents. In fact, only two out of six attributes were measuring masculinity and femininity (loadings for 'masculine' = 0.86, for 'feminine' = 0.76), leading to mono-operationalized constructs as a measure of the construct. This study disputed the

scale used by Brough et al. (2016) and Isaac and Obermiller (2018) in the Norwegian context and showed the absence of well-accepted scales for measuring those constructs. This fact builds a background for further development of the scale, putting emphasis on consumer behavior domain.

6.3 Managerial implications

The obtained results of this study can help to draw several implications that can be applied for the managerial implication in the field of green consumer behavior, that would help for better understanding of the antecedents of the intention in engaging in such behaviors, and how to control and mitigate them.

According to Sheppard et al. (1988), past behavior can predict future one even after controlling for subjective norms, attitude and intention, which is supported by the findings in this study. Environmental behaviors are not completely under the consumer's control, as they are not fully volitional, as stated by Pieters (1991). That is why it is recommended for the marketers to look deeper in that matter to identify the reasoning of that behavior.

Ertz (2016) drew a parallel between higher frequency and recency of the involvement in socially responsible consumer behavior (green purchase can be applied) and the Power Law of Practice (Kolers, 1975), creating so-called cognitive lock-in. It means that when the behavior is repeated over time, more efficient methods of accomplishing and performing such a behavior are adopted. In other words, if a consumer gets familiar with the green purchase behavior, it can be perceived more attractive in the future as the time and effort to engage in such behavior get reduced. As the author proposes, the process eventually can create cognitive lock-in over time, as "perceived switching costs increase the more times a favorite behavior is performed" (p. 10). Even though this principle is not fully researched in the area of sustainable consumption and behavior, it creates a perfect precedent to look extensively in that matter in order to replicate such practices in the retail industry, as both policy-makers and marketers are seeking promotion of the socially responsible consumer behavior and increased engagement (D'Souza et al., 2007).

Promotion

A crucial effect discovered from the conceptual model is the influence of the Theory of Trying, frequency of the past behavior – to be precise, on the intention to purchase green

products. Rogers and Everett (1983) claimed that trialability may lead to adoption of new products. Thus, promotion of green products, aiming to to increase a product trail, can play a crucial role for the future adoption of pro-environmental behavior. Communication strategies should facilitate attitudinal changes towards the product of the target audience, leading to increased rate adoption of green products. Such recommendations were also suggested in cross-cultural study among American and Chinese consumers by Chan and Lau (2002).

Results show, that neither masculinity or femininity does not have significant direct effect on the intention to purchase green products in both models (Model 4, 5: two- and one-dimension), as well as does not many strong interaction effects when observed in the Norwegian setting. Perceived level of masculinity has a significant influence on the relationship between social identity and intention: the stronger the level of masculinity – the weaker the effect of social identity on intention. This fact supports previous studies, including Brough et al. (2016), Obermiller and Isaac (2018). Possible implication for managers would be introduction of whether gender-neutral marketing (e.g. Avery, 2012), or masculine affirmation, or masculine branding for the green products (Dagher, Itani, & Kassar, 2015; Brough et al., 2016; Obermiller & Isaac, 2018) in order to overcome prevalent barrier for consumers with high level of masculinity. However, managers are recommended to conduct further research on the perception of masculinity-femininity in Norway, as results from Norway showed that there is no significant effect of masculinity or femininity. There might be possible negative consequences on the market share, if communication is directed on too narrow target group. A good practice would be continuing promotion of sustainable behavior among the a wide range of consumers (Dagher, Itani, & Kassar, 2015).

Interestingly, subjective norms emerged as main barrier towards purchase of green products, adding to some studies, which showed the similar result (Connell, 2010). Males tend to follow subjective norms stronger than females, when it comes to their self-identity (Vandello et al., 2008), however this fact is opposite from established perception that females prone to adhere to subjective norms (Chen-Yu et al., 2002). Following complete model (Model 4), with a contemporary view on masculinity-femininity construct in mind (Hoffman, 2001), it can be argued that individuals who perceive themselves as more masculine (both males and females), would be able to mitigate negative influence of subjective norms on intention to engage in green behavior. It can be recommended for managers to keep in mind the important social referents as family, friends, and social or reference groups in order to improve the communication effectiveness of the green messages, and when needed –

designing a new normative message promoting green products and targeting a specific individual and/or situation (the effect of stronger self-identification).

Product

Following past behavior, the importance and influence of attitude towards green products together with perceived behavioral control on intention are evident. Supporting significantly TPB, these findings support previous research in the field, where attitude towards the product – its quality, green certification, brand trust, etc. (Krystallis & Chryssohoidis, 2005; Straughan & Roberts, 1999), as well as external factors, such as time, affordability, availability, and support (Ajzen, 2002), play important role for the intention increase of the consumer. Ottman (1992) found that positive attitude regarding the functional attributes of the green products (for example, performance, ease of usage, quality etc.) often leads to the purchase of such products.

Thus, marketers should carefully create and implement communication plans that detail clearly how green products positively influence the environment, what are the benefits and values for the consumer. For instance, consumers often do not trust the certification process for eco-labeled products, refusing to purchase green products (Krystallis et al., 2008). It is recommended for managers to communicate the importance of the green product in everyday life also through product innovation (including production, design, packaging etc.) in order to enable positive attitude towards green products in contrast to non-green. Detail information on the certification process should be made available online to increase trust in the certification process too.

Place

As discussed previously, if an individual does not find the environment of performing the behavior suitable, available or trustworthy, negative attitude with reduced confidence level can arise, leading to lowered intention to engage in the behavior (Wittenbrink et al., 2001). In their study, Robinson and Smith (2002) discovered that despite having the intention of purchasing green food products, the majority of surveyed consumers in the U.S. could not purchase green food products due to external barriers like unavailability, prices, and inconvenience.

That is why it is of great importance for managers and marketers to ensure the availability and visibility of the products in shops, making the shopping experience as easy, effortless, and pleasant as possible.

Price

Price (Robinson & Smith, 2002) and trustworthiness of the green items (Krystallis & Chryssohoidis, 2005) is to be controlled and maintained on acceptable levels, emerged from consumer's expectations and beyond. As was concluded by Suchomel (2005), approximately 80% of the college students are willing to purchase sustainable products in case where price and availability of the product are within acceptable range, which is relevant for this study as well. In addition Wang et al. (2014) discovered that the majority of consumers in rural China did not engage in green behavior due to perception that they did not have sufficient level of income to engage in pro-environmental behavior.

Green products are highly associated with higher price. Laroche et al. (2001) found that perceived attitude towards the environmental issues tightened together with perceived ease and convenience to purchase green products can highly influence the willingness to pay price premium for green-labeled products. Consequently, if marketing mix is complemented from within, it might be possible for marketers to overcome price barrier for the consumers.

6.4 Limitations

Possible limitations related to internal and external validity of the study should be addressed. Firstly, it can be argued that the research work should have internal validity. All the antecedents were derived from three well-established theoretical frameworks, and all of measurement items were taken either from original sources (e.g. Hoffman & Borders, 2001; Ajzen, 2002; Reed et al., 2007) or from the scholars who adopted and applied those measures for their specific fields (Brough et al., 2016; Thorbjørnsen et al., 2007; Nysveen et al., 2005). Nevertheless, the results showed that some of the antecedents are strong predictors – the models explains 63% of the variation. It can be argued that the conceptual model of this research project is limited to three theoretical frameworks.Inclusion of other relevant antecedents could have increased explanation power of the model. Furthermore, a better measurement scale for perceived behavioral control and masculinity-femininity constructs could also add to the more explanation of the variation.

Secondly, the usage of the survey can provide support for the validity at some degree. The online survey, distributed through the email channel can somewhat provide the necessary level of privacy for a respondent to provide fair answers and to minimize socially desired responses. At the same time, online survey design can bring major throwback to the quality of the data. Some of the questions might have been misunderstood by the respondents, negatively influencing the internal validity. Potentially, there is a high chance of distraction during or interference in the response process. For instance, some of the surveys were completed in the time span longer than 2-3 hours, indicating distraction or low level of priority of the survey to a student, which disrupts the focus, bringing lower consistency to the answers. Technical difficulties while answering the survey might have also arisen. Saunders at al. (2012) argued that past or recent events may lower the internal reliability as well. This study did not control for the effect on past or recent events on the green purchase intention.

When it comes to external validity, it can be stated that almost equal gender distribution in the sample should represent the gender distribution among students in Norway in general. Age group (18-24) is also representative (cf. SSB, 2019). Nevertheless, the total sample size (N=203) might not be sufficient enough to draw strong conclusions or estimates about the population (N=3046). According to Sanders et al. (2012, p. 266), the estimated sample size for this particular population size should be not less than N=357 (confidence level – 95%, margin of error – 5%). Moreover, a larger sample size would also result in more accurate result of multiple regression (Wooldridge, 2015).

6.5 Future research direction

6.5.1 Theoretical perspective

In addition to the chosen antecedents from three theoretical frameworks, several other antecedents are recommended to be included in the future research to explain further variation.

The degree to which consumers believe that their behavior would solve a particular problem is called perceived consumer effectiveness (Webster, 1975). Several studies found that *perceived control effectiveness* influenced green consumer behavior and behavioral intention (Joshi & Rahman, 2015). Furthermore, *environmental knowledge* could also positively

influence green purchase intention (Chan & Lau, 2000), while, on contrary – lack of environmental knowledge often reduces the purchase intention for green products (Connell, 2010). Other probable variables include *brand image* and *eco-certification* (Young et al., 2010), *motivation* (Chen et al., 2012) and *situational factors of communication* (Lee, 2010).

There is a also a scope for incorporating theoretical frameworks for technological production in green marketing context. Technology Acceptance Model (TAM; Davis, 1989) is a renowned model for explaining the adoption of technological products. The model states that perceived usefulness and perceived ease of use are strong predictors for adoption of technological products (Davis, 1989). Applicability of TAM in green marketing context can be future research agenda too.

Finally, when it comes to green purchase behavior, many scholars have identified the gap between behavioral intention and actual behavior towards green consumption (Tanner & Kast, 2003; Vermeir & Verbeke, 2006). As high purchase intention towards green consumption does not always result in the actual purchase, it is vital to understand the factors that do affect green purchase behavior. Therefore, it is recommended to include purchase behavior as a dependent variable as well.

Apart from masculinity-femininity concept, other variables could also play the role of a moderator. Hoyer et al (2012) claims that consumers go through different decision-making processes for high involvement and low involvement products. For high involvement products, consumers often go through a thorough decision-making process called central processing. Whereas, for low involvement products, consumers go through peripheral decision-making process, relying on the mental heuristics. This study did not control for level of the involvement for the products. It would create more understanding to use *level of involvement* as a moderating variable on the interaction between the antecedents and green purchase intention. Other moderating variables could be *personality traits* (Luchs & Mooradian, 2012), *role of national culture* (Sreen et al, 2018).

6.5.2 Methodological perspective

It is suggested that to further validate the conceptual model, more data should be collected from different target groups and larger sample sizes. The population chosen for this research represents a homogeneous group and the specifics of the profile of a student at NHH could deviate from the general public of Norway. The institution offers prestigious business

degrees, which attracts students with a higher level of education, with certain interests, goals, social status or income rate, etc. The strong social community also creates strong group dynamics, where people influence each other, and social identity plays an important role. So, more data should be collected from respondents of different socio-demographic segments. It is proposed that the high standard of gender equality in Norway could be a reason for marginal influence of masculinity-femininity as moderating variables. To validate the assumption, more data should be collected in the countries with comparatively lower gender equality index in order to compare the outcome.

Mono-operationalized constructs were used to measure masculinity-femininity. There exists a number of other scales to measure masculinity and femininity as well. In future research, other scales should be considered to measure masculinity and femininity concepts to formulate an appropriate scale, especially for researches related to consumer behavior. Moreover, frequency of and recency of past trying should be measured using the scale proposed by Bagozzi and Warshaw (1990) in future research to examine the effect of past behavior on behavior and behavioral intention.

Lastly, cross-sectional data was collected to identify the causal relationship between the antecedents and dependent variables with OLS regression. Wray-Lake, Flanagan, and Osgood (2010) investigated the trend of attitude towards the environment, belief and green behavior of young population in the U.S. using pooled cross sectional data. Wooldridge (2015) argued that panel data often explains causal relationship more strongly as it eliminates the unobservable individual effect with the help of Pooled OLS regression analysis. Longitudinal survey would also explain the effect of recency and frequency of the past behavior on predicting behavior intention and actual behavior more precisely. Therefore, it is suggested to conduct longitudinal study on the respondents to identify more accurate impact of the antecedents on the green purchase intention.

6.6 Conclusion

The conceptual model (Model 4) explains 62.8% of total variation of green purchase intention. Past behavior, attitude towards products and perceived behavioral control emerged as the significant predictors for explaining the intention to engage in purchase of green products. The moderating effect of masculinity and femininity were found to be marginal.

As a fact, one construct from the Theory of trying was found to have an effect on the intention, thus can be argued that further incorporation of the full theoretical framework to the conceptual model could provide higher explanatory power.

Several arguments can be proposed for the marginal effect of masculinity-femininity on green purchase behavior. The demographic backgrounds of the respondents, rising trend of environmental behavior, and higher gender equality in Norway could explain the marginal effect of masculinity-femininity in green consumption context. In addition, measurement scale for masculinity-femininity, adopted from Brough et al. (2016) was not found to be highly appropriate in the Norwegian context.

The results of this thesis illustrate a need for continuous examination of the factors that influence pro-environmental behavior. The understanding of potential barriers of the sustainable practices could help marketers to create and apply more efficient and effective marketing strategies in order to mitigate negative effects. As the attitude towards green products and past behavior were found as the strong predictors of the green purchase intention, the main recommendation for the managers could be applying effective promotional strategies for green products in order to facilitate attitudinal changes towards the products.

References

Aaker, D. A., Stayman, D. M., & Hagerty, M. R. (1986). Warmth in advertising: Measurement, impact, and sequence effects. Journal of consumer research, 12(4), 365-381.

Ahuja, M. K., & Thatcher, J. B. (2005). Moving beyond intentions and toward the theory of trying: effects of work environment and gender on post-adoption information technology use. MIS quarterly, 29(3), 427-459.

Ajzen, I. (1985). From intentions to actions: A theory of planned behavior. In Action control (pp. 11-39). Springer, Berlin, Heidelberg.

Ajzen, I. (1991). The theory of planned behavior. Organizational Behavior and Human Decision Processes, 50, 179 – 211.

Ajzen, I. (2002a). Perceived behavioral control, self-efficacy, locus of control, and the theory of planned behavior 1. Journal of applied social psychology, 32(4), 665-683.

Ajzen, I. (2002b). Constructing a TPB questionnaire: Conceptual and methodological considerations.

Ajzen, I. and Fishbein, M., (1980). Understanding Attitudes and Predicting Social Behaviour. Englewood Cliffs, NJ: Prentice-Hall Inc.

Ajzen, I., (1988). From intentions to actions: A theory of planned behaviour. In: J. Kuhl and Beckmann (Eds.). Action-Control: From cognition to behaviour. Heidelberg, Germany: Springer, 11-39.

Allport, G. W. (1935). Attitudes in CA Murchinson (Ed.) Handbook of social psychology. Clark University Press, Worchester, MA, 798, 844.

Andreasen, A. R. (1994). Social marketing: Its definition and domain. Journal of public policy & marketing, 108-114.

APA. (2010). Publication manual of the American psychological association (6th ed.). Washington:American Psychological Association.

Aquino, K., & Reed, I. I. (2002). The self-importance of moral identity. Journal of personality and social psychology, 83(6), 1423.

Augustine, K. (2018, September). The Sustainable Shopper. CivicScience. Retrieved from: https://civicscience.com/the-sustainable-shopper/, Accessed: 22.02.2019.

Avery, J. (2012). Defending the markers of masculinity: Consumer resistance to brand gender-bending. International Journal of Research in Marketing, 29(4), 322-336.

Bagozzi, R. P., & Kimmel, S. K. (1995). A comparison of leading theories for the prediction of goal-directed behaviours. British Journal of social psychology, 34(4), 437-461.

Bagozzi, R. P., & Warshaw, P. R. (1990). Trying to consume. Journal of consumer research, 17(2), 127-140.

Bagozzi, R. P., Wong, N., Abe, S., & Bergami, M. (2000). Cultural and situational contingencies and the theory of reasoned action: Application to fast food restaurant consumption. Journal of Consumer Psychology, 9(2), 97-106.

Bagozzi, Richard P. (1981), "Attitudes, Intentions, and Behavior: A Test of Some Key Hypotheses," Journal of Personality and Social Psychology, 41 (October), 607- 627.

Barr, S. (2007). Factors influencing environmental attitudes and behaviors: A UK case study of household waste management. Environment and behavior, 39(4), 435-473.

Bartels, J., & Hoogendam, K. (2011). The role of social identity and attitudes toward sustainability brands in buying behaviors for organic products. Journal of Brand Management, 18(9), 697-708.

Bay, D., & Daniel, H. (2003). The theory of trying and goal-directed behavior: The effect of moving up the hierarchy of goals. Psychology & Marketing, 20(8), 669-684.

BBMG & GlobeScan (2017). Brand Purpose in Divided Times, Four strategies for brand leadership. Retrieved from: https://globescan.com/wp-content/uploads/2017/11/BBMG_GlobeScan_BrandPurposeReport_2017.pdf, Accessed: 12.02.2019.

Bem, S. L. (1974). The measurement of psychological androgyny. Journal of Consulting and Clinical Psychology, 42, 155-162.

Bem, S. L. (1981). Gender schema theory: A cognitive account of sex typing. Psychological review, 88(4), 354.

Bennett, G., & Williams, F. (2011). Mainstream Green: Moving sustainability from niche to normal. Ogilvy & Mather, New York Google Scholar.

Berkowitz, L. (1972). Social norms, feelings, and other factors affecting helping and altruism. In Advances in experimental social psychology (Vol. 6, pp. 63-108). Academic Press.

Biddle, B. J., Bank, B. J., & Slavings, R. L. (1987). Norms, preferences, identities and retention decisions. Social Psychology Quarterly, 322-337.

Bisang, B. W. (2018, 12 March). Five key sustainability trends for 2018. Ethical Corporation. Retrieved from: http://www.ethicalcorp.com/five-key-sustainability-trends-2018, Accessed: 12.02.2019.

Blasi, A. (1993). The development of identity: Some implications for moral functioning. The moral self, 99-122.

Blocker, T. J., & Eckberg, D. L. (1997). Gender and environmentalism: Results from the 1993 general social survey. Social Science Quarterly, 841-858.

Bonfield, E. H. (1974). Attitude, social influence, personal norm, and intention interactions as related to brand purchase behavior. Journal of Marketing Research, 11(4), 379-389.

Bray, J. P. (2008). Consumer behaviour theory: approaches and models.

Brough, A. R., Wilkie, J. E., Ma, J., Isaac, M. S., & Gal, D. (2016). Is eco-friendly unmanly? The green-feminine stereotype and its effect on sustainable consumption. Journal of Consumer Research, 43(4), 567-582.

Bruvoll, A., Halvorsen, B., & Nyborg, K. (2002). Households' recycling efforts. Resources, Conservation and recycling, 36(4), 337-354.

Burke, P. J. (2006). Identity change. Social psychology quarterly, 69(1), 81-96.

Burton-Jones, A. (2009). Minimizing method bias through programmatic research. MIS quarterly, 445-471.

Chan, R. Y. (2001). Determinants of Chinese consumers' green purchase behavior. Psychology & marketing, 18(4), 389-413.

Chan, R. Y., & Lau, L. B. (2000). Antecedents of green purchases: a survey in China. Journal of consumer marketing, 17(4), 338-357.

Chan, R. Y., & Lau, L. B. (2002). Explaining green purchasing behavior: A cross-cultural study on American and Chinese consumers. Journal of international consumer marketing, 14(2-3), 9-40.

