Do we walk the talk?

Analysing Sustainable Consumer Behaviour and Investment Decisions Through the Lens of the Theory of Planned Behaviour

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ABSTRACT

Title: "Do we walk the talk? Analysing Sustainable Consumer Behaviour and Investment Decisions through the Lens of the Theory of Planned Behaviour"

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This thesis examines the relationship between sustainable consumer behaviour and sustainable investment behaviour, exploring whether individuals who show sustainable consumption habits also extend these behaviours to their investment choices. To examines this relationship, the study applies the Theory of Planned Behaviour (TPB), studying the mediating effects of TPB components and the moderating influences of expected returns and willingness to waive return. The research questions and hypotheses were developed based on the literature review. Quantitative research via an online survey and SPSS analysis were used to explore the relationship. The findings reveal that sustainable consumer behaviour significantly influences sustainable investment behaviour and intentions. The TPB components mediate this relationship, with Subjective Norm having the strongest influence. The study verifies the applicability of the TPB in explaining the link between sustainable consumer behaviour and investment choices. Additionally, it exposes the absence of a gap between sustainable investment intentions and actions. These results have implications for companies and investment advisors, suggesting targeted marketing to sustainable consumers and the development of specialized sustainable investment products. The study also contributes to academic research by improving our understanding of the TPB in the context of sustainable investments and shedding light on potential future research directions. Overall, this research underscores the potential impact of sustainable consumers in shaping a more sustainable financial future.

Keywords: Sustainable Consumer Behaviour, Sustainable Investment Behaviour, Theory of Planned Behaviour (TPB), Sustainable Financial Future, Intention Action Gap

SUMÁRIO

Título: "Cumprimos o que dizemos? Analisando o Comportamento Sustentável do Consumidor e Decisões de Investimento Através da Ótica da Teoria do Comportamento Planejado"

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Esta tese investiga a relação entre o comportamento do consumidor sustentável e o comportamento de investimento sustentável, investigando se indivíduos que exibem hábitos de consumo sustentável também estendem esses comportamentos às suas escolhas de investimento. O estudo utiliza a Teoria do Comportamento Planeado (TPB) para investigar essa conexão, examinando os efeitos mediadores dos componentes da TPB e as influências moderadoras dos retornos esperados e da disposição para renunciar ao retorno. As perguntas de pesquisa e as hipóteses foram desenvolvidas com base na revisão da literatura. Pesquisa quantitativa por meio de um questionário online e análise pelo SPSS foram utilizados para explorar a relação. Os resultados revelam que o comportamento do consumidor sustentável influencia significativamente o comportamento e as intenções de investimento sustentável. Os componentes da TPB mediam essa relação, com a Norma Subjetiva exercendo a influência mais forte. O estudo confirma a adequação da TPB para explicar a interação entre o comportamento do consumidor sustentável e as escolhas de investimento. Além disso, expõe a ausência de uma lacuna entre as intenções e ações de investimento sustentável. Estes resultados têm implicações importantes para empresas e consultores de investimento, sugerindo marketing direcionado para consumidores sustentáveis e o desenvolvimento de produtos de investimento sustentável especializados. O estudo também contribui para a investigação acadêmica, melhorando a compreensão da TPB no contexto de investimentos sustentáveis e lançando luz sobre possíveis futuros caminhos de investigação. No geral, esta investigação destaca o impacto potencial dos consumidores sustentáveis na formação de um futuro financeiro mais sustentável.

Palavras-chave: Comportamento Sustentável do Consumidor, Comportamento de Investimento Sustentável, Teoria do Comportamento Planeado (TPB), Futuro Financeiro Sustentável, Lacuna entre Intenção e Ação.