Chang, L. (1994). A psychometric evaluation of 4-point and 6-point Likert-type scales in relation to reliability and validity. Applied psychological measurement, 18(3), 205-215.

Charng, H. W., Piliavin, J. A., & Callero, P. L. (1988). Role identity and reasoned action in the prediction of repeated behavior. Social Psychology Quarterly.

Chen, C., 2001. Design for the environment: a quality-based model for green product development". Manag. Sci. 47, 250–263.

Chen, T. B., & Chai, L. T. (2010). Attitude towards the environment and green products: consumers' perspective. Management science and engineering, 4(2), 27.

Chen, Y. S. (2010). The drivers of green brand equity: Green brand image, green satisfaction, and green trust. Journal of Business ethics, 93(2), 307-319.

Chen, Y. S. (2011). Green organizational identity: sources and consequence. Management Decision, 49(3), 384-404.

Chen-Yu, J. H., & Seock, Y. K. (2002). Adolescents' clothing purchase motivations, information sources, and store selection criteria: a comparison of male/female and impulse/nonimpulse shoppers. Family and Consumer Sciences Research Journal, 31(1), 50-77.

Cherrier, H. (2006). Consumer identity and moral obligations in non-plastic bag consumption: a dialectical perspective. International Journal of Consumer Studies, 30(5), 515-523.

Cheung, G. W., & Rensvold, R. B. (2002). Evaluating goodness-of-fit indexes for testing measurement invariance. Structural equation modeling, 9(2), 233-255.

Cialdini, R. (2005). Don't throw in the towel: Use social influence research. APS Observer, 18(4).

Cialdini, R. B., & Trost, M. R. (1998). Social influence: Social norms, conformity and compliance.

Cialdini, R. B., Reno, R. R., & Kallgren, C. A. (1990). A focus theory of normative conduct: recycling the concept of norms to reduce littering in public places. Journal of personality and social psychology, 58(6), 1015.

Connell, K. Y. H. (2010). Internal and external barriers to eco-conscious apparel acquisition. International Journal of Consumer Studies, 34(3), 279-286.

Connolly, J., & Prothero, A. (2008). Green consumption: Life-politics, risk and contradictions. Journal of consumer culture, 8(1), 117-145.

Cook, A. J., Kerr, G. N., & Moore, K. (2002). Attitudes and intentions towards purchasing GM food. Journal of Economic Psychology, 23(5), 557-572.

Cornelissen, G., Pandelaere, M., Warlop, L., & Dewitte, S. (2008). Positive cueing: Promoting sustainable consumer behavior by cueing common environmental behaviors as environmental. International Journal of Research in Marketing, 25(1), 46-55.

Costa Pinto, D., Herter, M. M., Rossi, P., & Borges, A. (2014). Going green for self or for others? Gender and identity salience effects on sustainable consumption. International Journal of Consumer Studies, 38(5), 540-549.

Cottrel, S. P. (2003). Influence of Socio-demographics and Environmental Attitudes on General Responsibles Environmental Behavior among Recreational Boaters. Environment and Behavior, 35(3), 347-779.

Cox III, E. P. (1980). The optimal number of response alternatives for a scale: A review. Journal of marketing research, 17(4), 407-422.

Cross, S. E., & Markus, H. R. (1993). Gender in thought, belief, and action: A cognitive approach.

Dagher, G., Itani, O., & Kassar, A. N. (2015). The impact of environment concern and attitude on green purchasing behavior: gender as the moderator. Contemporary Management Research, 11(2).

Damon, W., & Hart, D. (1992). Self-understanding and its role in social and moral development.

Darley, J. M., & Latané, B. (1970). Norms and normative behavior: Field studies of social interdependence. Altruism and helping behavior, 83-102.

Davidson, D. J., & Freudenburg W. R. (1996), "Gender and Environmental Risk Concerns: A Review and Analysis of Available Research," Environment and Behavior, 28 (3), 302–39.

Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. MIS Quarterly, 13(3), 319-340.

Dawes, J. (2008). Do data characteristics change according to the number of scale points used? An experiment using 5-point, 7-point and 10-point scales. International journal of market research, 50(1), 61-104.

Department for Environment, Food & Rural Affairs. (2003). Changing patterns: UK government framework for sustainable consumption and production. Singapore Books, 6-7.

Do Paço, A., & Raposo, M. (2009). "Green" segmentation: an application to the Portuguese consumer market. Marketing Intelligence & Planning, 27(3), 364-379.

Donnelly, K., & Twenge, J. M. (2017). Masculine and feminine traits on the Bem Sex-Role Inventory, 1993–2012: A cross-temporal meta-analysis. Sex Roles, 76(9-10), 556-565.

Doran, C. J. (2009). The role of personal values in fair trade consumption. Journal of Business Ethics, 84(4), 549-563.

Drost, E. A. (2011). Validity and reliability in social science research. Education Research and perspectives, 38(1), 105.

D'Souza, C., Taghian, M., & Khosla, R. (2007). Examination of environmental beliefs and its impact on the influence of price, quality and demographic characteristics with respect to green purchase intention. Journal of Targeting, Measurement and Analysis for Marketing, 15(2), 69-78.

Dugarova, E., & Gülasan, N. (2017). Global Trends Challenges and Opportunities in the Implementation of the Sustainable Development Goals. UNRISD.

Dutton, J. E., Roberts, L. M., & Bednar, J. (2010). Pathways for positive identity construction at work: Four types of positive identity and the building of social resources. Academy of Management Review, 35(2), 265-293.

Eagly, A. H. (2009). The his and hers of prosocial behavior: An examination of the social psychology of gender. American Psychologist, 64(8), 644.

Eagly, A. H., & Chaiken, S. (1993). The psychology of attitudes. Harcourt Brace Jovanovich College Publishers.

Ebreo, A., Hershey, J., & Vining, J. (1999). Reducing solid waste: Linking recycling to environmentally responsible consumerism. Environment and Behavior, 31(1), 107-135.

Edwards, A. L., & Ashworth, C. D. (1977). A replication study of item selection for the Bem Sex-Role Inventory. Applied Psychological Measurement, 1, 501-507.

Eisler, A. D., Eisler, H., & Yoshida, M. (2003). Perception of human ecology: cross-cultural and gender comparisons. Journal of Environmental Psychology, 23(1), 89-101.

Erikson, E. H. (1964). Insight and responsibility. New York: Norton

Ertz, M. (2016). Proposition of an integrative theory of socially-responsible consumption behaviour. Electronic Green Journal, 1(39).

Escalas, J. E., & Bettman, J. R. (2005). Self-construal, reference groups, and brand meaning. Journal of consumer research, 32(3), 378-389.

Eurobarometer, F. (2013). Attitudes of Europeans towards building the single market for green products.

Eurostat (2018). Sustainable development in the European Union — Monitoring report on progress towards the SDGs in an EU context — 2018 edition. ISBN 978-92-79-88744-4, 217-326.

Retrieved from: https://ec.europa.eu/eurostat/documents/3217494/9237449/KS-01-18-656-EN-N.pdf/2b2a096b-3bd6-4939-8ef3-11cfc14b9329, Accessed: 05.02.2019.

Feldman, J. M., & Lynch, J. G. (1988). Self-generated validity and other effects of measurement on belief, attitude, intention, and behavior. Journal of applied Psychology, 73(3), 421.

Fielding, K. S., McDonald, R., & Louis, W. R. (2008). Theory of planned behaviour, identity and intentions to engage in environmental activism. Journal of environmental psychology, 28(4), 318-326.

Finstad, K. (2010). Response interpolation and scale sensitivity: Evidence against 5-point scales. Journal of Usability Studies, 5(3), 104-110.

Firat, A. F. (1991). The consumer in postmodernity. ACR North American Advances.

Fischer, E., & Arnold, S. J. (1994). Sex, gender identity, gender role attitudes, and consumer behavior. Psychology & Marketing, 11(2), 163-182.

Fishbein, M. (1967). Attitude and the prediction of behavior. Readings in attitude theory and measurement.

Fishbein, M., & Ajzen, I. (1977). Belief, attitude, intention, and behavior: An introduction to theory and research.

Fornell, C., & Larcker, D.F. (1981). Evaluating structural equation models with unobservable variables and measurement error. Journal of Marketing Research, 18(1), 39-50.

Gatto, M. (1995). Sustainability: is it a well defined concept?. Ecological Applications, Vol. 5, No. 4, pp. 1181-1183.

Gender Equality Index (2017), European Institute for Gender Equality (EIGE), Gender-Equality Index 2015, Retrieved from: https://eige.europa.eu/gender-equality-index/2015, Accessed: 23.04.2019.

Gentile, D. A. (1993). Just what are sex and gender, anyway?: A call for a new terminological standard.Psychological Science, 4, 120–122.

Gilbert, L. A., Deutsch, C. J., & Strahan, R. F. (1978). Feminine and masculine dimensions of the typical, desirable, and ideal woman and man. Sex Roles, 4(5), 767-778.

Gilligan, C., & Attanucci, J. (1988). Two moral orientations: Gender differences and similarities. Merrill-Palmer Quarterly (1982-), 223-237.

Gilmore, D. D. (1990). Manhood in the making: Cultural concepts of masculinity. Yale University Press.

Glavič, P., & Lukman, R. (2007). Review of sustainability terms and their definitions. Journal of cleaner production, 15(18), 1875-1885.

Gleim, M. R., Smith, J. S., Andrews, D., & Cronin Jr, J. J. (2013). Against the green: a multi-method examination of the barriers to green consumption. Journal of retailing, 89(1), 44-61.

Global Footprint Network (2010). Ecological Footprint Atlas. Retrieved from: https://www.footprintnetwork.org/content/images/uploads/Ecological_Footprint_Atlas_2010.pdf, Accessed 12.02.2019.

Goldstein, N. J., Cialdini, R. B., & Griskevicius, V. (2008). A room with a viewpoint: Using social norms to motivate environmental conservation in hotels. Journal of consumer Research, 35(3), 472-482.

Gordon, R., Carrigan, M., & Hastings, G. (2011). A framework for sustainable marketing. Marketing theory, 11(2), 143-163.

Granberg, D., & Holmberg, S. (1990). The intention-behavior relationship among US and Swedish voters. Social Psychology Quarterly, 44-54.

Greenwald, A. G. (1989). Why attitudes are important: Defining attitude and attitude theory 20 years later, p. 429-440.

Gupta, S., & Ogden, D. T. (2009). To buy or not to buy? A social dilemma perspective on green buying. Journal of Consumer Marketing, 26(6), 376-391.

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2014). Multivariate data analysis: Pearson new international edition. Essex: Pearson Education Limited.

Hanss, D., & Böhm, G. (2012). Sustainability seen from the perspective of consumers. International Journal of Consumer Studies, 36(6), 678-687.

Harman, H. H. (1976). Modern factor analysis. University of Chicago press.

Hathaway, S. R., & McKinley, J. C. (1943). The Minnesota Multiphasic Personality Inventory. New York: Psychological Corporation.

Helgeson, V. S. (1994). Prototypes and dimensions of masculinity and femininity. Sex Roles, 31(11-12), 653-682.

Hines, J. M., Hungerford, H. R., & Tomera, A. N. (1986/87). Analysis and synthesis of research on responsible environmental behavior: A meta-analysis. Journal of Environmental Education, 18, 1-8.

Hoffman, R. M. (2001). The measurement of masculinity and femininity: Historical perspective and implications for counseling. Journal of Counseling & Development, 79(4), 472-485.

Hoffman, R. M., & Borders, L. D. (2001). ASSESSMENT IN ACTION. Measurement and Evaluation in Counseling and Development, 34, 39.

Hofstede Insights (n.d.), Country Comparison Tools, Retrieved from: https://www.hofstede-insights.com/product/compare-countries/, Accessed: 23.04.2019.

Hogg, M. A., Terry, D. J., & White, K. M. (1995). A tale of two theories: A critical comparison of identity theory with social identity theory. Social psychology quarterly, 255-269.

Holt, C. L., & Ellis, J. B. (1998). Assessing the current validity of the Bem Sex-Role Inventory. Sex roles, 39(11-12), 929-941.

Hoyer, W. D., Macinnis, D. J., & Pieters, R. (2012). Consumer Behavior, South-Western, Cengage Learning. International edition.

Hu, L. T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. Structural equation modeling: a multidisciplinary journal, 6(1), 1-55.

International Trade Administration (2016). 2016 Top Markets Report Environmental Technologies, 2016 ITA Environmental Technologies Top Markets Report, Retrieved from: https://www.trade.gov/topmarkets/pdf/Environmental_Technologies_Executive_Summary.pdf, Accessed: 13.02.2019.

Jackson, T. (2005). Motivating sustainable consumption: a review of evidence on consumer behaviour and behavioural change. Sustainable Development Research Network, 29, 30.

Jansson, J., Marell, A., & Nordlund, A. (2010). Green consumer behavior: determinants of curtailment and eco-innovation adoption. Journal of Consumer Marketing, 27(4), 358-370.

Jarque, C. M., & Bera, A. K. (1980). Efficient tests for normality, homoscedasticity and serial independence of regression residuals. Economics letters, 6(3), 255-259.

Johar, J. S., & Sirgy, M. J. (1991). Value-expressive versus utilitarian advertising appeals: When and why to use which appeal. Journal of advertising, 20(3), 23-33.

Jørgensen, S., & Pedersen, L. J. T. (2015). Responsible and profitable: Strategies for sustainable business models. Cappelen Damm Akademisk.

Joshi, A., Kale, S., Chandel, S., & Pal, D. K. (2015). Likert scale: Explored and explained. British Journal of Applied Science & Technology, 7(4), 396.

Joshi, Y., & Rahman, Z. (2015). Factors affecting green purchase behaviour and future research directions. International Strategic management review, 3(1-2), 128-143.

Jütting, J. P., Morrisson, C., Dayton-Johnson, J., & Drechsler, D. (2008). Measuring gender (In) Equality: The OECD gender, institutions and development data base. Journal of Human Development, 9(1), 65-86.

Kaiser, F. G., Ranney, M., Hartig, T., & Bowler, P. A. (1999). Ecological behavior, environmental attitude, and feelings of responsibility for the environment. European psychologist, 4(2), 59.

Kaiser, F. G., Wölfing, S., & Fuhrer, U. (1999). Environmental attitude and ecological behaviour. Journal of environmental psychology, 19(1), 1-19.

Khan, N., & Trivedi, P. (2015). Gender differences and sustainable consumption behavior. British Journal of Marketing Studies, 3(3), 29-35.

Kidwell, B., & Jewell, R. D. (2003). An examination of perceived behavioral control: internal and external influences on intention. Psychology & Marketing, 20(7), 625-642.

Kihlstrom, J. F., Klein, S. B., Wyer, R. S., & Srull, T. K. (1994). The self as a knowledge structure. Handbook of social cognition, 1, 153-208.

Kimmel, M. S. (2000). Epilogue: A degendered society? In M. S. Kimmel (Ed.), The gendered society (pp. 264-268). New York: Oxford University Press.

Kline, R. B. (1998). Priniciples and practice of structural equation modeling. New York: Guilford Press

Kolers, P. A. (1975). Memorial consequences of automatized encoding. Journal of Experimental Psychology: Human Learning and Memory, 1(6), 689.

Kollmuss, A., & Agyeman, J. (2002). Mind the gap: why do people act environmentally and what are the barriers to pro-environmental behavior?. Environmental education research, 8(3), 239-260.

Korosec, K. (2013, May 9). Global Green Trade to Reach $2.2 Trillion by 2020, Retrieved from: https://www.environmentalleader.com/2013/05/global-green-trade-to-reach-2-2-trillion-by-2020/, Accessed: 13.02.2019.

Kruglanski, A. W. (1989). Lay epistemics and human knowledge: Cognitive and motivational bases.

Kruglanski, A. W. (2013). Lay epistemics and human knowledge: Cognitive and motivational bases. Springer Science & Business Media.

Krystallis, A., & Chryssohoidis, G. (2005). Consumers' willingness to pay for organic food: Factors that affect it and variation per organic product type. British Food Journal, 107(5), 320-343.

Krystallis, A., Vassallo, M., Chryssohoidis, G., & Perrea, T. (2008). Societal and individualistic drivers as predictors of organic purchasing revealed through a portrait value questionnaire (PVQ)-based inventory. Journal of Consumer Behaviour: An International Research Review, 7(2), 164-187.

Laroche, M., Bergeron, J., & Barbaro-Forleo, G. (2001). Targeting consumers who are willing to pay more for environmentally friendly products. Journal of consumer marketing, 18(6), 503-520.

Lee, E., Park, N. K., & Han, J. H. (2013). Gender difference in environmental attitude and behaviors in adoption of energy-efficient lighting at home. Journal of Sustainable development, 6(9), 36.

Lee, J. A., & Holden, S. J. (1999). Understanding the determinants of environmentally conscious behavior. Psychology & Marketing, 16(5), 373-392.

Lee, K. (2009). Gender differences in Hong Kong adolescent consumers' green purchasing behavior. Journal of consumer marketing, 26(2), 87-96.

Leone, L., Perugini, M., & Ercolani, A. P. (1999). A comparison of three models of attitude–behavior relationships in the studying behavior domain. European Journal of Social Psychology, 29(2-3), 161-189.

Lerner, G. (1986). The creation of patriarchy (Vol. 1). Oxford University Press, USA.

Levin, G.(1990), “Consumers Turning Green: JWT Survey,” Advertising Age, 61 (12), 3–7.

Levin, R. I. (2011). Statistics for management. Pearson Education India.

Lewin, M. (Ed.). (1984b). Psychology measures femininity and masculinity, 2: From "13 gay men" to the instrumental-expressive distinction. In M. Lewin (Ed.), In the shadow of the past: Psychology portrays the sexes (pp. 179-204). New York: Columbia University Press.

Luchs, M. G., & Mooradian, T. A. (2012). Sex, personality, and sustainable consumer behaviour: Elucidating the gender effect. Journal of Consumer Policy, 35(1), 127-144.

Maccoby, E., & Maccoby, N. (1954). The interview: A tool of social science. In G. Lindzey (Ed.),#Handhook of Social Psychology, 449–487. Cambridge, MA: Addison-Wesley.

Madden, T. J., Ellen, P. S., & Ajzen, I. (1992). A comparison of the theory of planned behavior and the theory of reasoned action. Personality and social psychology Bulletin, 18(1), 3-9.

Mahalik, J. R. (2000). Gender role conflict in men as a predictor of self-ratings of behavior on the Interpersonal Circle. Journal of Social and Clinical Psychology, 19(2), 276-292.

Mainieri, T., Barnett, E. G., Valdero, T. R., Unipan, J. B., & Oskamp, S. (1997). Green buying: The influence of environmental concern on consumer behavior. The Journal of social psychology, 137(2), 189-204.

Makatouni, A. (2002). What motivates consumers to buy organic food in the UK? Results from a qualitative study. British Food Journal, 104(3/4/5), 345-352.

Mannetti, L., Pierro, A., & Livi, S. (2004). Recycling: Planned and self-expressive behaviour. Journal of environmental psychology, 24(2), 227-236.

Marcus, H. (1980). The self in thought and memory. In D. M. Wegner & R. R. Vallacher (Eds.), The self in social psychology. Oxford: Oxford University Press.

Markus, H., & Kunda, Z. (1986). Stability and malleability of the self-concept. Journal of personality and social psychology, 51(4), 858.

Markus, H., & Wurf, E. (1987). The dynamic self-concept: A social psychological perspective. Annual review of psychology, 38(1), 299-337.

Mathur, A. (1998). Examining trying as a mediator and control as a moderator of intention–behavior relationship. Psychology & Marketing, 15(3), 241-259.

Mazar, N., & Zhong, C. B. (2010). Do green products make us better people?. Psychological science, 21(4), 494-498.

Melnyk, V., van Herpen, E., & Trijp, H. (2010). The influence of social norms in consumer decision making: A meta-analysis. ACR North American Advances.

Meulenberg, M. T. G. (2003). 'Consument en burger', betekenis voor de markt van landbouwproducten en voedingsmiddelen. [Consumer and citizen, meaning for the market of agricultural products and food products]. Tijdschrift voor sociaalwetenschappelijk onderzoek van de landbouw, 18(1), 43-54.

Milfont, T. L., & Duckitt, J. (2010). The environmental attitudes inventory: A valid and reliable measure to assess the structure of environmental attitudes. Journal of environmental psychology, 30(1), 80-94.

Mintel (2018, July). The Eco Gender Gap: 71% Of Women Try To Live More Ethically, Compared To 59% Of Men. Social and Lifestyle. Retrieved from: http://www.mintel.com/press-centre/social-and-lifestyle/the-eco-gender-gap-71-of-women-try-to-live-more-ethically-compared-to-59-of-men, Accessed: 22.02.2019.

Minton, A. P., & Rose, R. L. (1997). The effects of environmental concern on environmentally friendly consumer behavior: An exploratory study. Journal of Business research, 40(1), 37-48.

Mitchell, V. (1996). Assessing the reliability and validity of questionnaires: an empirical example. Journal of Applied Management Studies, 5, 199-208.

Mittal, B. (1994). A study of the concept of affective choice mode for consumer decisions. ACR North American Advances.

Moisander, J. (2007). Motivational complexity of green consumerism. International journal of consumer studies, 31(4), 404-409.

Moser, A. K. (2015). Thinking green, buying green? Drivers of pro-environmental purchasing behavior. Journal of Consumer Marketing, 32(3), 167-175.

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.

NHH (2018). NHH Annual Report 2017-2018. Retrieved from: https://www.nhh.no/contentassets/13ac420ba291426f804409f0d06e85cf/annual-report-nhh-2017-2018.pdf , Accessed: 03.04.2019.

Noble, S. M., Griffith, D. A., & Adjei, M. T. (2006). Drivers of local merchant loyalty: Understanding the influence of gender and shopping motives. Journal of retailing, 82(3), 177-188.

Nordic Council of Ministers (2018). Sustainable Consumption and Production: An Analysis of Nordic Progress towards SDG12, and the way ahead, 2018:798, 7-8. Retrieved from: https://www.norden.org/en/publication/sustainable-consumption-and-production, Accessed: 05.02.2019.

Norman, P., & Conner, M. (1996). Predicting health-check attendance among prior attenders and nonattenders: The role of prior behavior in the theory of planned behavior. Journal of applied social psychology, 26(11), 1010-1026.

Norway's follow-up of Agenda 2030 and the Sustainable Development Goals (2016). Retrieved from: https://www.regjeringen.no/en/dokumenter/follow-up-sdg2/id2507259/, Accessed: 19.05.2019.

Norwegian Ministry of the Environment, 1994. Oslo Roundtable on Sustainable Production and Consumption.

Nyborg, K., Howarth, R. B., & Brekke, K. A. (2006). Green consumers and public policy: On socially contingent moral motivation. Resource and energy economics, 28(4), 351-366.

Nysveen, H., Oklevik, O., & Pedersen, P. E. (2018). Brand satisfaction: Exploring the role of innovativeness, green image and experience in the hotel sector. International Journal of Contemporary Hospitality Management, 30(9), 2908-2924.

Nysveen, H., Pedersen, P. E., & Thorbjørnsen, H. (2005). Intentions to use mobile services: Antecedents and cross-service comparisons. Journal of the academy of marketing science, 33(3), 330-346.

Obermiller, C., & Isaac, M. S. (2018). Are Green Men from Venus?. Journal of Management for Global Sustainability, 6(1), 45-66.

OECD (2002) Towards Sustainable Household Consumption? Trends and Policies in OECD Countries. Paris: OECD.

Ölander, F., Thøgersen, J. (1995). Understanding of consumer behaviour as a prerequisite for environmental protection. Journal of consumer policy, 18(4), 345-385.

Olson, J. M., & Zanna, M. P. (1993). Attitudes and attitude change. Annual review of psychology, 44(1), 117-154.

Orne, M. T. (2009). Demand characteristics and the concept of quasi-controls. Artifacts in behavioral research: Robert Rosenthal and Ralph L. Rosnow's classic books, 110, 110-137.

Ottman, J. (1992). Sometimes consumers will pay more to go green. Marketing News (July 6), 16.

Ouellette, J. A., & Wood, W. (1998). Habit and intention in everyday life: The multiple processes by which past behavior predicts future behavior. Psychological bulletin, 124(1), 54.

Oyserman, D. (2009). Identity-based motivation: Implications for action-readiness, procedural-readiness, and consumer behavior. Journal of Consumer Psychology, 19(3), 250-260.

PACITA (2014). A Consultation On Europe Wide Views On Sustainable Consumption. PACITA and Story Foundry Ltd. Retrieved from: http://citizenconsultation.pacitaproject.eu/wp-content/uploads/2014/10/PACITA_Booklet_International_WEB.pdf, Accessed: 8.02.2019.

Padel, S., & Foster, C. (2005). Exploring the gap between attitudes and behaviour: Understanding why consumers buy or do not buy organic food. British food journal, 107(8), 606-625.

Palan, K. M. (2001). Gender identity in consumer behavior research: A literature review and research agenda. Academy of Marketing Science Review, 10(2001), 1-31.

Payne, J., Bettman, J. R., & Johnson, E. J. (1991). Consumer decision making. Handbook of consumer behaviour, 50-84.

Peattie, K. (2010). Green consumption: behavior and norms. Annual review of environment and resources, 35, 195-228.

Peattie, K. and Peattie, S. (2009) 'Social Marketing: A Pathway to Consumption Reduction?', Journal of Business Research 62(2): 260–8.

Peattie, K., & Charter, M. (2003). Green marketing. The marketing book, 5, 726-755.

Pieters, R. G. (1991). Changing garbage disposal patterns of consumers: Motivation, ability, and performance. Journal of Public Policy & Marketing, 10(2), 59-76.

Podsakoff, P. M., MacKenzie, S. B., & Podsakoff, N. P. (2012). Sources of method bias in social science research and recommendations on how to control it. Annual review of psychology, 63, 539-569.

PwC (2015). Make it your business:Engaging with the Sustainable Development Goals. 12-13. Retrieved from: https://www.pwc.com/gx/en/sustainability/SDG/SDG%20Research_FINAL.pdf, Accessed: 12.02.2019.

PwC Global (2016). Navigating the SDGs: a business guide to engaging with the UN Global Goals, 6-7. Retrieved from: https://dm.pwc.com/SDGSelector/Resources/12.pdf, Accessed: 05.02.2019.

Ragúz De Romaña, M. (1991). Masculinity and Femininity: An Empirical Definition. [Sl: sn].

Rashid N. A. (2009). Awareness of eco-label in Malaysia's green marketing initiative. International Journal of Business and Management, 4(8), 132–141.

Reed, A., Aquino, K., & Levy, E. (2007). Moral identity and judgments of charitable behaviors. Journal of Marketing, 71(1), 178-193.

Robinson, R., & Smith, C. (2002). Psychosocial and demographic variables associated with consumer intention to purchase sustainably produced foods as defined by the Midwest Food Alliance. Journal of nutrition education and behavior, 34(6), 316-325.

Rodriguez-Rad, C. J., & Ramos-Hidalgo, E. (2018). Spirituality, consumer ethics, and sustainability: the mediating role of moral identity. Journal of consumer marketing, 35(1), 51-63.

Rogers, E. M., & Everett, M. (1983). Diffusion of Innovations (3rd ed.). New York, NY: The Free Press.

Ryan, T. (2014). Green Intentions: An Exploratory Study on Advertising and the Environmental Movement. Journal of Research for Consumers, 26, 13.

Sabapathy, J. (2010). A Business Primer, Sustainable Consumption and Production, Cambridge Programme for Industry, Retrieved from: https://www.cisl.cam.ac.uk/resources/publication-pdfs/sustainable-consumption.pdf, Accessed: 12.02.2019.

Sandve, A., & Øgaard, T. (2013). Understanding corporate social responsibility decisions: Testing a modified version of the theory of trying. Scandinavian Journal of Hospitality and Tourism, 13(3), 242-256.

Saunders, M., Lewis, P., & Thornhill, A. (2012). Research methods for business students (6. utg.). Harlow: Pearson.

Schultz, P. W. (2001). The structure of environmental concern: Concern for self, other people, and the biosphere. Journal of environmental psychology, 21(4), 327-339.

Schultz, P. W., & Zelezny, L. C. (1998). Values and proenvironmental behavior. A five-country survey. Journal of Cross-Cultural Psychology, 29, 540–558.

Schultz, P. W., & Zelezny, L. C. (1999). Values as predictors of environmental attitudes: Evidence for consistency across cultures. Journal of Environmental Psychology, 19, 255–265.

Schultz, P. W., Nolan, J. M., Cialdini, R. B., Goldstein, N. J., & Griskevicius, V. (2007). The constructive, destructive, and reconstructive power of social norms. Psychological science, 18(5), 429-434.

Schwepker Jr, C. H., & Cornwell, T. B. (1991). An examination of ecologically concerned consumers and their intention to purchase ecologically packaged products. Journal of Public Policy & Marketing, 10(2), 77-101.

Seyfang, G. (2005). Shopping for sustainability: can sustainable consumption promote ecological citizenship?. Environmental politics, 14(2), 290-306.

Sherbinin, A. D., Carr, D., Cassels, S., & Jiang, L. (2007). Population and environment. Annu. Rev. Environ. Resour., 32, 345-373.

Sherif, M. (1936). The psychology of social norms.

Smith, J. R., Terry, D. J., Manstead, A. S., Louis, W. R., Kotterman, D., & Wolfs, J. (2008). The attitude–behavior relationship in consumer conduct: The role of norms, past behavior, and self-identity. The Journal of social psychology, 148(3), 311-334.

Solomon, M. R. (1983). The role of products as social stimuli: A symbolic interactionism perspective. Journal of Consumer research, 10(3), 319-329.

Spaargaren, G. (2003). Sustainable consumption: a theoretical and environmental policy perspective. Society & Natural Resources, 16(8), 687-701.

Sparks, P., & Guthrie, C. A. (1998). Self-identity and the theory of planned behavior: A useful addition or an unhelpful artifice? 1. Journal of applied social psychology, 28(15), 1393-1410.

Sparks, P., & Shepherd, R. (1992). Self-identity and the theory of planned behavior: Assesing the role of identification with" green consumerism". Social psychology quarterly, 388-399.

Spence, J. T (1985). Gender identity and its implications for the concepts of masculinity and femininity. In T B. Sonderegger (Ed.), Nebraska symposium on motivation: Psychology of gender (pp. 59-96). Lincoln, NE: University of Nebraska Press.

Spence, J. T, & Buckner, C. (2000). Instrumental and expressive traits, trait stereotypes, and sexist attitudes: What do they signify? Psychology of Women Quarterly, 24, 44-62.

Spence, J. T. (1985). Implications for the Concepts of Masculinity and Femininity. Psychology and gender, 32, 59-95.

Spence, J. T., & Buckner, C. (1995). Masculinity and femininity: Defining the undefinable. Gender, power, and communication in human relationships, 105-138.

Spence, J. T., & Helmreich, R. L. (1979). Masculinity and femininity: Their psychological dimensions, correlates, and antecedents. University of Texas Press.

Sreen, N., Purbey, S., & Sadarangani, P. (2018). Impact of culture, behavior and gender on green purchase intention. Journal of Retailing and Consumer Services, 41, 177-189.

Srivastava, S. K. (2007). Green supply-chain management: a state-of-the-art literature review. International journal of management reviews, 9(1), 53-80.

SSB (2018). This is Norway 2018. Retrieved from: https://www.ssb.no/en/befolkning/artikler-og-publikasjoner/_attachment/364602?_ts=1664418b978, Accessed: 05.02.2019.

SSB (2019), Students in higher education, Updated 28 March 2019, Retrieved from https://www.ssb.no/en/utdanning/statistikker/utuvh/aar, Accessed: 25.04.2019.

Steinberg, L. (2001). The consequences of pairing questions: Context effects in personality measurement. Journal of personality and social psychology, 81(2), 332.

Straughan, R. D., & Roberts, J. A. (1999). Environmental segmentation alternatives: a look at green consumer behavior in the new millennium. Journal of Consumer Marketing, 16(6), 558-575.

Strong, E. K. (1927). Strong Vocational Interest Blank. Palo Alto, CA: Consulting Psychologists Press.

Stryker, S. (1968). Identity salience and role performance: The relevance of symbolic interaction theory for family research. Journal of Marriage and the Family, 558-564.

Stryker, S., & Burke, P. J. (2000). The past, present, and future of an identity theory. Social psychology quarterly, 284-297.

Suchomel, K. (2005). Student knowledge and support for fair trade: An opinion poll of college students conducted by MPIRG. The Minnesota Public Interest Research Group, Minneapolis, MN.

Sustainable Brand Index™ (2018). Official Report, Norway.

Symposium on Sustainable Consumption (1994), Symposium: sustainable consumption, 19-20 January 1994, Oslo, Norway.

Tajfel, H. (1959). Quantitative judgement in social perception. British Journal of Psychology, 50(1), 16-29.

Tajfel, H. (1974). Social identity and intergroup behaviour. Information (International Social Science Council), 13(2), 65-93.

Tanner, C., & Wölfing Kast, S. (2003). Promoting sustainable consumption: Determinants of green purchases by Swiss consumers. Psychology & Marketing, 20(10), 883-902.

Terman, L. M., & Miles, C. C. (1936). Sex and personality. New York: McGraw-Hill.

Terry, D. J., Hogg, M. A., & White, K. M. (1999). The theory of planned behaviour: self-identity, social identity and group norms. British journal of social psychology, 38(3), 225-244.

Thorbjørnsen, H., Pedersen, P. E., & Nysveen, H. (2007). "This is who I am": Identity expressiveness and the theory of planned behavior. Psychology & Marketing, 24(9), 763-785.

Thorndike, R. L., & Hagen, E. P. (1977). Measurement and evaluation in psychology and education (4th ed.). New York: Wiley.

Triandis, H. C. (1991). Attitude and attitude change. Em Encyclopedia Hum. Biol. (Vol. 1). San Diego, CA: Academic Press, 485-496.

Tsakiridou, E., Boutsouki, C., Zotos, Y., & Mattas, K. (2008). Attitudes and behaviour towards organic products: an exploratory study. International Journal of Retail & Distribution Management, 36(2), 158-175.

Turner, J. C. (1982). Towards a cognitive redefinition of the social group. In H. Tajfel (Ed.), Social identity and intergroup relations (pp. 15-40). Cambridge, England: Cambridge University Press.

Turner, J. C. (2010). Social categorization and the self-concept: A social cognitive theory of group behavior.

UN Environment (n.d.). GOAL 12: Sustainable consumption and production, Retrieved from: https://www.unenvironment.org/explore-topics/sustainable-development-goals/why-do-sustainable-development-goals-matter/goal-12, Accessed: 06.02.2019

UNDP, United Nations Development Programme (2017). Human Development Reports, Gender Inequality Index., Retrieved from: http://hdr.undp.org/en/composite/GII, Accessed: 10.05.2019.

United Nations (2012, 27 July). Resolution adopted by the General Assembly, 66/288. The future we want, A/RES/66/288, 14-21. Retrieved from: https://sustainabledevelopment.un.org/futurewewant.html, Accessed: 06.02.2019.

United Nations (2016). National Voluntary Reviews (HLPF 2016) - Norway, 19-20. Retrieved from: https://sustainabledevelopment.un.org/memberstates/norway, Accessed: 05.02.2019.

United Nations (2018). The Sustainable Development Goals Report 2018, e-ISBN: 978-92-1-363317-5. Retrieved from: https://unstats.un.org/sdgs/files/report/2018/TheSustainableDevelopmentGoalsReport2018-EN.pdf, Accessed: 05.02.2019.

United Nations (n.d.) Responsible Consumption & Production: Why It Matters, Retrieved from: https://www.un.org/sustainabledevelopment/wp-content/uploads/2018/09/Goal-12.pdf, Accessed 28.01.2019.

Van der Werff, E., Steg, L., & Keizer, K. (2013). It is a moral issue: The relationship between environmental self-identity, obligation-based intrinsic motivation and pro-environmental behaviour. Global environmental change, 23(5), 1258-1265.

van Zoonen, W., Verhoeven, J. W., & Elving, W. J. (2014). Understanding work-related social media use: An extension of theory of planned behavior. International Journal of Management, Economics and Social Sciences (IJMESS), 3(4), 164-183.

Vandello, J. A., Bosson, J. K., Cohen, D., Burnaford, R. M., & Weaver, J. R. (2008). Precarious manhood. Journal of personality and social psychology, 95(6), 1325.

Vermeir, I., & Verbeke, W. (2006). Sustainable food consumption: Exploring the consumer "attitude–behavioral intention" gap. Journal of Agricultural and Environmental ethics, 19(2), 169-194.

Vicente-Molina, M. A., Fernández-Sainz, A., & Izagirre-Olaizola, J. (2018). Does gender make a difference in pro-environmental behavior? The case of the Basque Country University students. Journal of Cleaner Production, 176, 89-98.

Viswanathan, M., & Kayande, U. (2012). Commentary on "common method bias in marketing: Causes, mechanisms, and procedural remedies". Journal of Retailing, 88(4), 556-562.

Wang, P., Liu, Q., & Qi, Y. (2014). Factors influencing sustainable consumption behaviors: a survey of the rural residents in China. Journal of Cleaner Production, 63, 152-165.

Watson, C. (1994). Gender differences in negotiating behavior and outcomes: Fact or artifact. Conflict and gender, 191.

Webster Jr, F. E. (1975). Determining the characteristics of the socially conscious consumer. Journal of consumer research, 2(3), 188-196.

Winter, G. (2000). A comparative discussion of the notion of 'validity' in qualitative and quantitative research. The qualitative report, 4(3), 1-14.

Wittenbraker, John, Brenda L. Gibbs, and Lynn R. Kahle (1983), "Seat Belt Attitudes, Habits, and Behaviors: An Adaptive Amendment to the Fishbein Model," Journal ofApplied Social Psychology, 13 (5), 406-421.

Wittenbrink, B., Judd, C. M., & Park, B. (2001). Spontaneous prejudice in context: Variability in automatically activated attitudes. Journal of personality and social psychology, 81(5), 815.

Wolin, L. D. (2003). Gender issues in advertising—An oversight synthesis of research: 1970–2002. Journal of advertising research, 43(1), 111-129.

Wolsink, M. (2007). Wind power implementation: the nature of public attitudes: equity and fairness instead of 'backyard motives'. Renewable and sustainable energy reviews, 11(6), 1188-1207.

Wong, Y. J., Ringo Ho, M. H., Wang, S. Y., & Fisher, A. R. (2016). Subjective masculine norms among university students in Singapore: A mixed-methods study. Psychology of Men & Masculinity, 17(1), 30.

Wood, W., & Eagly, A. H. (2010). Gender identity. In M. R. Leary & R. H. Hoyle (Eds.), Handbook of individual differences in social behavior (pp. 109–125). New York: Guilford.

Wooldridge, J. M. (2015). Introductory econometrics: A modern approach. Nelson Education.

World Business Council for Sustainable Development (2008). Sustainable Consumption Facts and Trends, From a business perspective, 23-33.

Wray-Lake, L., Flanagan, C. A., & Osgood, D. W. (2010). Examining trends in adolescent environmental attitudes, beliefs, and behaviors across three decades. Environment and behavior, 42(1), 61-85.

Wright, N. D., Claiborne, C. B., & Sirgy, M. J. (1992). The effects of product symbolism on consumer self-concept. ACR North American Advances.