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Table of Contents

TABLE OF FIGURES

TABLE OF TABLES

TABLE OF APPENDICES

GLOSSARY

DACH	Deutschland, Österreich, Schweiz (Germany, Austria, Switzerland)
EMCB	Ethically Minded Consumer Behaviour
ESG	Environmental, Social, and Corporate Governance
GenZ	Generation Z
GIIN	Global Impact Investing Network
PBC	Perceived Behavioural Control
PRI	Principles for Responsible Investment
PwC	PricewaterhouseCoopers
SCB	Sustainable Consumer Behaviour
SIA	Sustainable Investment Action
SII	Sustainable Investment Intention
SN	Subjective Norm
SRI	Socially Responsible Investment
TPB	Theory of Planned Behaviour

CHAPTER 1: INTRODUCTION

1.1 Background

The concept of sustainability has gained prominence, especially during crises like the Covid-19 pandemic. Ensuring a safe environment for future generations requires sustainable behaviour (do Paço & Laurett, 2018). Sustainability is now a driving force, even in finance, with companies incorporating it into strategies for cost savings (Henisz et al., 2019). Sustainable energy consumption is a prime example, where eco-friendly practices lead to resource savings (Zhang et al., 2022). Consumers also value sustainability and demonstrate that in their purchasing behaviour (McKinsey & Company, 2023).

In addition, the EU has developed integrated rules to ensure progress towards its 2030 climate and energy targets, as well as its international commitments under the Paris Agreement (European Council, 2014). Incorporating sustainability into investment advice for retail investors is one of the ten points of the EU's action plan on financing sustainable growth (European Union, 2021). Furthermore, user-friendly digital tools like Neo Broker apps provide easier access to investment opportunities, especially for younger individuals (Frölich & Lembach, 2021).

However, translating intentions to actions, especially in the realm of sustainability, remains a challenge (White, Hardisty, et al., 2019). This study examines whether those identifying as sustainable consumers extend this to their investment choices. Additionally, the study seeks to uncover factors influencing consumer sustainable investment behaviour with the help of the concept of the Theory of Planned Behaviour. Identifying individuals who genuinely express an interest in sustainable investments allows for precise investment product placement.

1.2 Previous Studies

Previous studies have explored the relationship between investment and non-investment behaviours in the context of charitable giving (Riedl and Smeets, 2017), political orientation (Gutsche and Ziegler, 2019; Hong & Kostovetsky, 2012), and religious activity (Gutsche, 2017). The relationship between sustainable consumer behaviour and investment behaviour reveals a gap in literature. A study by Brunen & Laubach (2021) examines how sustainable consumers choose between conventional and sustainable investment portfolios managed by Robo Advisors to close this gap. The study finds that those who embrace sustainable

consumption tend to lean towards sustainable investments, despite potential higher costs. By effectively targeting sustainable consumers and placing ads in online stores for sustainable products, firms could expand their base of sustainable retail clients. The study concludes that its findings extend beyond Robo Advisor to broader sustainable investment decisions, suggesting that individuals inclined towards sustainable consumption are more likely to favour sustainable investments. Overall, the study connects sustainable consumption habits with investment preferences, calling for further research to comprehend the wider implications of sustainable investing in financial markets (Brunen & Laubach, 2021).

1.3 Problem Statement

Based on the suggestions of the study of Brunen & Laubach (2021) to further investigate the relationship, the main objective of this study is to further examine the relationship between sustainable consumer behaviour and sustainable investment behaviour. The Theory of Planned Behaviour will be employed as a potential explanatory framework to predict whether the investment behaviour of sustainable consumers can be anticipated. Besides the mediating role of the TPB, the potential moderating effects of expected returns and willingness to waive return will be studied. In addition, an analysis related to the use of Neo Brokers as an alternative and easily accessible investment tool with a growing market is conducted.

RQ1: Is there a link between Sustainable Consumer Behaviour and Sustainable Investment Behaviour?

RQ2: Is the Theory of Planned Behaviour a proper framework to explain the relationship between Sustainable Consumer Behaviour and Sustainable Investment Behaviour?

RQ3: Is there a gap between Sustainable Investment Intention and Sustainable Investment Action?