WWF & ISEAL (2017). SDGs Mean Business: How Credible Standards Can Help Companies Deliver The 2030 Agenda. Retrieved from:

https://www.standardsimpacts.org/sites/default/files/WWF_ISEAL_SDG_2017.pdf, Accessed: 12.02.2019.

Xie, C., Bagozzi, R. P., & Troye, S. V. (2008). Trying to prosume: toward a theory of consumers as co-creators of value. Journal of the Academy of marketing Science, 36(1), 109-122.

Zelezny, L. C., & Schultz, P. W. (2000). Psychology of promoting environmentalism: Promoting environmentalism. Journal of Social Issues, 56(3), 365-371.

Zelezny, L. C., Chua, P., & Aldrich, C. (2000). Elaborating on gender differences in environmentalism-statistical data included. Journal of Social Issues, 56(3), 443-445.

Zukin, S., & Maguire, J. S. (2004). Consumers and consumption. Annu. Rev. Sociol., 30, 173-197.

Appendices

List of contents

Appendix A: Background

Appendix A1: Screening of relevant literature *(key-words combinations)*

№	Sustainability Issues	Gender Issues	Behavioral Issues	# of Results	Reference Examples
1	Sustainable	Gender	Behavior	2	Khan, N., & Trivedi, P. (2015). Gender differences and sustainable consumption behavior. British Journal of Marketing Studies, 3(3), 29-35.
					Poškus, M. S., & Sadauskaitė, R. (2015). QUESTION ORDER EFFECTS IN SUSTAINABLE BEHAVIOR NORM MEASUREMENT: GENDER DIFFERENCES. Psychology, 51(51), 58-67.
2	Sustainability	Gender	Consumption	2	Wallaschkowski, S., Niehuis, E., Bekmeier-Feuerhahn, S., & Stark, S. Exploring Gender Stereotypes in Clothing Consumption From a Sustainability Marketing Perspective.
					Piñeiro, C., Díaz, M. J., Palavecinos, M., Alonso, L. E., & Benayas, J. (2014). Responsible consumption with a gender perspective: Consumption discourse and practices surrounding gender equality and sustainability in Madrid/Consumo responsable con perspectiva de género. Discursos y prácticas de consumo en torno a la equidad de género y sostenibilidad en Madrid. Psyecology, 5(2-3), 252-283.
3	Sustainable	Gender	Consumption	6	Isenhour, C., & Ardenfors, M. (2009). Gender and sustainable consumption: policy implications. International Journal of Innovation and Sustainable Development, 4(2-3), 135-149.
					Vinz, D. (2009). Gender and sustainable consumption: A German environmental perspective. European Journal of Women's Studies, 16(2), 159-179.
					Heinzle, S., Kanzig, J., Nentwich, J., & Offenberger, U. (2010). Moving beyond gender differences in research on sustainable consumption: Evidence from a discrete choice experiment. Retrieved July, 10, 2017.
					Bulut, Z. A., Kökalan Çımrin, F., & Doğan, O. (2017). Gender, generation and sustainable consumption: Exploring the behaviour of consumers from Izmir, Turkey. International journal of consumer studies, 41(6), 597-604.
4	Sustainable	Gender	Purchase	0	
5	Sustainable	Gender	Perception	0	
6	Sustainable	Gender	Attitude	0	
7	Sustainable	Manly	Behavior	3	Anderson, J. J. (2012). Seeing beyond the veil: Addressing the unseen barrier to socially sustainable behavior (Doctoral dissertation, Saybrook University).
					Brough, A. R., Wilkie, J. E., Ma, J., Isaac, M. S., & Gal, D. (2016). Is eco-friendly unmanly? The green-feminine stereotype and its effect on sustainable consumption. Journal of Consumer Research, 43(4), 567-582. AJG (2018) 4*
					Dymbe, K. (2016). How can the Social Context Influence Individuals in Making Environmentally Sustainable Food Choices?
8	Sustainable	Manly	Consumption	0	
9	Sustainable	Manly	Purchase	0	
10	Sustainable	Manly	Perception	0	
11	Sustainable	Manly	Attitude	0	
12	Sustainable	Masculine	Behavior	0	
13	Sustainable	Masculine	Consumption	0	
14	Sustainable	Masculine	Purchase	0	
15	Sustainable	Masculine	Perception	0	
16	Sustainable	Masculine	Attitude	0	
17	Green	Gender	Behavior	5	**Lee, K. (2009). Gender differences in Hong Kong adolescent consumers' green purchasing behavior. Journal of consumer marketing, 26(2), 87-96. AJG (2018) 1**
					Dagher, G., Itani, O., & Kassar, A. N. (2015). The impact of environment concern and attitude on green purchasing behavior: gender as the moderator. Contemporary Management Research, 11(2).
18	Green	Gender	Consumption	8	**Costa Pinto, D., Herter, M. M., Rossi, P., & Borges, A. (2014). Going green for self or for others? Gender and identity salience effects on sustainable consumption. International Journal of Consumer Studies, 38(5), 540-549. AJG (2018) 2**
					Wang, S. (2016). Green practices are gendered: Exploring gender inequality caused by sustainable consumption policies in Taiwan. Energy Research & Social Science, 18, 88-95.
					Elliott, R. (2017). Gender and green consumption: relational, practical, material. Journal of Consumer Ethics.
					Huang, Y., & Wan, E. (2012). Going Green, Going Feminism: Stereotype About Green Consumption and Social Gender Role. ACR North American Advances.
					Cöster, L., & Paech, R. (2018). The Gender of Green: Exploring the Normative Idea of the Green Consumer and Gender Stereotypes in Sustainable Consumption.
					Tung, T., Koenig, H. F., & Chen, H. L. (2017). Effects of Green Self-Identity and Cognitive and Affective Involvement on Patronage Intention in Eco-Friendly Apparel Consumption: A Gender Comparison. Sustainability, 9(11), 1977.
19	Green	Gender	Purchase	5	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.
					Sreen, N., Purbey, S., & Sadarangani, P. (2018). Impact of culture, behavior and gender on green purchase intention. Journal of Retailing and Consumer Services, 41, 177-189. AJG (2018) 2
					Rajput, N., & Bajaj, M. P. (2012). GENDER DIFFERENCES AND GREEN PURCHASE BEHAVIOUR: EFFECTS OF ENVIRONMENTAL KNOWLEDGE, ENVIRONMENTAL CONCERN & ATTITUDE IN PUNE REGION. IMED JMSR, 1.
					Azizan, M., Akila, S., & Mohd Suki, N. (2013). Consumers' intention to purchase green product: Moderation effects of gender, age, income and education.
20	Green	Gender	Perception	1	Moorthy, M. K., Lahori, M. A., & Mohamad, Z. Z. B. Perception of Generation Y on Adoption of Green Products: A Study on Gender Difference in Malaysia.
21	Green	Gender	Attitude	5	Kartiwi, M., Hasan, H., Gunawan, T. S., & Husein, B. A. (2014). Green IT attitude and behaviour in higher education institution: a gender perspective. Journal of Applied Sciences, 14(7), 714-718.

22	Green	Manly	Behavior	0	
23	Green	Manly	Consumption	0	
24	Green	Manly	Purchase	0	
25	Green	Manly	Perception	0	
26	Green	Manly	Attitude	0	
27	Green	Masculine	Behavior	0	
28	Green	Masculine	Consumption	0	
29	Green	Masculine	Purchase	0	
30	Green	Masculine	Perception	0	
31	Green	Masculine	Attitude	0	
32	Eco	Gender	Behavior	3	Delhomme, P., Cristea, M., & Paran, F. (2013). Self-reported frequency and perceived difficulty of adopting eco-friendly driving behavior according to gender, age, and environmental concern. Transportation Research Part D: Transport and Environment, 20, 55-58. Han, H., & Hyun, S. S. (2018). College youth travelers' eco-purchase behavior and recycling activity while traveling: an examination of gender difference. Journal of Travel & Tourism Marketing, 35(6), 740-754.
33	Eco	Gender	Consumption	0	
34	Eco	Gender	Purchase	0	
35	Eco	Gender	Perception	0	
36	Eco	Gender	Attitude	0	
37	Environmental	Gender	Behavior	2	Sakellari, M., & Skanavis, C. (2013). Environmental behavior and gender: An emerging area of concern for environmental education research. Applied Environmental Education & Communication, 12(2), 77-87.
38	Environmental	Gender	Consumption	0	
39	Environmental	Gender	Purchase	0	
40	Environmental	Gender	Perception	1	Momsen, J. H. (2000). Gender differences in environmental concern and perception. Journal of geography, 99(2), 47-56.
41	Environmental	Gender	Attitude	2	Lee, E., Park, N. K., & Han, J. H. (2013). Gender difference in environmental attitude and behaviors in adoption of energy-efficient lighting at home. Journal of Sustainable development, 6(9), 36. SALEHI, S., KABIRI, A., & KARIMZADEH, S. (2016). A Study of Gender and Environmental Attitude (Case study: Urmia).
42	Pro-environmental	Gender	Behavior	2	**Vicente-Molina, M. A., Fernández-Sainz, A., & Izagirre-Olaizola, J. (2018). Does gender make a difference in pro-environmental behavior? The case of the Basque Country University students. Journal of Cleaner Production, 176, 89-98. AJG (2018) 2** Lindner Radons, D., Flores Battistella, L., & Zampieri Grohmann, M. (2016). Generation and gender as moderators on pro-environmental purchase behaviour. Pensamiento & Gestión, (41), 148-173.
43	Pro-environmental	Gender	Consumption	1	Holehonnur, A., Mobley, C., Gras, D., Cooper, A., Kilbourne, W., Grünhagen, M., & Foley, J. (2008, June). Technology, Gender, and Pro-Environmental Consumption Behavior: A Multinational Exploratory Study. In *THE 33 rd ANNUAL MEETING OF THE MACROMARKETING SOCIETY 2008* (p. 13).
44	Pro-environmental	Gender	Purchase	0	
45	Pro-environmental	Gender	Perception	0	
46	Pro-environmental	Gender	Attitude	0	

Appendix B: Literature review

Appendix B1: Systematic literature review

№	Authors	Name	Year	Journal	AJG (2018)	ABS Journal Guide	Product / Case		Indedepndent Variables	Moderators	Dependent Variables	Methodology	Main Results
1	Brough, A. R., Wilkie, J. E., Ma, J., Isaac, M. S., & Gal, D.	Is eco-friendly unmanly? The green-feminine stereotype and its effect on sustainable consumption	2016	Journal of Consumer Research	4*	4	-						Green-feminine stereotype is as prevalent among women as men. Link between identity and consumers' tendency to engage in sustainable behavior.
							Study 1	Name of a person or product image	Greenness of a product	n/a	Cocepts of femininity	Survey	The relationship between greenness and femininity exists. No relationship between greenness and masculinity.
							Study 2	Groceries in plastic bag vs. in reusable canvas bag	Consumers engaging in green consumption	Gender, age, gender identity, interest in dating, relationship status	Perceptions of femininity	Survey	Both male and female targets were judged as more feminine when they engaged in green behavior. No influcene of moderating variables.
							Study 3	Recalling actions related to sustainability	Self perception	Gender	Self reported femininity score	Survey	People reported feeling more feminine in the green consumption condition. Women feel more feminine than men.
							Study 4	Gift card to purchase three different products: a lamp, backpack, batteries	Gender identity	Threat type (gender vs. age) and shopping context (public vs. private)	Purchase intentions	Experiment	Men's environmental choices can be influenced by gender cues. With gender-identity threat, men were less likely to choose green products. Shopping context (online vs. in-store) does not influence participants' choices.
							Study 5	Writing sample + household drain cleaner	Masculinity affirmation	n/a	Preference for Green products	Experiment	Men prefer green products less than women. Affirming masculinity can increase the preference for green products. Women's preferences are unaffected by gender identity manipulation.
							Study 6A	Green non-profit organization (logo)	Masculine brand image of a product	Gender	Willingness to donate to green charity	Experiment	Women are more likely to donate to a conventionally branded non-profit org. than men. Both men and women are equally willing to donate to masculine non profit.
							Study 6B	BMW i3	Types of branding (conventional vs. masculine)	Gender	Evaluation of the product	Experiment	Men avoid green behaviors to maintain a macho image. Masculine (vs. conventional) branding can influence evaluation of green products.
2	Mostafa, M. M.	Gender differences in Egyptian consumers' green purchase behaviour: the effects of environmental knowledge, concern and attitude	2007	International Journal of Consumer Studies	2	1	Explicit following topics: perceived environmental knowledge, environmental concern and green purchase attitude		Gender	n/a	Environmenal knowledge, Environmental concern, Green purchase Attitude	Survey	Men are more concerned about environmental issues than women. Men reported more positive attitudes towards green purchase.
3	Costa Pinto, D., Herter, M. M., Rossi, P., & Borges, A.	Going green for self or for others? Gender and identity salience effects on sustainable consumption	2014	International Journal of Consumer Studies	2	1	Statements regarding personality traits, consumption behaviour practices		Gender	Salient identity (social vs. personal)	Sustainable consumption	Online experiment	Gender and identitity do not play role, but the interaction effect is statistically significant.
4	Sreen, N., Purbey, S., & Sadarangani, P	Impact of culture, behavior and gender on green purchase intention	2018	Journal of Retailing and Consumer Services	2	1	Non specific issues and cases		Attitude towards a green product, Subjective norms	Collectivism, Long term orientation, Man-nature orientation as antecendents and gender as moderating variables	Purchase intention of green products	Survey	Collectivism, LTO, and Man-nature orientation impact green purchase intention indirectly. LTO impact attitude towards green products indirectly.
5	Grønhøj, A., & Ölander, F.	A gender perspective on environmentally related family consumption	2007	Journal of Consumer Behavior	2	2	Four substantive domains: food, waste, energy, and car use		Man-female perceived disagreement	Situation (such as - waste disposal, organic food purchase)	Green behavior	Qualitatitive + quantitative method: interview	Males and females do not differ. Previous research findings that single out women as more environmentally oriented than men do not find strong support.
6	Luchs, M. G., & Mooradian, T. A.	Sex, Personality, and Sustainable Consumer Behaviour: Elucidating the Gender Effect	2012	Journal of Consumer Policy	2	-	**Study 1**: general environmental issues **Study 2**: shoes		**Study 1**: gender **Study 2**: gender	Study 1: types of personality as mediator (oppenness and ageableness) Study 2: Sustainability importance and personality as mediator variables	**Study 1**: environmental concern **Study 2**: sustainable consumer behavior choice	Survey	Personality trait agreeableness mediates sex-related differences in sustainable consumer behavior.
7	Vicente-Molina, M. A., Fernández-Sainz, A., & Izagirre-Olaizola, J.	Does gender make a difference in pro-environmental behavior? The case of the Basque Country University students	2018	Journal of Cleaner Production	2	-	Environmental knowledge, environmental attitudes, recycling patterns		Knowledge, discipline, motivation, attitude, age, perceived consumer effectiveness	Gender and subject of study	Pro-environmental behavior (green purchasing, recycling and public transport usage)	Survey	Attitude is a signnificant predictor for men, but nor for women. Women are more focused on environmentally-friendly behavior than men. Gender roles might be decreasing in importance in some environmental tasks, perhaps due to the gender equality laws implemented in the area analyzed and the social transformation achieved.
8	Lee, K.	Gender differences in Hong Kong adolescent consumers' green purchasing behavior	2009	Journal of Consumer Marketing	1	1	Environmental attitude statements		Environmental attitude, environmental concern, perception of environmental problems, environmental responsibility, peer influence on green consumption, self identity in environment protection	Gender	Green purchasing behavior	Survey	Common approach of rational appeals is not sufficient to motivate adolescents to make an environmental purchase. Key to successful green marketing among adolescents in Hong Kong – emotional appeals, peer networking, and gender-based market segmentation. Women show higher environmental attitude, but men show higher self-identity for protecting environment. Peer influnece is the most important variable for green purchasing behavior.

Appendix C: Research methodology

Appendix C1: Measurement of variables – literature review

Variable	№	Measurments	Refferences
Subjective Norms	1	"Those people who are important to me would (Strongly support/Strongly oppose) my using [...] rather than my calculator for the assignment." "I think that those people who are important to me would want me to use [...] rather than my calculator for the assignment. (Strongly agree/Strongly disagree)" "People whose opinions I value would prefer me to use [...] rather than my calculator for the assignment. (Strongly agree/Strongly disagree)"	Mathieson (1991)
	2	"...a person's perception that most people who are important to him think he should or should not perform the behavior in question.''	Fishbein & Ajzen (1975)
	3	"Most people who are important to me think I should ... I should not eat organic vegetable..."	Sparks & Shepherd (1992)
	4	"... most people who are important to me would think I should not/should purchase eco-friendly products for personal use in the coming month..." "... most people who are important to me would think it is bad/good for me to purchase eco-friendly products for personal use in the coming month..."	Chan & Lau (2002)
	5	"Perspective of expectations set by groups of important people": family, relatives, friends, work colleagues, and society at whole.	Ham, Jeger, & Frajman Ivković (2015)
	6	"People like me are expected to use MMS." "People who matter to me expect me to use MMS." "People I look up to expect me to use MMS."	Thorbjørnsen, Pedersen & Nysveen (2007)
Self-indentity Expressiveness	7	"Blood donation is something I rarely even think about." "I would feel a loss if I were forced to give up donating blood." "I really don't have any clear feelings about blood donation." "For me, being a blood donor means more than just donating blood." "Blood donation is an important part of who I am."	Callero (1985)
	8	"To measure participation, we asked respondents to list the extracurricular activities ... and to rate their level of participation in each activity on a seven-point scale ("not active at all" to "very active").	Arnett, German & Hunt (2003)
	9	"I use MMS to expres my personal values." "I use MMS to express who I want to be." "Using mobile services like MMS is part of how I express my personality."	Thorbjørnsen, Pedersen & Nysveen (2007)
	10	"The modified PEAQ [note: Personally Expressive Activities Questionnaire] used in this study focused on three kinds of subjective identity experiences: personal expressiveness (8 items; e.g., "When I engage in this activity, I feel like this is who I really am"), flow experiences (5 items; e.g., "When I engage in this activity I feel completely involved," "When I engage in this activity I have a high level of concentration"), and goal directed behavior (4 items; e.g., "I set goals for myself in this activity"). Adolescents responded to these items using a 7-point scale ranging from 1 (strongly disagree) to 7 (strongly agree)."	Coatsworth, Palen, Sharp & Ferrer-Wreder (2006)
	11	"Using 'the service' is part of how I express my personality." "It is easy to make 'the service' do what I want it to."	Pedersen, & Nysveen (2003)
	12	"This activity gives me my greatest feeling of really being alive." "When i engage in this activity I feel more intensely involved than I do when engaged in most other activities." "This activity gives me my strongest feeling that this is who I really am." "When engaged in this activity I feel this is what I was meant to do." "I feel more complete or fulfilled when engaging in this activity than I do when engaged in most other activities." "I feel a special fit or meshing when engaged in this activity."	Waterman (2004)
	13	"I think of myself as someone who is very concerned with 'green issues." "I think of myself as a 'green consumer." "I think of myself as a 'health-conscious consumer."	Sparks & Shepherd (1992)

Social Identity Expressiveness	14	Cognitive centrality – "the cogninitive prominence of thinking in given group membership." Ingroup affect: emotional aspect related to being a member to the group. Ingroup ties: perceived level of bond and similarities among the group members.	Cameron (2004)
	15	**Self Categorization:** "I think my group has little to be proud of; I feel good about my group; I have little respect for my group; I would rather not tell that I belong to this group." **Group Self Esteem:** "I identify with other members of my group; I am like other members of my group; My group is an important refelction of who I am." **Commitment to the group:** "I would like to continute working with my group; I dislike being a member of my group; I would rather belong to the other group."	Ellemers, Kortekaas & Ouwerkerk (1999)
	16	"The service" is useful when parking, I often talk to others about "the service." "Other people are often impressed by the way I use "the service."	Pedersen & Nysveen (2003)
	17	"It is important for my friend to know that I have a good [...]." "I take pride in owning the latest available technology in [...]." "I like to own a [...] with latest style." "I generally like a person who owns a good [...]."	Grewal, Mehta & Kardes (2000)
	18	In group attraction: emphasis on posotive emotion regarding being the group member. Interdepency beliefs: the degree of perception of having common goals and values and behavior towards ingroup and outgroup members. Intergroup context: the degree of being a member of the group. Depersonalinzation: the degree of perceived level of similarites between self and group members.	Jackson & Smith (1999)
	19	"I often talk to others about MMS." "I often show MMS messages and services to others." "Other people are often impressed..."	Thorbjørnsen, Pedersen & Nysveen (2007)
Attitude for Green Products	20	"I believe that green products help to save nature and its resources. Given a choice, I will prefer a green product over a conventional product" "Environmental protection is important to me when making product purchases" "I beleive that green products help to reduce pollution (water,air, etc.)" "Given a choice, i will prefer a green product over a conventional product"	Adopted from McCarty & Shrum (1994); Sreen, Purbey & Sadarangani (2018)
	21	Good-Bad, Pleasant-Unpleasant, Favorable-Unfoavroable, Convincing-Unconvincing, Believable-Unbeleivable, Familiar-Novel, Boring- Interesting (7 point scale)	Schuhwerk & Lefkoff-Hagius (1995)
	22	Good/Bad, Foolish/Wise, Favorable/Unfavorable, Negative/Positive; (7 point scale)	Thorbjørnsen, Pedersen & Nysveen (2007)
Environmental Attitude (New Environmental Paradigm)	23	1. We are approaching the limit of the number of people the Earth can support. 2. Humans have the right to modify the natural environment to suit their needs. 3. When humans interfere with nature it often produces disastrous consequences. 4. Human ingenuity will insure that we do not make the Earth unlivable. 5. Humans are seriously abusing the environment. 6. The Earth has plenty of natural resources if we just learn how to develop them. 7. Plants and animals have as much right as humans to exist. 8. The balance of nature is strong enough to cope with the impacts of modern industrial nations. 9. Despite our special abilities, humans are still subject to the laws of nature. 10. The so-called "ecological crisis" facing humankind has been greatly exaggerated. 11. The Earth is like a spaceship with very limited room and resources. 12. Humans were meant to rule over the rest of nature. 13. The balance of nature is very delicate and easily upset. 14. Humans will eventually learn enough about how nature works to be able to control it. 15. If things continue on their present course, we will soon experience a major ecological catastrophe.	Dunlap & Van Liere (1978)
Masculinity	24	Word set to measure masculinity: aggressive, masculine, macho;	Brough, Wilkie, Ma, Isaac & Gal (2016)
	25	Word set stereotypically attached to men: "agentic – that is, masterful, assertive, competitive, and dominant."	Spence & Buckner (1995)
	26	"aggressive, arrogant, assertive, autocratic, conceited, confident, cynical, deliberate, dominant, enterprising, forceful, foresighled, frank, handsome, hard-headed, industrious, ingenious, inventive, masculine, opportunistic, outspoken, self-confident, sharp-witted, shrewd, stern, strong, tough, vindictive."	Heilbrun (1976)
Femininity	27	Word set to measure femininity: feminine, sensitive and gentle;	Brough et al. (2016)
	28	Word set ot measure femininity: more caring;	Zelezny, Chua & Aldrich (2000)
	29	Word set stereotypically attached to women: "friendly, unselfish, concerned with others, and emotionally expressive."	Spence & Buckner (1995)
	30	Conformity to Feminine Norms Inventory (CFNI): "Nice in Relationships, Thinness, Modesty, Domestic, Care for Children, Romantic Relationship, Sexual Fidelity, and Invest in Appearance."	Mahalik et al. (2005)
	31	"appreciative, considerate, contented, cooperative, dependent, emotional, excitable, fearful, feminine, fickle, forgiving, friendly, frivolous, helpful, jolly, modest, praising, sensitive, sentimental, sincere, submissive, sympathetic, talkative, timid, warm, worrying."	Heilbrun (1976)

Perceived Behavioral Control	32	"I don't have the proper equipment for mountain climbing" True/False (7 point scale) "Not having the proper equipment makes mountain (Easier for me... difficult for me)" (7 point scale)	Ajzen (2002)
	33	"For me [...] would be very easy/ very difficult."	Godin el al (1996), Netemeyer et al (1999), Conner et al, (1999) (2000), Sheeran et al (1999) as cited in Ajzen (2002).
	34	"If I want to I would be easly able to do [...]." "How much control do you think you have over your ability to [...]."	Netemeyer et al (1999), Conner et al. (1999) (2000), Sheeran et al. (1999) as cited in Ajzen (2002)
	35	"I feel free to use MMS as I like."	Thorbjørnsen et al. (2007)
		"Using 'service' is entirely within my control."	Nysveen, Pedersen & Thorbjørnsen (2005)
Purchase Intention	36	A possibility to purchase a product at a given price;	Dodds, Monroe & Grewal (1991)
	37	An effort to purhcase a product or visiting a store for a service;	Shao, Baker & Wagner (2004)
	38	Asking how many times you would like to buy [...] in next 10 purchase?	Howard & Ostlund (1973)
	39	"Choose the environmentally-friendly alternative if one of a similar price is available;" "Choose the environmentally-friendly alternative regardless of price;" "Try to discover the environmental effects of products prior to purchase."	Schlegelmilch, Bohlen & Diamantopoulos (1996)
Self Reported Behavior	40	Mentioning the behavior and ask for rating between "never, once or twice, 3 or 4 times, pretty often or almost every day."	Brown, Clasen & Eicher (1986)
	41	"... frequency of shopping of green products (never – at every opportunity 7 point scale), amount of money spent on green producrs (none – much money, 7 point scale) and total number of green products bought in one month."	Chan (2001)
Moral Identity Expressiveness	42	*Set of characteristics: Caring, Compassionate, Fair, Friendly, Generous, Helpful, Hardworking, Honest, Kind;* "It would make me feel good to be a person who has these characteristics." "Being someone who has these characteristics is an important part of who I am." "I often wear clothes that identify me as having these characteristics." "I would be ashamed to be a person who had these characteristics." "The types of things I do in my spare time (e.g., hobbies) clearly identify me as having these characteristics." "The kinds of books and magazines that I read identify me as having these characteristics." "Having these characteristics is not really important to me." "The fact that I have these characteristics is communicated to others by my membership in certain organizations." "I am actively involved in activities that communicate to others that I have these characteristics." "I strongly desire to have these characteristics."	Reed, Aquino & Levy (2007)

Appendix C2: List of references for Appendix C1

Ajzen, I. (2002). Perceived behavioral control, self-efficacy, locus of control, and the theory of planned behavior 1. Journal of applied social psychology, 32(4), 665-683.

Arnett, D. B., German, S. D., & Hunt, S. D. (2003). The identity salience model of relationship marketing success: The case of nonprofit marketing. Journal of marketing, 67(2), 89-105.

Brough, A. R., Wilkie, J. E., Ma, J., Isaac, M. S., & Gal, D. (2016). Is eco-friendly unmanly? The green-feminine stereotype and its effect on sustainable consumption. Journal of Consumer Research, 43(4), 567-582.

Brown, B. B., Clasen, D. R., & Eicher, S. A. (1986). Perceptions of peer pressure, peer conformity dispositions, and self-reported behavior among adolescents. Developmental psychology, 22(4), 521.

Callero, P. L. (1985). Role-identity salience. Social psychology quarterly, 203-215.

Cameron, J. E. (2004). A three-factor model of social identity. Self and identity, 3(3), 239-262.

Chan, R. Y. (2001). Determinants of Chinese consumers' green purchase behavior. Psychology & marketing, 18(4), 389-413.

Chan, R. Y., & Lau, L. B. (2002). Explaining green purchasing behavior: A cross-cultural study on American and Chinese consumers. Journal of international consumer marketing, 14(2-3), 9-40.

Coatsworth, J. D., Palen, L. A., Sharp, E. H., & Ferrer-Wreder, L. (2006). Self-defining activities, expressive identity, and adolescent wellness. Applied Developmental Science, 10(3), 157-170.

Dodds, W. B., Monroe, K. B., & Grewal, D. (1991). Effects of price, brand, and store information on buyers' product evaluations. Journal of marketing research, 307-319.

Dunlap, R. E., & Van Liere, K. D. (1978). The "new environmental paradigm". The journal of environmental education, 9(4), 10-19.

Ellemers, N., Kortekaas, P., & Ouwerkerk, J. W. (1999). Self-categorisation, commitment to the group and group self-esteem as related but distinct aspects of social identity. European journal of social psychology, 29(2-3), 371-389.

Fishbein M., Ajzen I. (1975), Belief Attitude, Intention and Behavior: An Introduction to Theory and Research, Addison-Wesley, Reading, MA.

Godin el al (1996), Netemeyer et al (1999), Conner et al, (1999) (2000), Sheeran et al (1999) as cited in Ajzen (2002a).

Grewal, R., Mehta, R., & Kardes, F. R. (2000). The role of the social-identity function of attitudes in consumer innovativeness and opinion leadership. Journal of Economic Psychology, 21(3), 233-252.

Ham, M., Jeger, M., & Frajman Ivković, A. (2015). The role of subjective norms in forming the intention to purchase green food. Economic research-Ekonomska istraživanja, 28(1), 738-748.

Heilbrun, A. B. (1976). Measurement of masculine and feminine sex role identities as independent dimensions. Journal of consulting and clinical psychology, 44(2), 183.

Howard, J. A., & Ostlund, L. E. (Eds.). (1973). Buyer behavior: theoretical and empirical foundations. Random House (NY).

Jackson, J. W., & Smith, E. R. (1999). Conceptualizing social identity: A new framework and evidence for the impact of different dimensions. Personality and Social Psychology Bulletin, 25(1), 120-135.

Mahalik, J. R., Morray, E. B., Coonerty-Femiano, A., Ludlow, L. H., Slattery, S. M., & Smiler, A. (2005). Development of the conformity to feminine norms inventory. Sex Roles, 52(7-8), 417-435.

Mathieson, K. (1991). Predicting user intentions: comparing the technology acceptance model with the theory of planned behavior. Information systems research, 2(3), 173-191.

McCarty and Shrum (1994). Sreen, N., Purbey, S., & Sadarangani, P. (2018). Impact of culture, behavior and gender on green purchase intention. Journal of Retailing and Consumer Services, 41, 177-189.

Netemeyer et al (1999), Conner et al, (1999) (2000), Sheeran et al (1999) as cited in Ajzen (2002a).

Nysveen, H., Pedersen, P. E., & Thorbjørnsen, H. (2005). Intentions to use mobile services: Antecedents and cross-service comparisons. Journal of the academy of marketing science, 33(3), 330-346.

Pedersen, P. E., & Nysveen, H. (2003, June). Usefulness and self-expressiveness: extending TAM to explain the adoption of a mobile parking service. In Proceedings of the 16th Electronic Commerce Conference, Bled, Slovenia.

Reed, A., Aquino, K., & Levy, E. (2007). Moral identity and judgments of charitable behaviors. Journal of Marketing, 71(1), 178-193.

Schlegelmilch, B. B., Bohlen, G. M., & Diamantopoulos, A. (1996). The link between green purchasing decisions and measures of environmental consciousness. European journal of marketing, 30(5), 35-55.

Schuhwerk, M. E., & Lefkoff-Hagius, R. (1995). Green or non-green? Does type of appeal matter when advertising a green product?. Journal of advertising, 24(2), 45-54.

Shao, C. Y., Baker, J. A., & Wagner, J. (2004). The effects of appropriateness of service contact personnel dress on customer expectations of service quality and purchase intention: The moderating influences of involvement and gender. Journal of Business Research, 57(10), 1164-1176.

Sparks, P., & Shepherd, R. (1992). Self-identity and the theory of planned behavior: Assessing the role of identification with" green consumerism". Social psychology quarterly, 388-399.

Spence, J. T., & Buckner, C. (1995). Masculinity and femininity: Defining the undefinable. Gender, power, and communication in human relationships, 105-138.

Thorbjørnsen, H., Pedersen, P. E., & Nysveen, H. (2007). “This is who I am”: Identity expressiveness and the theory of planned behavior. Psychology & Marketing, 24(9), 763-785.

Waterman, A. S. (2004). Finding someone to be: Studies on the role of intrinsic motivation in identity formation. Identity, 4(3), 209-228.

Zelezny, L. C., Chua, P.-P., & Aldrich, C. (2000). Elaborating on gender differences in environmentalism. Journal of Social Issues, 56(3): 443–457.

Appendix C3: Questionnaire design in Qualtrics

Sustainable Consumer Behavior - NHH Students Survey

Dear Respondents,
We would like to ask you to fill out this questionnaire regarding *consumer behavior and environmentally friendly products*. This research is a part of our master's thesis and we highly appreciate your help. The survey will take **only 3-5 minutes** of your time. Please note, there are no right or wrong answers in the survey. Some questions **might look similar** – this was done deliberately for our research purpose – so please fill in your answers carefully. It will not be possible to go back to a prior page.

Participation is **voluntary** and you are free to withdraw the questionnaire at any time. All the data will be used for academic purposes and **kept confidential**. The anonymity of respondents will be maintained.

Thank you for your support!
Tim and Iffat

→

Please fill in your responses carefully
(it will not be possible to go back to a prior page)

	Extremely foolish	Moderately foolish	Slightly foolish	Neither wise nor foolish	Slightly wise	Moderately wise	Extremely wise
To me, protecting the environment is	○	○	○	○	○	○	○
Buying green products is	○	○	○	○	○	○	○

	Extremely bad	Moderately bad	Slightly bad	Neither good nor bad	Slightly good	Moderately good	Extremely good
To me, protecting the environment is	○	○	○	○	○	○	○
Buying green products is	○	○	○	○	○	○	○

	Extremely unfavorable	Moderately unfavorable	Slightly unfavorable	Neither favorable nor unfavorable	Slightly favorable	Moderately favorable	Extremely favorable
To me, protecting the environment is	○	○	○	○	○	○	○
Buying green products is	○	○	○	○	○	○	○

→

Please continue to fill in your responses carefully

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
Buying green products is not a problem for me	○	○	○	○	○	○	○
Finding green products in stores is easy	○	○	○	○	○	○	○
I feel free to buy green products as I like	○	○	○	○	○	○	○
Buying green products is entirely within my control	○	○	○	○	○	○	○

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
I intend to buy green products in the next month	○	○	○	○	○	○	○
In the next month, I intend to buy green products frequently	○	○	○	○	○	○	○

	Never	Rarely	Sometimes	About half the time	Most of the time	At every opportunity	Always
How often do you buy green products?	○	○	○	○	○	○	○

→

Please continue to fill in your responses carefully

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
People who matter to me, expect me to buy green products	○	○	○	○	○	○	○
People like me are expected to buy green products	○	○	○	○	○	○	○
People I look up to expect me to purchase green products	○	○	○	○	○	○	○

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
I often talk to other people about buying green products	○	○	○	○	○	○	○
I often show the green products I bought to others	○	○	○	○	○	○	○
Other people are often impressed that I buy green products	○	○	○	○	○	○	○

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
I buy green products to express who I want to be	○	○	○	○	○	○	○
I express my personality by buying green products	○	○	○	○	○	○	○
I buy green products to express my personal values	○	○	○	○	○	○	○

→

Please continue to fill in your responses carefully

Rate the attributes that describe your personality

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
Tough	○	○	○	○	○	○	○
Sensitive	○	○	○	○	○	○	○
Masculine	○	○	○	○	○	○	○
Assertive	○	○	○	○	○	○	○
Feminine	○	○	○	○	○	○	○
Gentle	○	○	○	○	○	○	○

→

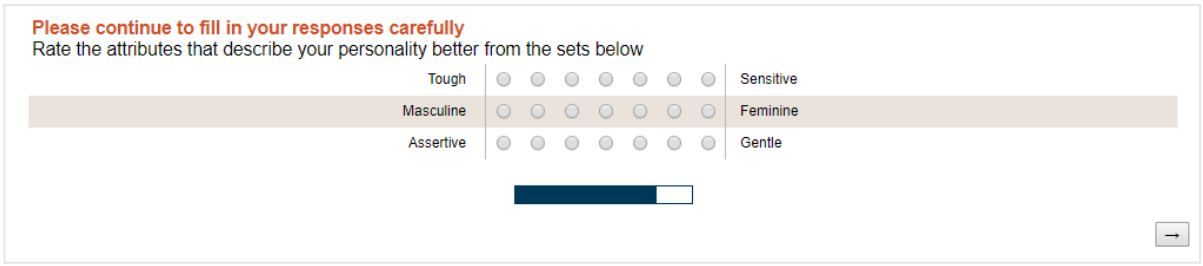
Please continue to fill in your responses carefully

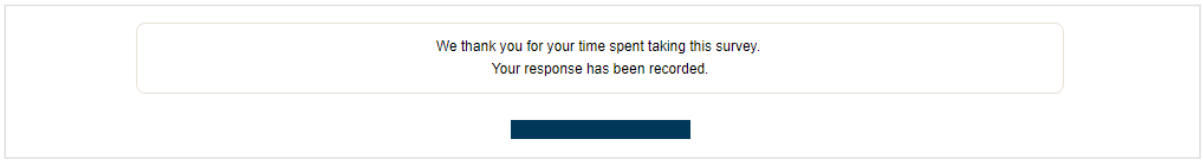
Listed below are some characteristics that might describe a person:
Fair, Helpful, Honest

Keeping those characteristics in mind, please reply to the following statements

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
It would make me feel good to be a person who has these characteristics	○	○	○	○	○	○	○
Being someone who has these characteristics is an important part of who I am	○	○	○	○	○	○	○

→





Appendix C4: Email invitation to participate in survey

Below you may find text from email invitation and reminders to NHH students to participate in the survey. There was three emails in total: initial message and two reminders.

Dear NHH students,

We would like to ask you to fill out this questionnaire regarding consumer behavior and environmentally friendly products. This research is a part of our master's thesis and we highly appreciate your help. The survey will take **only 3-5 minutes** of your time. Please note, there are no right or wrong answers. Some questions **might look similar** – this was done deliberately for our research purpose – so please fill in your answers carefully. It will not be possible to go back to a prior page.

Follow this link to the Survey:
Take the Survey

Or copy and paste the URL below into your internet browser:
https://nhh.eu.qualtrics.com/jfe/form/SV_1MJJdngK7j43MXP?Q_DL=bkptVmsMDnRFKO9_1MJJdngK7j43MXP_MLRP_0BAZm9d9CEgWsWp&Q_CHL=email

Participation is **voluntary** and you are free to withdraw the questionnaire at any time. All the data will be used for academic purposes only and **kept confidential**. The anonymity of respondents will be maintained.

Thank you for your support and have a great day!

Kind regards,
Tim and Iffat

Follow the link to opt out of future emails:
Click here to unsubscribe

Dear NHH students,

This is a gentle reminder to help us with our research and fill out this **short** questionnaire.
It will only take **2-3 minutes** of your time.

Follow this link to the Survey:
Take the Survey

Or copy and paste the URL below into your internet browser:
https://nhh.eu.qualtrics.com/jfe/form/SV_1MJJdngK7j43MXP?
Q_DL=56l9cPYIS4fqhk9_1MJJdngK7j43MXP_MLRP_0BAZm9d9CEgWsWp&Q_CHL=email

Participation is **voluntary** and you are free to withdraw the questionnaire at any time. All the data will be used for academic purposes only and **kept confidential**.
The anonymity of respondents will be maintained.

We highly appreciate your help!

Kind regards,
Tim and Iffat

P.S. Special thanks to the students, who have already participated!

Follow the link to opt out of future emails:
Click here to unsubscribe

Hey everyone,

This is a very final reminder to fill out this **short** questionnaire from us, that will only take **2-3 minutes** of your time.