1.4 Relevance

The interplay between consumption and investment in sustainability deserves examination, as their positive correlation could benefit the economy in the long term. Higher demand for sustainable goods prompts investments and encourages companies to adopt eco-friendly practices. Investing in such companies can amplify sustainable product output. Directing resources to firms prioritizing environmental protection, social responsibility, and good

governance empowers them to expand their sustainability initiatives, promoting economic and growth-oriented sustainability. Furthermore, the insight into who is genuinely willing to invest sustainably can be utilized to strategically position sustainable investment products in the market.

Additionally, private investors should recognize the substantial impact they can collectively have on driving fundamental changes. By embracing sustainability and making conscientious choices in their consumption and investment decisions, they have the potential to initiate substantial shifts in the long term (Tan, 2022).

1.5 Research Methods

Based on the literature conducted the research questions and hypotheses were developed to address gaps in the research and to be consistent with the existing theories. Based on the results quantitative research was used to test the relationship in the proposed model. The targeted sample in this research are individuals living in the DACH area, over the age of 18 and regardless of their sex. The data was collected through an online survey between July 25 and August 21, 2023, and statistically analysed using SPSS. The Process macro developed by Andrew F. Hayes was used to test the developed hypotheses about the mediating and moderating effect of specific variables.

1.6 Dissertation Outline

Chapter 2 will provide an overview of the concepts used in this study. The terms sustainable consumer and sustainable investors will be defined. Followed by the exploration of sustainable consumer and investment behaviour. After that the concept of the Theory of Planned Behaviour and its application in the field of sustainability will be reviewed. Additionally, the intention-action gap will be addressed. Based on the findings of the preliminary research, the hypotheses are defined. Chapter 3 describes the methodology used, illustrating how the data has been collected, how the measures have been defined, and data has been analysed. In the following chapter, the results of the data analyses and the hypotheses testing is shown. The thesis concludes with a summary of the results, managerial and academic implications, limitations, and directions for future research.

CHAPTER 2: LITERATURE REVIEW AND CONCEPTUAL FRAMEWORK

2.1 Sustainable Consumer

2.1.1 Sustainable Consumer Definition

The concept of a "sustainable consumer" is a complex notion that lacks a one-size-fits-all definition due to the diverse aims and perspectives embedded within it. There are several pivotal terms that illuminate different facets of this dynamic landscape:

Embedded within the United Nations' Sustainable Development Goal 12, sustainable consumption emerges as a central objective. It encompasses a commitment to scaling down resource consumption, reducing environmental footprints, and fostering energy efficiency and sustainable infrastructure (The Global Goals, 2022). Moreover, the Oslo symposium sheds light on sustainable consumption as a conscious utilization of goods and services that fulfil basic needs while simultaneously limiting the exploitation of natural resources, hazardous substances, and waste emissions across product lifecycles. This conscientious approach safeguards the interests and legacy of future generations (Sylvi Ofstad et al., 1994).

Another layer of the sustainable consumer is "green consumption," where individuals make thoughtful choices to patronize products and services with minimal negative impact on the environment, integrating eco-friendly practices into their decisions, to promote to sustainable development and ecological preservation (Haws et al., 2014). Ethical consumption involves and emphasises personal health, the environment, and social values driven by individuals' morals, shaping consumption choices in alignment with wider contexts (Ghali, 2021).

These diverse terms collectively reflect a common theme: the importance to go beyond traditional consumerism by embracing environmental, social, and moral dimensions when it comes to purchase decisions.

2.1.2 Sustainable Consumer Behaviour

Today, sustainability has gained prominence in society. However, sustainability is a multifaced concept, with environmental aspects often dominating the discourse, while social factors tend to be disregarded (Hosta & Zabkar, 2020). This is also reflected in literature, where previous studies have mostly emphasized the environmental component of sustainable consumption behaviour, often overlooking the social aspect (Banytė et al., 2020).