Happy Easter! :)

Follow this link to the Survey:
Take the Survey

Or copy and paste the URL below into your internet browser:
https://nhh.eu.qualtrics.com/jfe/form/SV_1MJJdngK7j43MXP?
Q_DL=3CnTpa8raXXyYLP_1MJJdngK7j43MXP_MLRP_0BAZm9d9CEgWsWp&Q_CHL=email

Participation is **voluntary** and you are free to withdraw the questionnaire at any time. All the data will be used for academic purposes only and **kept confidential**. The anonymity of respondents will be maintained.

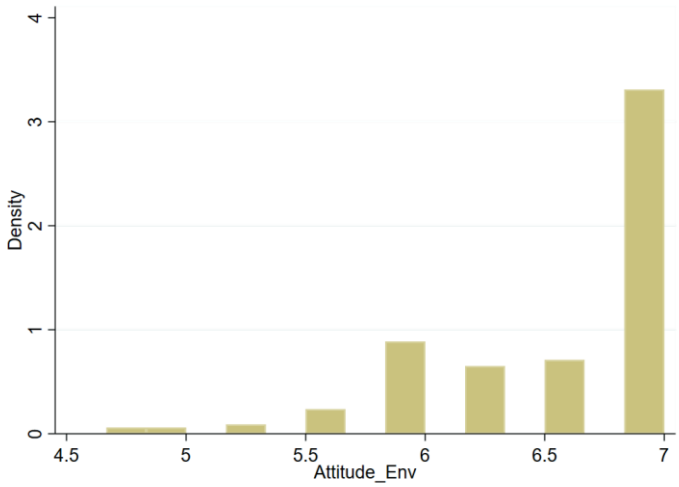
We highly appreciate your help!

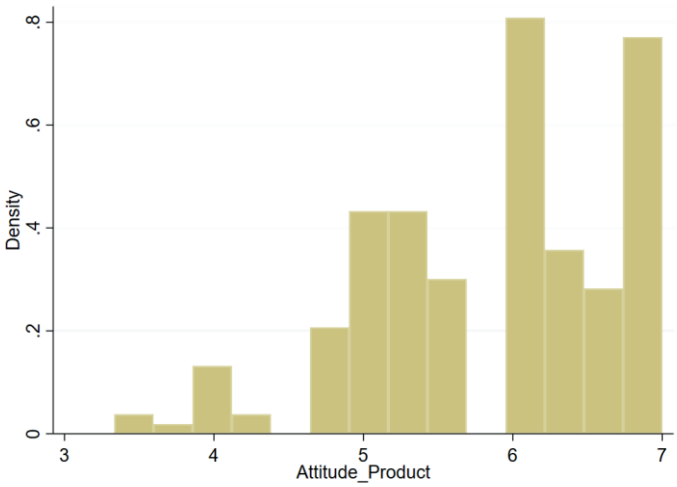
Kind regards,
Iffat and Tim

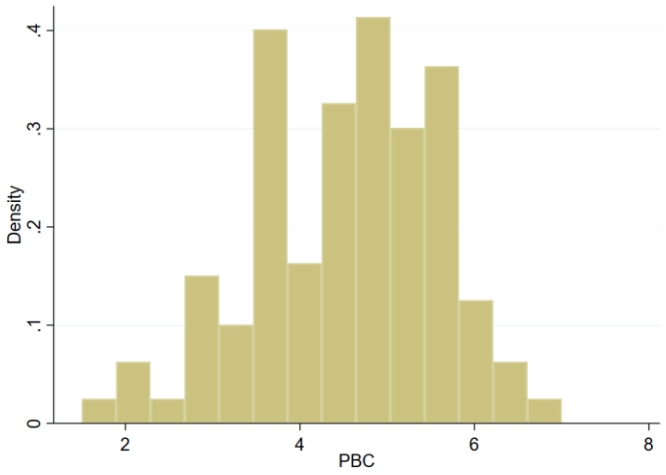
P.S. Special thanks to the students, who have already participated!

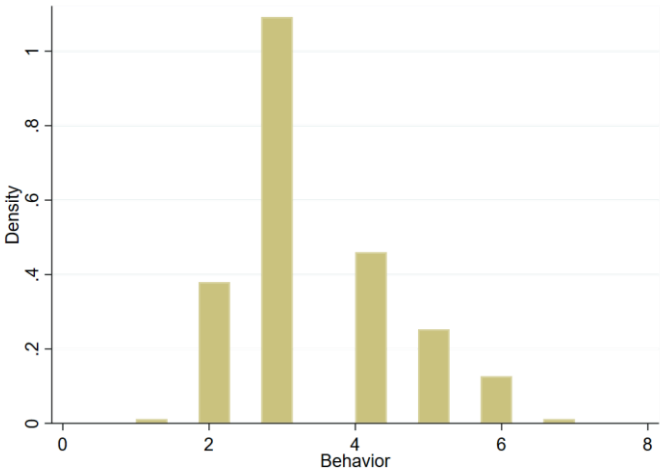
Follow the link to opt out of future emails:
Click here to unsubscribe

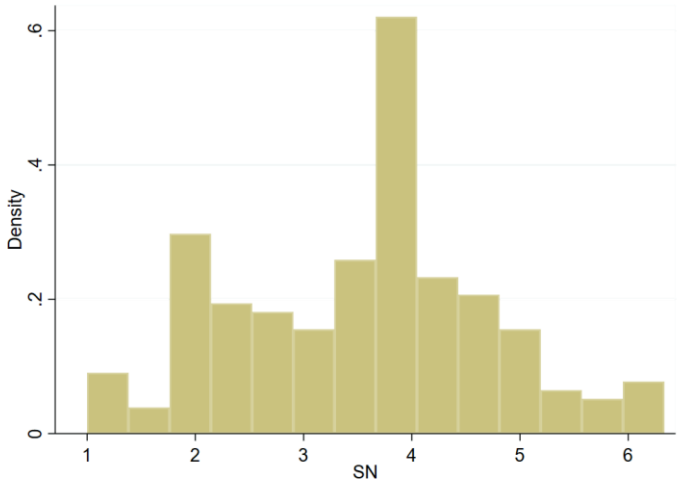
Appendix C5: Histograms of all the variables

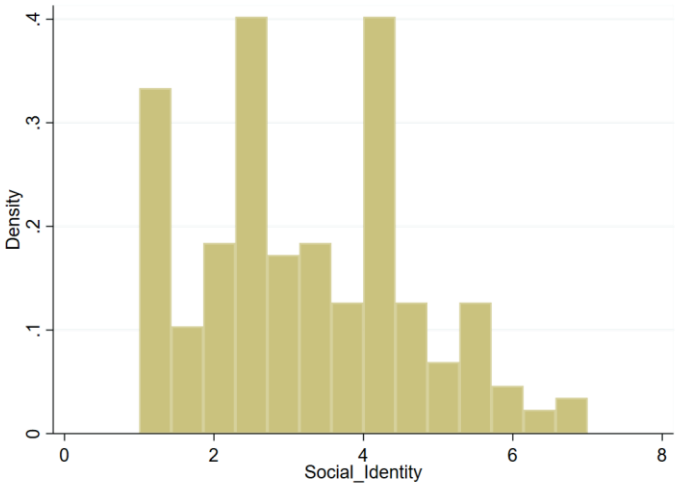


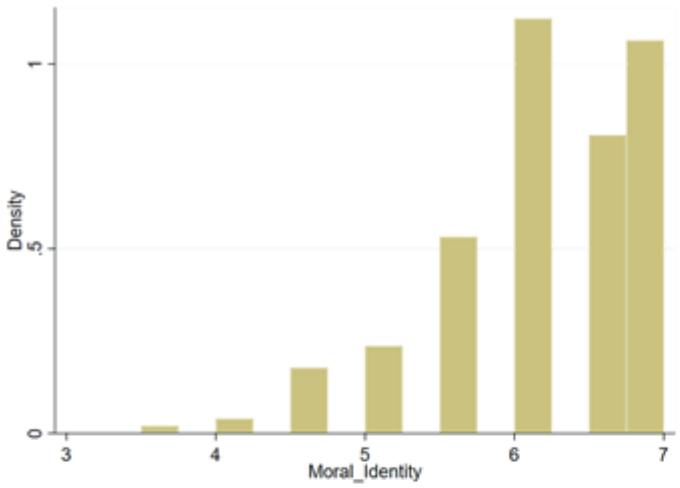


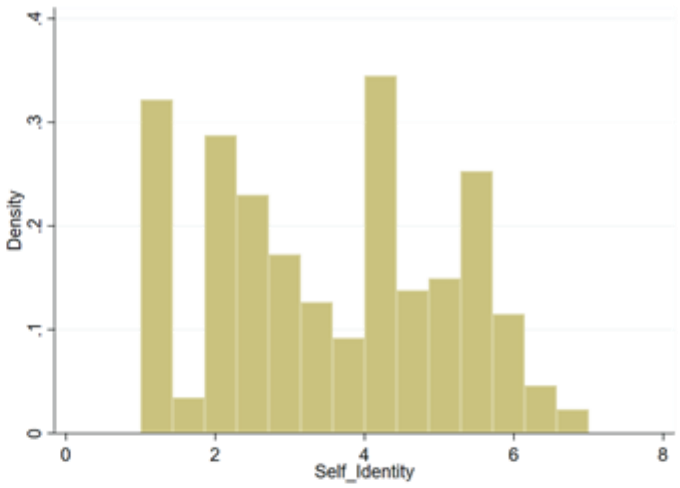


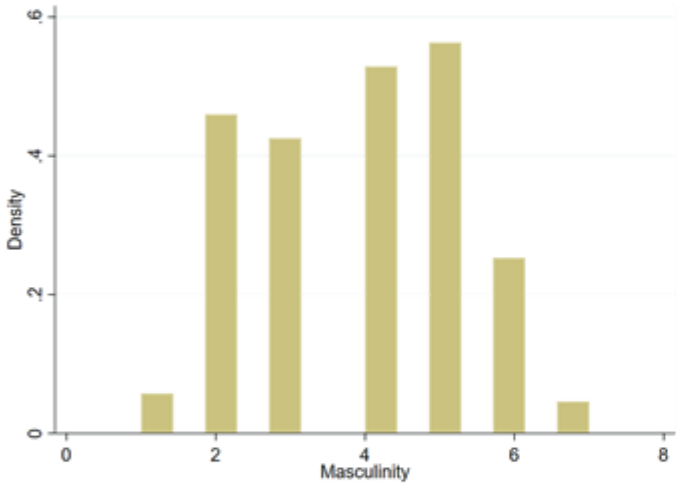


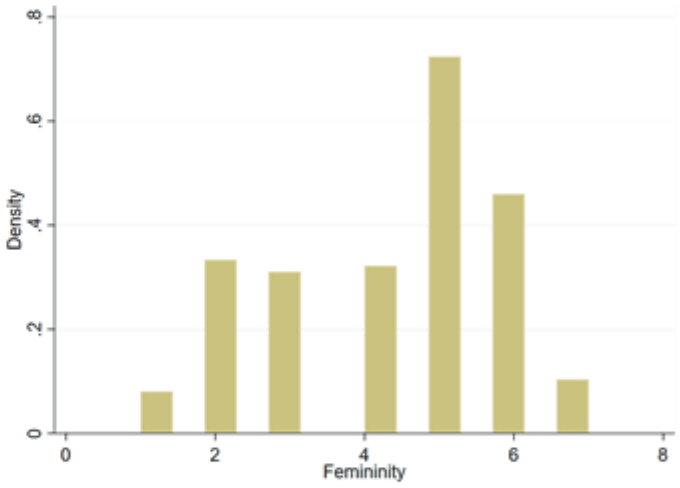


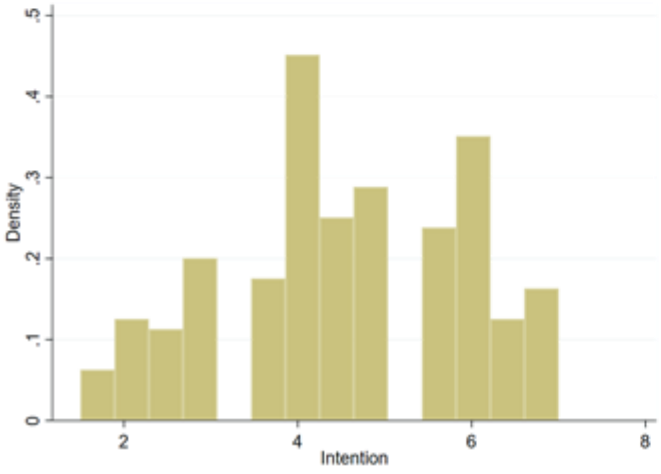


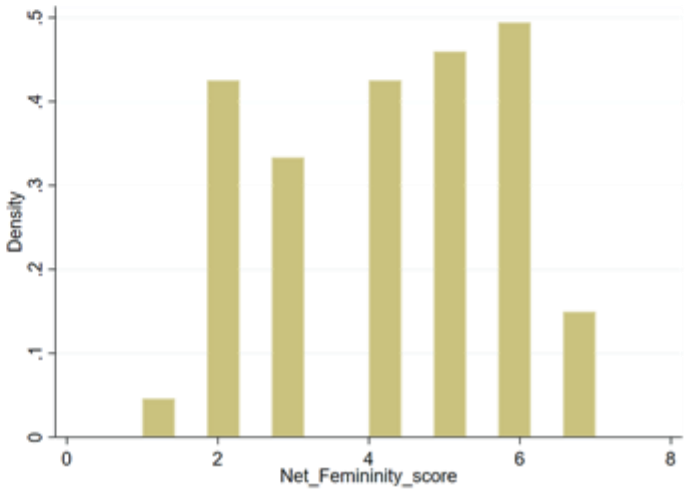

Density
0
.5
1
3
4
5
6
7
Moral_Identity


Density
0
.1
.2
.3
.4
0
2
4
6
8
Self_Identity


Density
0
.2
.4
.6
0
2
4
6
8
Masculinity


Density
0
.2
.4
.6
.8
0
2
4
6
8
Femininity


Density
0
.1
.2
.3
.4
.5
2
4
6
8
Intention


Density
0
.1
.2
.3
.4
.5
0
2
4
6
8
Net_Femininity_score

Appendix D: Data analysis

Appendix D1: Confirmatory factor analysis (CFA) for measurements of variables

```
Structural equation model                       Number of obs     =        203
     Estimation method  = ml
     Log likelihood     = -9291.3204

      ( 1)  [Att_Env1]AttitudeEnv = 1
      ( 2)  [Att_Product1]AttitudeProduct = 1
      ( 3)  [SN1]SN = 1
      ( 4)  [PBC1]PBC = 1
      ( 5)  [Self_Identity1]SelfIdentity = 1
      ( 6)  [Social_Identity1]SocialIdentity = 1
      ( 7)  [Moral_Identity1]MoralIdentity = 1
      ( 8)  [Masculinity1]Masculinity = 1
      ( 9)  [Femininity1]Feminity = 1
      (10)  [SDFemininity2]SDfem = 1
      (11)  [Intention1]Inetiontion = 1
     ------------------------------------------------------------------------------
                                  |                 OIM
                       Standardized |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
     -----------------------------+------------------------------------------------
     Measurement                  |
       Att_Env1                   |
                        AttitudeEnv |   .8381124   .0334928    25.02   0.000     .7724677    .9037571
                              _cons |   11.72068   .5859068    20.00   0.000     10.57233    12.86904
       -----------------------------+------------------------------------------------
       Att_Env2                   |
                        AttitudeEnv |   .8155932   .0347805    23.45   0.000     .7474248    .8837617
                              _cons |   13.09397    .653622    20.03   0.000     11.81289    14.37504
       -----------------------------+------------------------------------------------
       Att_Env3                   |
                        AttitudeEnv |   .6512769   .0479397    13.59   0.000     .5573168    .7452369
                              _cons |   8.581179   .4316215    19.88   0.000     7.735217    9.427142
       -----------------------------+------------------------------------------------
       Att_Product1               |
                    AttitudeProduct |   .8932717   .0222974    40.06   0.000     .8495696    .9369738
                              _cons |   5.994373   .3056629    19.61   0.000     5.395284    6.593461
       -----------------------------+------------------------------------------------
       Att_Product2               |
                    AttitudeProduct |   .8429925   .0263929    31.94   0.000     .7912634    .8947216
                              _cons |    6.81256   .3453098    19.73   0.000     6.135765    7.489355
       -----------------------------+------------------------------------------------
       Att_Product3               |
                    AttitudeProduct |   .8106488    .029557    27.43   0.000     .7527182    .8685795
       -----------------------------+------------------------------------------------
       SN1                        |
                                SN |   .7490986   .0455377    16.45   0.000     .6598462    .8383509
                              _cons |   2.395164   .1380441    17.35   0.000     2.124602    2.665725
       -----------------------------+------------------------------------------------
       SN2                        |
                                SN |   .6978405   .0478495    14.58   0.000     .6040573    .7916237
                              _cons |   2.656607   .1493628    17.79   0.000     2.363861    2.949353
       -----------------------------+------------------------------------------------
       SN3                        |
                                SN |   .7689138     .04399    17.48   0.000     .6826949    .8551327
                              _cons |   2.493678   .1422759    17.53   0.000     2.214822    2.772533
       -----------------------------+------------------------------------------------
       PBC1                       |
                               PBC |   .6312718   .0601221    10.50   0.000     .5134346    .7491091
                              _cons |   3.407754   .1831093    18.61   0.000     3.048866    3.766641
       -----------------------------+------------------------------------------------
       PBC2                       |
                               PBC |   .6333949   .0568332    11.14   0.000     .5220039    .7447859
                              _cons |   2.932407   .1615733    18.15   0.000     2.615729    3.249085
       -----------------------------+------------------------------------------------
       PBC3                       |
                               PBC |   .7003844   .0518455    13.51   0.000     .5987692    .8019997
                              _cons |   3.365642   .1811808    18.58   0.000     3.010534     3.72075
```

PBC4						
PBC	.6611046	.0574031	11.52	0.000	.5485966	.7736127
_cons	3.099055	.169061	18.33	0.000	2.767701	3.430408
Self_Identity1						
SelfIdentity	.9337481	.0149854	62.31	0.000	.9043773	.9631189
_cons	1.915529	.118168	16.21	0.000	1.683924	2.147134
Self_Identity2						
SelfIdentity	.9192196	.0160203	57.38	0.000	.8878203	.9506188
_cons	1.899	.1175091	16.16	0.000	1.668687	2.129314
Self_Identity3						
SelfIdentity	.7625447	.0321937	23.69	0.000	.6994462	.8256433
_cons	2.167201	.1284308	16.87	0.000	1.915481	2.418921
Social_Identity1						
SocialIdentity	.7504557	.0360166	20.84	0.000	.6798645	.821047
_cons	2.079592	.1248122	16.66	0.000	1.834965	2.324219
Social_Identity2						
SocialIdentity	.9140647	.0234396	39.00	0.000	.8681239	.9600055
_cons	1.726532	.1107622	15.59	0.000	1.509442	1.943622
Social_Identity3						
SocialIdentity	.7658698	.0344993	22.20	0.000	.6982525	.8334872
_cons	2.06898	.1243771	16.63	0.000	1.825206	2.312755
Moral_Identity1						
MoralIdentity	.6680944	.0763253	8.75	0.000	.5184994	.8176893
_cons	7.431655	.3754455	19.79	0.000	6.695795	8.167515
Moral_Idenity2						
MoralIdentity	.8598673	.086506	9.94	0.000	.6903187	1.029416
_cons	7.154761	.3619549	19.77	0.000	6.445343	7.86418
Masculinity1						
Masculinity	.3296244	.079803	4.13	0.000	.1732133	.4860355
_cons	3.329536	.179523	18.55	0.000	2.977677	3.681394
Masculinity2						
Masculinity	.8609398	.1065779	8.08	0.000	.6520509	1.069829
_cons	2.716369	.151986	17.87	0.000	2.418482	3.014256
Masculinity3						
Masculinity	.2784399	.0772347	3.61	0.000	.1270627	.429817
_cons	4.146024	.2174046	19.07	0.000	3.719919	4.57213
Femininity1						
Feminity	.3741358	.0698979	5.35	0.000	.2371385	.5111331
_cons	3.579979	.1910319	18.74	0.000	3.205564	3.954395
Femininity2						
Feminity	.7607355	.0631315	12.05	0.000	.637	.8844709
_cons	2.778029	.154708	17.96	0.000	2.474807	3.081251
Femininity3						
Feminity	.2410004	.0736246	3.27	0.001	.0966989	.385302
_cons	4.44327	.2314159	19.20	0.000	3.989703	4.896836
SDFemininity2						
SDfem	.8436339	.0507936	16.61	0.000	.7440802	.9431876
_cons	2.628758	.1481442	17.74	0.000	2.338401	2.919115
SDFemininity1						
SDfem	.4922166	.0625212	7.87	0.000	.3696773	.6147558
_cons	2.979841	.1636968	18.20	0.000	2.659001	3.300681

SDFemininity3						
SDfem	.2346475	.0761354	3.08	0.002	.0854248	.3838702
_cons	3.139656	.1708962	18.37	0.000	2.804706	3.474606
Intention1						
Inetiontion	.9243004	.0278569	33.18	0.000	.8697018	.9788989
_cons	3.391384	.1823593	18.60	0.000	3.033967	3.748802
Intention2						
Inetiontion	.8882679	.0289727	30.66	0.000	.8314824	.9450534
_cons	2.737798	.1529314	17.90	0.000	2.438058	3.037538
var(e.Att_Env1)	.2975677	.0561415			.205585	.4307052
var(e.Att_Env2)	.3348077	.0567334			.2401921	.4666939
var(e.Att_Env3)	.5758384	.062444			.4655821	.7122051
var(e.Att_Product1)	.2020657	.0398353			.137305	.2973709
var(e.Att_Product2)	.2893637	.044498			.2140657	.3911477
var(e.Att_Product3)	.3428485	.0479207			.2606921	.4508962
var(e.SN1)	.4388513	.0682245			.323585	.5951776
var(e.SN2)	.5130187	.0667826			.3974911	.6621234
var(e.SN3)	.4087716	.0676491			.2955373	.5653912
var(e.PBC1)	.6014959	.0759068			.4696927	.7702851
var(e.PBC2)	.5988109	.0719957			.4730955	.7579326
var(e.PBC3)	.5094616	.0726235			.385277	.6736742
var(e.PBC4)	.5629407	.0758989			.4322139	.7332069
var(e.Self_Identity1)	.1281144	.0279852			.0834954	.1965773
var(e.Self_Identity2)	.1550354	.0294524			.1068382	.2249755
var(e.Self_Identity3)	.4185255	.0490983			.3325564	.5267186
var(e.Social_Identity1)	.4368162	.0540577			.3427356	.5567219
var(e.Social_Identity2)	.1644858	.0428506			.0987142	.2740799
var(e.Social_Identity3)	.4134434	.0528439			.3218255	.5311433
var(e.Moral_Identity1)	.5536499	.1019851			.3858688	.7943846
var(e.Moral_Idenity2)	.2606283	.1487673			.0851439	.797792
var(e.Masculinity1)	.8913477	.0526101			.7939747	1.000663
var(e.Masculinity2)	.2587827	.1835143			.064463	1.038868
var(e.Masculinity3)	.9224712	.0430104			.8419094	1.010742
var(e.Femininity1)	.8600224	.0523026			.763385	.9688932
var(e.Femininity2)	.4212816	.0960527			.2694619	.658639
var(e.Femininity3)	.9419188	.0354871			.8748713	1.014105
var(e.SDFemininity2)	.2882818	.0857024			.1609778	.51626
var(e.SDFemininity1)	.7577229	.0615479			.6462037	.8884876
var(e.SDFemininity3)	.9449406	.03573			.8774431	1.01763
var(e.Intention1)	.1456688	.0514963			.0728539	.2912596
var(e.Intention2)	.2109801	.0514711			.1307919	.3403315
var(AttitudeEnv)	1	.			.	.
var(AttitudeProduct)	1	.			.	.
var(SN)	1	.			.	.
var(PBC)	1	.			.	.
var(SelfIdentity)	1	.			.	.
var(SocialIdentity)	1	.			.	.
var(MoralIdentity)	1	.			.	.
var(Masculinity)	1	.			.	.
var(Feminity)	1	.			.	.
var(SDfem)	1	.			.	.
var(Inetiontion)	1	.			.	.

```
-----------------------------------+----------------------------------------------------------------
   cov(AttitudeEnv,AttitudeProduct)|    .634419   .0543288    11.68   0.000     .5279365    .7409015
                cov(AttitudeEnv,SN)|   .2827572   .0816532     3.46   0.001     .1227198    .4427945
               cov(AttitudeEnv,PBC)|   .0172694   .0896678     0.19   0.847    -.1584762    .1930151
      cov(AttitudeEnv,SelfIdentity)|   .3285065   .0722435     4.55   0.000     .1869117    .4701012
    cov(AttitudeEnv,SocialIdentity)|   .2363907   .0778502     3.04   0.002     .0838071    .3889742
     cov(AttitudeEnv,MoralIdentity)|   .3705742   .0822204     4.51   0.000     .2094252    .5317232
       cov(AttitudeEnv,Masculinity)|  -.0146511   .0885847    -0.17   0.869     -.188274    .1589718
          cov(AttitudeEnv,Feminity)|   .1589239   .0974251     1.63   0.103    -.0320257    .3498736
             cov(AttitudeEnv,SDfem)|  -.0151866   .0897399    -0.17   0.866    -.1910736    .1607005
      cov(AttitudeEnv,Inetiontion)|   .3656769   .0716683     5.10   0.000     .2252095    .5061443
           cov(AttitudeProduct,SN)|   .2700588   .0792528     3.41   0.001     .1147261    .4253914
          cov(AttitudeProduct,PBC)|   .1877042   .0873654     2.15   0.032     .0164711    .3589372
  cov(AttitudeProduct,SelfIdentity)|   .4308316   .0643329     6.70   0.000     .3047414    .5569219
cov(AttitudeProduct,SocialIdentity)|   .3987981   .0682698     5.84   0.000     .2649918    .5326045
 cov(AttitudeProduct,MoralIdentity)|   .2083348   .0841889     2.47   0.013     .0433276    .3733419
   cov(AttitudeProduct,Masculinity)|  -.1085118   .0861307    -1.26   0.208    -.2773248    .0603012
      cov(AttitudeProduct,Feminity)|   .2464317   .0925047     2.66   0.008     .0651258    .4277375
         cov(AttitudeProduct,SDfem)|   .1826285   .0854646     2.14   0.033     .0151211     .350136
   cov(AttitudeProduct,Inetiontion)|   .5195204   .0606866     8.56   0.000     .4005769     .638464
                       cov(SN,PBC)|   .1699059   .0894991     1.90   0.058    -.0055091    .3453209
              cov(SN,SelfIdentity)|   .5483969   .0615891     8.90   0.000     .4276845    .6691094
            cov(SN,SocialIdentity)|   .4374231   .0714056     6.13   0.000     .2974707    .5773754
             cov(SN,MoralIdentity)|   .3148865   .0841279     3.74   0.000     .1499988    .4797742
               cov(SN,Masculinity)|  -.1032645   .0912796    -1.13   0.258    -.2821693    .0756402
                  cov(SN,Feminity)|   .1937617   .0997516     1.94   0.052    -.0017478    .3892712
                     cov(SN,SDfem)|   .1919716   .0909979     2.11   0.035     .0136189    .3703243
              cov(SN,Inetiontion)|   .4278562   .0710851     6.02   0.000      .288532    .5671805
             cov(PBC,SelfIdentity)|   .0413137   .0844361     0.49   0.625    -.1241779    .2068054
           cov(PBC,SocialIdentity)|   .0117136   .0874867     0.13   0.893    -.1597573    .1831844
            cov(PBC,MoralIdentity)|   .0907677   .0946803     0.96   0.338    -.0948022    .2763376
              cov(PBC,Masculinity)|   .1340258   .0920415     1.46   0.145    -.0463722    .3144238
                 cov(PBC,Feminity)|  -.2182871   .1007822    -2.17   0.030    -.4158165   -.0207577
                    cov(PBC,SDfem)|  -.0728375    .094278    -0.77   0.440     -.257619     .111944
             cov(PBC,Inetiontion)|   .4028532   .0784234     5.14   0.000     .2491462    .5565602
  cov(SelfIdentity,SocialIdentity)|   .7483852   .0393296    19.03   0.000     .6713007    .8254698
   cov(SelfIdentity,MoralIdentity)|   .3193051    .084698     3.77   0.000        .1533    .4853102
     cov(SelfIdentity,Masculinity)|  -.0575004   .0844685    -0.68   0.496    -.2230556    .1080547
        cov(SelfIdentity,Feminity)|   .3614817   .0874159     4.14   0.000     .1901497    .5328137
           cov(SelfIdentity,SDfem)|   .2186963   .0815619     2.68   0.007     .0588378    .3785548
    cov(SelfIdentity,Inetiontion)|   .5141174   .0584948     8.79   0.000     .3994697    .6287652
 cov(SocialIdentity,MoralIdentity)|   .2244238   .0836424     2.68   0.007     .0604876     .38836
   cov(SocialIdentity,Masculinity)|  -.1058074   .0863455    -1.23   0.220    -.2750415    .0634266
      cov(SocialIdentity,Feminity)|   .3284601   .0898657     3.66   0.000     .1523265    .5045937
         cov(SocialIdentity,SDfem)|   .1947288   .0843687     2.31   0.021     .0293692    .3600884
   cov(SocialIdentity,Inetiontion)|   .4824411   .0628858     7.67   0.000     .3591871     .605695
    cov(MoralIdentity,Masculinity)|  -.0330417   .0913847    -0.36   0.718    -.2121525    .1460691
       cov(MoralIdentity,Feminity)|   .3389814   .0998165     3.40   0.001     .1433447    .5346182
          cov(MoralIdentity,SDfem)|   .2138057   .0911457     2.35   0.019     .0351634    .3924481
    cov(MoralIdentity,Inetiontion)|   .2060398   .0810888     2.54   0.011     .0471087    .3649708
         cov(Masculinity,Feminity)|  -.6961727    .090768    -7.67   0.000    -.8740746   -.5182707
            cov(Masculinity,SDfem)|  -.8531106     .12193    -7.00   0.000    -1.092089   -.6141321
      cov(Masculinity,Inetiontion)|   .1355612   .0892717     1.52   0.129    -.0394081    .3105304
                 cov(Feminity,SDfem)|   1.087679   .0977808    11.12   0.000     .8960322    1.279326
         cov(Feminity,Inetiontion)|   .0792816   .0945191     0.84   0.402    -.1059724    .2645356
            cov(SDfem,Inetiontion)|   .0098711   .0859321     0.11   0.909    -.1585526    .1782949
-------------------------------------------------------------------------------------------------

  LR test of model vs. saturated: chi2(409) =    794.48, Prob > chi2 = 0.0000

 9 .
10 . translate @Results FactorAll.txt
```

Appendix D2: Harman's single factor test

Total Variance Explained

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	7.678	23.268	23.268	7.046	21.350	21.350
2	3.312	10.038	33.306			
3	2.696	8.169	41.475			
4	2.380	7.213	48.688			
5	1.801	5.457	54.144			
6	1.614	4.892	59.036			
7	1.351	4.094	63.130			
8	1.166	3.535	66.665			
9	1.069	3.241	69.905			
10	.951	2.882	72.787			
11	.913	2.767	75.554			
12	.770	2.332	77.887			
13	.678	2.054	79.941			
14	.653	1.980	81.921			
15	.560	1.697	83.619			
16	.540	1.636	85.255			
17	.517	1.568	86.822			
18	.499	1.511	88.333			
19	.437	1.325	89.658			
20	.424	1.286	90.944			
21	.342	1.036	91.980			
22	.334	1.011	92.991			
23	.299	.905	93.896			
24	.288	.873	94.769			
25	.261	.791	95.560			
26	.250	.758	96.319			
27	.222	.672	96.991			
28	.217	.657	97.648			
29	.199	.604	98.252			
30	.178	.538	98.790			
31	.170	.515	99.305			
32	.122	.371	99.675			
33	.107	.325	100.000			

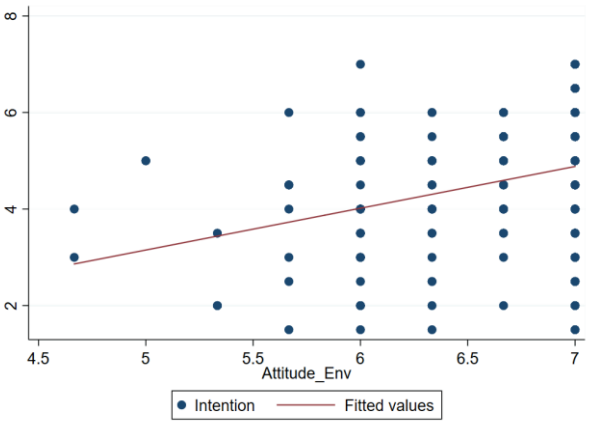
Extraction Method: Principal Axis Factoring.

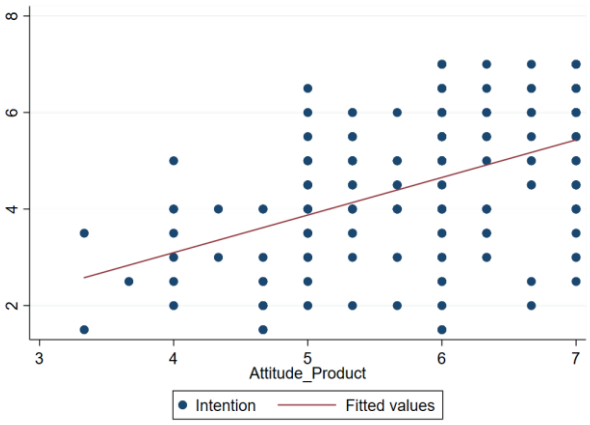
Appendix D3: Goodness-of-fit results

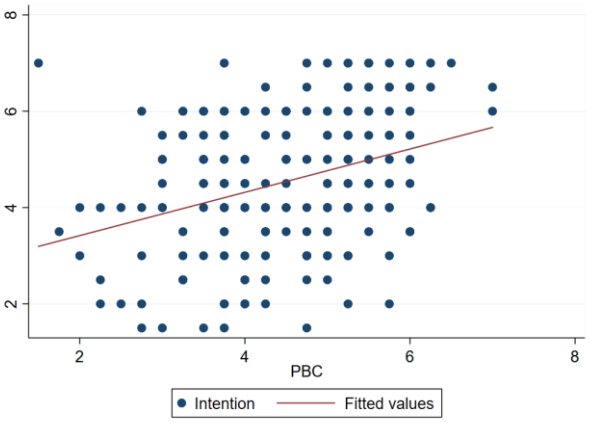
```
. estat gof, stats(all)
```

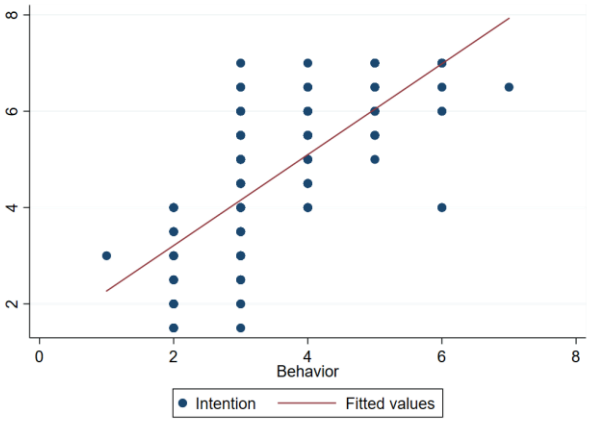
Fit statistic	Value	Description
Likelihood ratio		
chi2_ms(409)	794.485	model vs. saturated
p > chi2	0.000	
chi2_bs(496)	3570.634	baseline vs. saturated
p > chi2	0.000	
Population error		
RMSEA	0.068	Root mean squared error of approximation
90% CI, lower bound	0.061	
upper bound	0.075	
pclose	0.000	Probability RMSEA <= 0.05
Information criteria		
AIC	18884.641	Akaike's information criterion
BIC	19384.935	Bayesian information criterion
Baseline comparison		
CFI	0.875	Comparative fit index
TLI	0.848	Tucker-Lewis index
Size of residuals		
SRMR	0.070	Standardized root mean squared residual
CD	1.000	Coefficient of determination

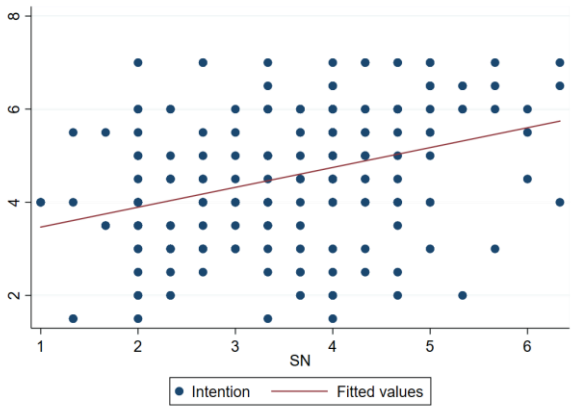
Appendix D4: Scatter plot of independent and dependent variables