When it comes to purchase decisions with the intention to be sustainable the efforts differ depending on the purchased product or service. While environmental issues play a greater role in general, consumers pay more attention to social issues when they purchase clothing, shoes, and accessories. According to a survey conducted by PwC (2022), 59 percent of consumers always or at least frequently consider ecological, economic, or social sustainability of retailers and manufacturers when shopping. For individuals under 35 the proportion even increases to two-thirds (PricewaterhouseCoopers, 2022). Most consumers, especially Gen-Z and Millennials, are willing to pay more for sustainable products. However, most people are willing to pay more for products in the category of environmental sustainability than in social sustainability (McKinsey & Company, 2021). This reflects both an increased focus upon environmental sustainability and younger people's willingness to sacrifice financial benefits for the sake of sustainability. However, this trend does not seem to be robust when it comes to crisis. Consumers' willingness to pay more has dropped significantly from 2021 to 2022, while within this drop still young consumers are willing to pay more in comparison to older age groups (Monitor Deloitte, 2022).

2.2 Sustainable Investment

2.2.1 Sustainable Investment Definition

Generally, various terms are utilized for sustainable investing, including socially responsible investing, social investment, sustainable socially conscious, green, or ethical investing. What unites them all is the strategy of incorporating not only financial return but also social and environmental factors (Stobierski, 2021; Hartill 2022).

The PRI defines it as investments that entail factoring in environmental, social, and governance (ESG) considerations while making investment choices and exerting influence over companies or assets (PRI Association, 2023). The GIIN defines Impact Investing as the "intention to generate social and environmental impact alongside a financial return" (Mudaliar et al., 2017).

Sustainable investing strategies involve merging traditional investment methods with environmental, social, and corporate governance (ESG) factors and includes negative and positive screening, assessing ESG scores. Furthermore, investors employ activist and impact investing to drive change in company operations based on values and aiming for ESG solutions through tailored investments (Stobierski, 2021). This can also be achieved by emphasizing

certain sectors, such as renewable energy and on the other hand omitting others such as weapons or tobacco (Paetzold & Busch, 2014).

2.2.2 Sustainable Investment Behaviour

Since the group of non-professional investors is a neglected research field in the sustainability context (Gamel et al., 2017), but still represents a significant share and growth potential in sustainable retail funds, mandates, and specialized funds in Germany (FNG – Forum Nachhaltige Geldanlagen, 2022), it is important to understand when someone becomes a sustainable investor. Around 25% of sustainable investments in Germany are attributed to retail investors (Passant, 2014). A study by Gutsche et al. (2023) revealed that the two factors most relevant when it comes to sustainable investment are social preferences and the so called "Warm Glow". Social preferences, such as trust, positive reciprocity, and negative reciprocity, play a key role when it comes to individual sustainable investment decisions (RIEDL & SMEETS, 2017; Gutsche et al., 2023). The other major factor, Warm Glow, plays another significant role in decision making referring to a good feeling or satisfaction a person experiences when a choice is perceived as morally right or socially responsible. This factor plays a key role in investment behaviour according to various studies (Heeb et al., 2022; Gutsche et al., 2023).

A study by Riedl & Smeets (2017) found that environmentally conscious individuals prioritize environmental aspects in their investments strategies and incorporate social factors into their consumption behaviour as well as investment strategies. Furthermore, it is evident that consumers who incorporate social factors into their consumption behaviour have this reflected in their investment strategy (Williams, 2007; Garg et al., 2022). However, in the case of a preferences experiment, where performance was ranked the most critical factor, a mismatch between attitude and performing accordingly in investing decisions was found. Even for strongly environmentally committed people financial performance is the most important consideration in investment decisions (RIEDL & SMEETS, 2017).

2.3 Theory of planned behaviour

The Theory of Planned Behaviour developed by Ajzen (1991) is a social psychological model that is used to describe human decision-making processes (Ajzen, 1991), building on his earlier work, the Theory of Reasoned Action (Fishbein & Ajzen, 1975). Many studies have used the

TPB explaining sustainable consumer behaviour (Zhang et al., 2019; Wu & Chen, 2014; Chen & Tung, 2014; Chen & Peng, 2012; Han et al., 2010) as well as sustainable investment behaviour (Sobaih & Elshaer, 2023; Conner & Abraham, 2001).