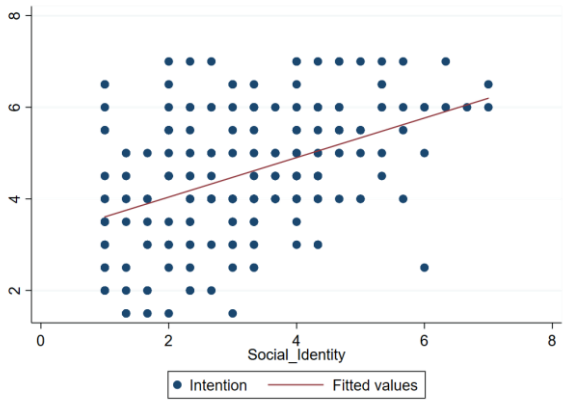


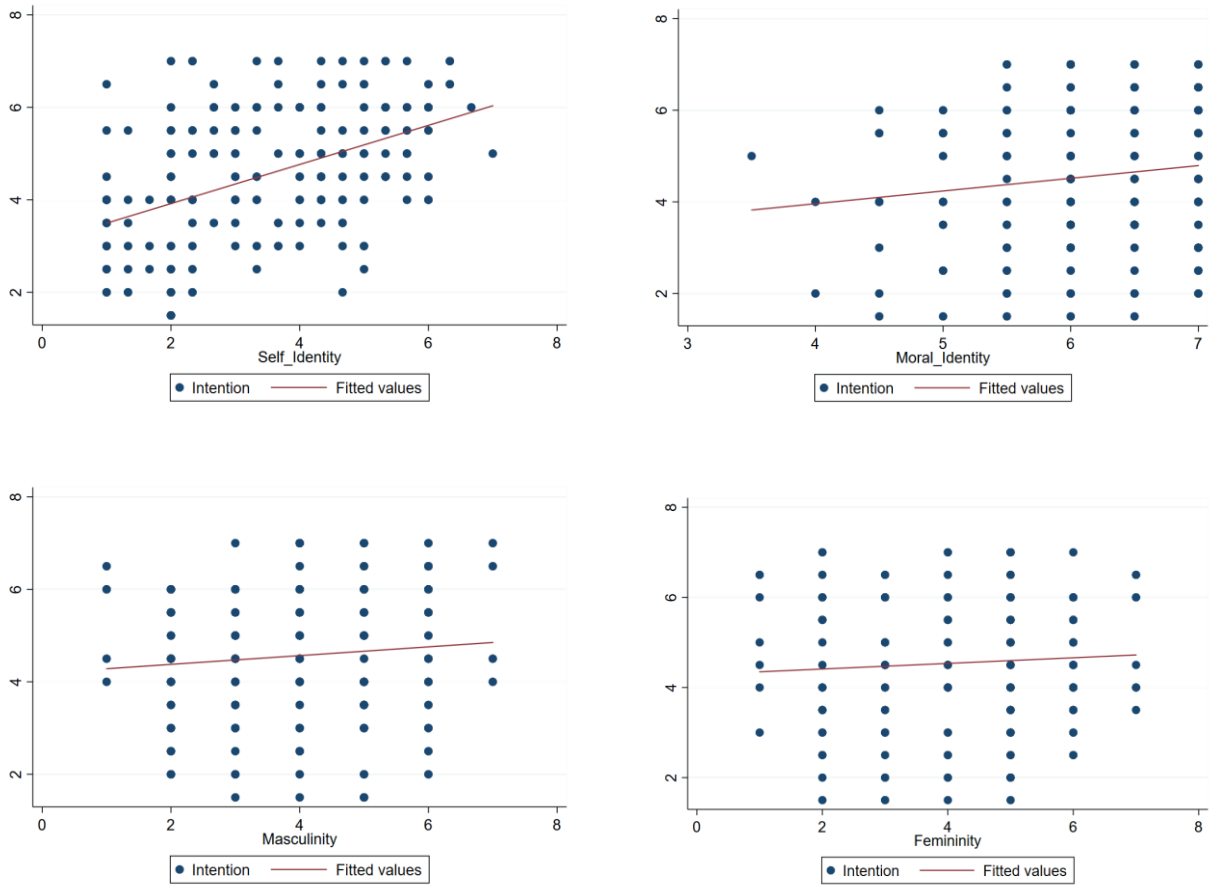




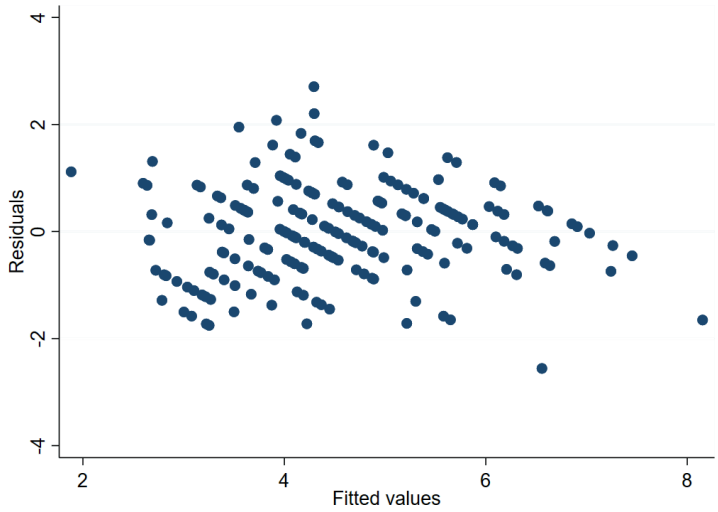








Appendix D5: Scatter plot of residuals and fitted value



Appendix D6: Breusch-Pagan test

```
Breusch-Pagan / Cook-Weisberg test for heteroskedasticity
         Ho: Constant variance
         Variables: fitted values of u_hat2

         F(1 , 201)    =      4.72
         Prob > F      =    0.0310
```

Appendix D7: Regression between residuals and fitted value

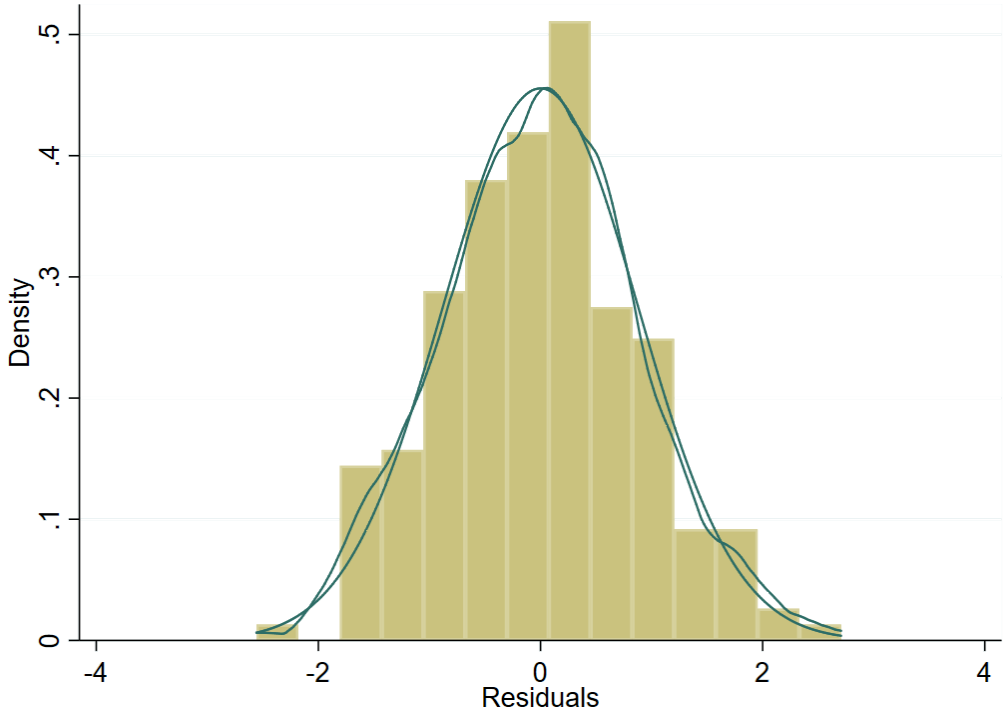
```
26 . reg Intention Attitude_Env Attitude_Product PBC Behavior SN Social_Identity Self_Identity Moral_Identity Masculinity Femininity

27 .  predict y, xb

28 . predict u_hat, residuals

29 .  gen u_hat2= u_hat^2

32 . reg u_hat2 Attitude_Env Attitude_Product PBC Behavior SN Social_Identity Self_Identity Moral_Identity Masculinity Femininity

      Source |       SS           df       MS      Number of obs   =       203
-------------+----------------------------------   F(10, 192)      =      1.14
       Model |  13.7851793        10  1.37851793   Prob > F        =    0.3371
    Residual |  232.923953       192  1.21314559   R-squared       =    0.0559
-------------+----------------------------------   Adj R-squared   =    0.0067
       Total |  246.709132       202  1.22133234   Root MSE        =    1.1014

------------------------------------------------------------------------------
      u_hat2 |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
  Attitude_Env |  -.0387386   .1883185    -0.21   0.837    -.4101773    .3327001
Attitude_Product |  -.0245326   .1186486    -0.21   0.836    -.2585547    .2094895
         PBC |  -.2007289   .0776169    -2.59   0.010    -.3538201   -.0476376
    Behavior |  -.0064738   .0903902    -0.07   0.943    -.1847592    .1718115
          SN |   .1013339   .0782306     1.30   0.197    -.0529678    .2556356
Social_Identity |   .0070099   .0761738     0.09   0.927     -.143235    .1572548
  Self_Identity |  -.0711054   .0722452    -0.98   0.326    -.2136015    .0713908
Moral_Identity |  -.0742197   .1136324    -0.65   0.514    -.2983477    .1499084
   Masculinity |   .0611803   .0643438     0.95   0.343    -.0657312    .1880917
   Femininity |   .0188704   .0619752     0.30   0.761    -.1033692    .1411101
        _cons |   2.099952   1.186024     1.77   0.078    -.2393583    4.439262
------------------------------------------------------------------------------

33 . test Attitude_Env Attitude_Product PBC Behavior SN Social_Identity Self_Identity Moral_Identity Masculinity Femininity

 ( 1)  Attitude_Env = 0
 ( 2)  Attitude_Product = 0
 ( 3)  PBC = 0
 ( 4)  Behavior = 0
 ( 5)  SN = 0
 ( 6)  Social_Identity = 0
 ( 7)  Self_Identity = 0
 ( 8)  Moral_Identity = 0
 ( 9)  Masculinity = 0
 (10)  Femininity = 0

       F( 10,   192) =    1.14
            Prob > F =    0.3371
```

Appendix D8: Variance Inflation Factor (VIF) results

```
. vif
```

Variable	VIF	1/VIF
Self_Ident~y	2.23	0.447487
Social_Ide~y	1.99	0.501591
Attitude_P~t	1.79	0.558768
Behavior	1.64	0.609611
Attitude_Env	1.60	0.625580
Femininity	1.55	0.644820
SN	1.42	0.706058
Masculinity	1.40	0.712240
Moral_Iden~y	1.21	0.828819
PBC	1.15	0.868361
Mean VIF	1.60	

Appendix D9: Histogram of residuals



Appendix D10: Jarque-Bera test

```
. jb resid
Jarque-Bera normality test:   .3499 Chi(2)   .8395
Jarque-Bera test for Ho: normality:
```

Appendix D11: Result of OLS Multiple Regression

Model 1 *– not including masculinity-femininity domain*

Source	SS	df	MS	Number of obs	=	203
				F(7, 195)	=	20.99
Model	176.571579	7	25.2245113	Prob > F	=	0.0000
Residual	234.332362	195	1.20170442	R-squared	=	0.4297
				Adj R-squared	=	0.4092
Total	410.903941	202	2.03417793	Root MSE	=	1.0962

Intention	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
Attitude_Env	.1762218	.1866168	0.94	0.346	-.1918245	.5442681
Attitude_Product	.379721	.115858	3.28	0.001	.1512254	.6082166
PBC	.3762772	.0740355	5.08	0.000	.230264	.5222904
SN	.1223086	.0759778	1.61	0.109	-.0275352	.2721524
Social_Identity	.1834658	.0725858	2.53	0.012	.0403119	.3266198
Self_Identity	.1745045	.0710961	2.45	0.015	.0342884	.3147205
Moral_Identity	-.0821317	.1117522	-0.73	0.463	-.3025299	.1382664
_cons	-1.672541	1.122227	-1.49	0.138	-3.885802	.5407195

Model 2 *– including just measurement of masculinity-femininity (two-dimension)*

Source	SS	df	MS	Number of obs	=	203
				F(9, 193)	=	17.33
Model	183.647408	9	20.4052676	Prob > F	=	0.0000
Residual	227.256533	193	1.17749499	R-squared	=	0.4469
				Adj R-squared	=	0.4211
Total	410.903941	202	2.03417793	Root MSE	=	1.0851

Intention	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
Attitude_Env	.1500798	.1854906	0.81	0.419	-.2157692	.5159288
Attitude_Product	.3998337	.1154593	3.46	0.001	.1721096	.6275578
PBC	.3579178	.0745766	4.80	0.000	.210828	.5050077
SN	.1319686	.0753161	1.75	0.081	-.0165798	.2805171
Social_Identity	.1912164	.0720388	2.65	0.009	.0491321	.3333007
Self_Identity	.1683219	.0709766	2.37	0.019	.0283325	.3083113
Moral_Identity	-.0873181	.1118995	-0.78	0.436	-.3080211	.1333848
Masculinity	.1478571	.0632583	2.34	0.020	.0230908	.2726234
Femininity	.0334276	.0610087	0.55	0.584	-.0869018	.1537571
_cons	-2.255941	1.166109	-1.93	0.055	-4.555894	.0440121

Model 3 *– including interaction between masculinity-femininity and variables*

Source	SS	df	MS	Number of obs	=	203
				F(16, 186)	=	10.61
Model	196.087523	16	12.2554702	Prob > F	=	0.0000
Residual	214.816418	186	1.15492698	R-squared	=	0.4772
				Adj R-squared	=	0.4322
Total	410.903941	202	2.03417793	Root MSE	=	1.0747

Intention	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
Attitude_Env	.0271227	.1900435	0.14	0.887	-.3477952	.4020405
Attitude_Product	.4429619	.1167371	3.79	0.000	.2126629	.6732608
PBC	.3296447	.0755408	4.36	0.000	.1806179	.4786716
SN	-.9946732	.4383317	-2.27	0.024	-1.859414	-.1299323
Social_Identity	.2692789	.3977572	0.68	0.499	-.5154166	1.053974
Self_Identity	.543424	.4300903	1.26	0.208	-.3050581	1.391906
Moral_Identity	.112974	.3196224	0.35	0.724	-.5175772	.7435251
Masculinity	-.2077269	.2327784	-0.89	0.373	-.6669521	.2514983
Femininity	.0176671	.4639706	0.04	0.970	-.897654	.9329883
Fem_SN	.0992221	.0586734	1.69	0.092	-.0165288	.214973
Fem_SelfIdentity	-.0330241	.0585008	-0.56	0.573	-.1484344	.0823863
Fem_SocialIdentity	.0025363	.0568475	0.04	0.964	-.1096125	.1146851
Fem_MoralIdentity	-.0388945	.0719764	-0.54	0.590	-.1808896	.1031006
Mas_SN	.1741203	.059739	2.91	0.004	.0562672	.2919734
Mas_SelfIdentity	-.0590518	.0556765	-1.06	0.290	-.1688905	.0507869
Mas_SocialIdentity	-.0191686	.052406	-0.37	0.715	-.1225552	.084218
_cons	-.2856059	2.666786	-0.11	0.915	-5.546641	4.975429

Model 4 *– including past behaviour*

Source	SS	df	MS	Number of obs	=	203
				F(17, 185)	=	21.08
Model	271.006261	17	15.9415447	Prob > F	=	0.0000
Residual	139.89768	185	.756203678	R-squared	=	0.6595
				Adj R-squared	=	0.6283
Total	410.903941	202	2.03417793	Root MSE	=	.8696

Intention	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
Attitude_Env	.0065943	.1537922	0.04	0.966	-.2968177	.3100063
Attitude_Product	.2932348	.0956509	3.07	0.002	.1045279	.4819416
PBC	.2052585	.06239	3.29	0.001	.0821711	.3283459
Behavior	.7248617	.0728248	9.95	0.000	.5811878	.8685355
SN	-.8082854	.3551808	-2.28	0.024	-1.509011	-.1075599
Social_Identity	.4563919	.3224035	1.42	0.159	-.1796683	1.092452
Self_Identity	.394875	.3483379	1.13	0.258	-.2923504	1.0821
Moral_Identity	.0101552	.2588365	0.04	0.969	-.5004955	.5208059
Masculinity	.0192955	.1897342	0.10	0.919	-.3550254	.3936164
Femininity	.1348747	.3756177	0.36	0.720	-.6061702	.8759196
Fem_SN	.048781	.0477467	1.02	0.308	-.0454171	.142979
Fem_SelfIdentity	-.0183523	.0473603	-0.39	0.699	-.111788	.0750834
Fem_SocialIdentity	-.0241766	.0460778	-0.52	0.600	-.1150821	.0667289
Fem_MoralIdentity	-.020777	.0582699	-0.36	0.722	-.135736	.0941819
Mas_SN	.1470776	.0484156	3.04	0.003	.05156	.2425952
Mas_SelfIdentity	-.0484489	.0450646	-1.08	0.284	-.1373555	.0404578
Mas_SocialIdentity	-.0840991	.0429044	-1.96	0.051	-.1687439	.0005458
_cons	-1.216331	2.15992	-0.56	0.574	-5.477572	3.044909

Model 5 *– including just measurement of masculinity-femininity (one-dimension)*

Source	SS	df	MS	Number of obs	=	203
				F(8, 194)	=	18.78
Model	179.331523	8	22.4164404	Prob > F	=	0.0000
Residual	231.572418	194	1.19367226	R-squared	=	0.4364
				Adj R-squared	=	0.4132
Total	410.903941	202	2.03417793	Root MSE	=	1.0926

Intention	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
Attitude_Env	.1171069	.1900117	0.62	0.538	-.2576469	.4918608
Attitude_Product	.4072141	.1168772	3.48	0.001	.1767011	.6377272
PBC	.3626169	.0743326	4.88	0.000	.2160132	.5092206
SN	.1286554	.0758384	1.70	0.091	-.0209183	.2782291
Social_Identity	.1841294	.0723441	2.55	0.012	.0414474	.3268113
Self_Identity	.1829214	.071074	2.57	0.011	.0427444	.3230983
Moral_Identity	-.056034	.1126927	-0.50	0.620	-.2782942	.1662262
Net_Femininity_score	-.0762036	.050115	-1.52	0.130	-.1750437	.0226366
_cons	-1.271581	1.149134	-1.11	0.270	-3.53798	.9948187

Model 6 *– including interaction between masculinity-femininity and variables*

Source	SS	df	MS	Number of obs	=	203
				F(12, 190)	=	12.33
Model	179.890687	12	14.9908906	Prob > F	=	0.0000
Residual	231.013254	190	1.21585923	R-squared	=	0.4378
				Adj R-squared	=	0.4023
Total	410.903941	202	2.03417793	Root MSE	=	1.1027

Intention	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
Attitude_Env	.1217348	.1935741	0.63	0.530	-.2600955	.5035651
Attitude_Product	.4020773	.1194547	3.37	0.001	.1664497	.637705
PBC	.3628491	.075597	4.80	0.000	.2137318	.5119664
SN	.2282988	.2036009	1.12	0.264	-.1733097	.6299072
Social_Identity	.1113215	.2068283	0.54	0.591	-.2966533	.5192962
Self_Identity	.1624643	.2008698	0.81	0.420	-.2337571	.5586856
Moral_Identity	-.0976841	.28088	-0.35	0.728	-.6517279	.4563596
Net_Femininity_score	-.1275857	.4064076	-0.31	0.754	-.929236	.6740647
SDFem_SN	-.0240479	.0466832	-0.52	0.607	-.1161317	.068036
SDFem_SelfIdentity	.0038754	.0445053	0.09	0.931	-.0839124	.0916633
SD_SocialIdentity	.0171565	.0462008	0.37	0.711	-.073976	.108289
SDFem_MoralIdentity	.0113432	.0656869	0.17	0.863	-.1182261	.1409125
_cons	-1.07676	1.962054	-0.55	0.584	-4.946967	2.793448

***Model 7** – including past behaviour*

Source	SS	df	MS	Number of obs	=	203
				F(13, 189)	=	23.88
Model	255.42798	13	19.6483062	Prob > F	=	0.0000
Residual	155.475961	189	.822624132	R-squared	=	0.6216
				Adj R-squared	=	0.5956
Total	410.903941	202	2.03417793	Root MSE	=	.90699

Intention	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
Attitude_Env	.1166943	.159224	0.73	0.465	-.1973902	.4307789
Attitude_Product	.2455582	.0996051	2.47	0.015	.0490777	.4420386
PBC	.2237242	.0638543	3.50	0.001	.0977655	.3496829
Behavior	.7161079	.0747306	9.58	0.000	.5686947	.8635211
SN	.198581	.1674994	1.19	0.237	-.1318274	.5289894
Social_Identity	-.1309702	.1719941	-0.76	0.447	-.4702449	.2083044
Self_Identity	.0550218	.1656042	0.33	0.740	-.2716483	.3816919
Moral_Identity	-.0700226	.2310542	-0.30	0.762	-.5257989	.3857537
Net_Femininity_score	-.0207465	.3344739	-0.06	0.951	-.6805282	.6390351
SDFem_SN	-.0477815	.0384788	-1.24	0.216	-.1236844	.0281215
SDFem_SelfIdentity	.0179694	.0366371	0.49	0.624	-.0543007	.0902394
SD_SocialIdentity	.0349596	.0380476	0.92	0.359	-.0400929	.1100121
SDFem_MoralIdentity	-.003544	.0540527	-0.07	0.948	-.1101681	.1030801
_cons	-1.023817	1.613885	-0.63	0.527	-4.207359	2.159725