Furthermore, an individual's behaviour is determined by their intention to engage in that behaviour. This intention is determined by a person's attitude towards a behaviour, subjective norms, and perceived behavioural control. A person's attitude describes the personal assessment or view on the behaviour. A favourable attitude towards a behaviour enhances the likelihood that the individual will engage in it. Subjective norms (SN) are social expectations or pressures to do a given behaviour. The perception that major individuals or organisations support or expect the behaviour increases the likelihood that the individual will engage in it. Perceived Behavioural Control (PBC) is an individual's belief in their capacity to carry out the behaviour successfully (Ajzen, 1991).

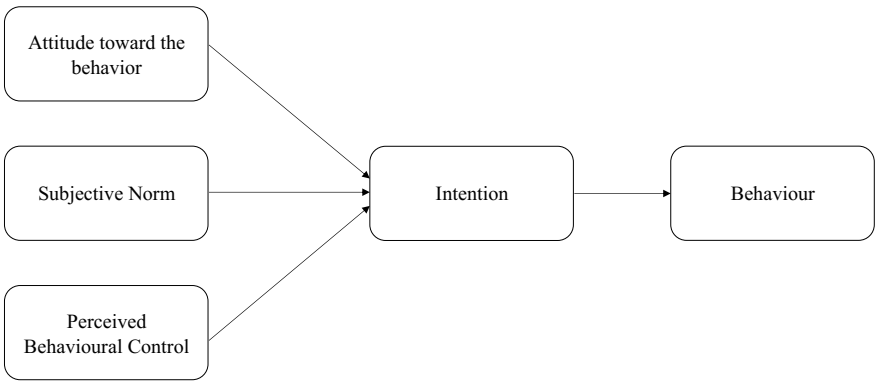

Figure 1: From Theory of Reasoned Action to Theory of Planned Behavior. Source: Adapted from Ajzen (1991)

Previous research in the field of sustainability has predominantly concentrated on either intention (Paul et al., 2016; Zhang et al., 2019) or behaviour (Wu & Chen, 2014), however with a greater focus on intention (Yuriev et al., 2020). Therefore, the present study aims to distinguish between these two concepts and their associated differentiations in hypotheses testing. Based on the distinguishment between intention and action the following hypotheses were developed:

Hypothesis 1a: The probability of sustainable investment behaviour significantly differs between sustainable consumers and non-sustainable consumers

Hypothesis 1b: Sustainable Consumer Behaviour affects Sustainable Investment Intention

2.3.1 TPB as Mediator in Sustainable Consumer Behaviour

Several studies have been conducted to explain the relationship between environmental concern and purchase intention for sustainable items using the TPB as a mediator. Ajzen and Fishbein (1980) proposed that general attitude like sustainable consumer behaviour does not affect a specific behaviour directly but indirectly. Studies found that environmental concern positively affects Attitude, Subjective Norm, Perceived Behavioural Control, and Purchase Intention (Dutta & Hwang, 2021), with a higher indirect effect, what suggests a good fit of the TPB as a mediator (Paul et al., 2016). Attitude has been revealed as the strongest predictor, followed by PBC (Paul et al., 2016).

Zhang et al. (2019) employed the TPB to measure its effect on purchase intention for several types of green products. The TPB has a considerable impact on green goods buying intention. Purchase intention was positively and significantly affected by attitude and perceived behavioural control, whereas subjective norms had an uneven impact. The impact of subjective norms on purchase intentions for green items is still debatable. Environmental consciousness has a direct and positive impact on attitude, subjective norms, and perceived behavioural control. Furthermore, environmental awareness has a direct and significant impact on purchase intention (Zhang et al., 2019).

Wu and Chen (2014) studied how green consciousness affects consumer purchasing behaviour, using various independent variables and TPB as mediator. The results showed that attitude, subjective norms, and behavioural control had significant positive relationships. Attitude was the strongest predictor, followed by SN and PBC (Wu & Chen, 2014).

Cheng and Tung (2014) studied how TPB can explain the relationship between environmental concern and the intention to visit green hotels. They also showed that attitude, SN, PBC positively influence consumers intention to visit green hotels. Furthermore, environmental concern is positively related to consumers' attitude towards visiting green hotels. The results of the mediation analysis have demonstrated that environmental concern indirectly influences the intention to visit a green hotel through the three factors of the TPB (Cheng & Tung, 2014).

In summary, the literature continues to demonstrate the effect of attitude and PBC as predictors of purchase intention (Cheng et al., 2006; Baker et al., 2007), while there are contradicting results in the literature regarding SN. Studies have found SN not to have a significant effect on

Purchase intention (Paul et al., 2016; Tarkiainen & Sundqvist, 2005), while other studies have found significant effects (Cheng & Tung, 2014; Chen & Peng, 2012; Han et al., 2010).

2.3.2 TPB as a Mediator in Sustainable Investment Behaviour

In the area of investment behaviour only a few studies have been conducted to examine the impact of several independent variables on investment intention with TPB as a mediator. Sobaih & Elshaer (2023) investigated the mediating influence of the TPB components on the relationship between financial knowledge and risky investment decisions. Their findings demonstrated that financial knowledge had a significant and positive impact on all three TPB parameters. SN and PBC both had a significant favourable effect on willingness to engage in risky investment. Notably, students' personal attitudes had no direct influence on the intention, nor did they function as a mediating component in this context (Sobaih & Elshaer, 2023).

2.3.3 TPB as Mediator between Sustainable Consumer behaviour and Sustainable investment Intention

Due to no awareness of a study that tests the ability of TPB to explain sustainable investment behaviour with sustainable consumer behaviour as an independent variable, the objective of this study is to test this ability. The mediating effect of TPB on the influence of sustainable consumer behaviour on sustainable investment behaviour will be studied, since TPB is considered to mediate the influence of distant factors (Conner and Abraham, 2001). Based on these findings the following hypotheses were developed:

Hypothesis 2: The TPB components mediate the effect on Sustainable Investment Intention

H2a: Attitude mediates the effect of Sustainable Consumer Behaviour on Sustainable Investment Intention

H2b: Subjective Norm mediates the effect of Sustainable Consumer Behaviour on Sustainable Investment Intention

H2c: Perceived Behavioural Control mediates the effect on Sustainable Investment Intention of Sustainable Consumer Behaviour

2.4 Intention-Action Gap

Even though the TPB states that intention is the best predictor of the actual behaviour (Ajzen & Fishbein, 1980), studies have revealed that people's behaviour is not persistently aligned with their intention and identified an intention-action gap (White, Hardisty, et al., 2019). People have intentions to behave in a sustainable manner but do not show an aligned behaviour when it comes to the purchase decision (Park & Lin, 2018; Morwitz et al., 2007). On the other hand, empirical findings also revealed that the correlation between intentions and actual behaviour in green consumption remains significant, particularly for general green consumption behaviours (Vermeir & Verbeke, 2008); Kaiser & Gutscher, 2003; Kaiser et al., 1999; Wu & Chen, 2014). For instance, investigations into green consumption patterns have unveiled meaningful - even if imperfect - correlations between behavioural intentions and actual actions (Wu & Chen, 2014).

The exploration of the intention-action gap is part of this study's focus. This gap comes into play when individuals' expressed intentions, such as their willingness or plans to engage in sustainable investments and do not consistently manifest as actual behaviours. This study, therefore, seeks to delve deeper into this phenomenon, testing the relationship between intentions and behaviours in the domain of sustainable consumer and investment behaviours.

2.4.1 Intention Action Gap in Sustainable Consumer Behaviour

Exploring the discrepancy between individuals' intentions and their actual behaviours holds a significant importance in the context of understanding sustainable consumer behaviour and investment decisions. This phenomenon highlights the divergence between individuals' professed intentions to engage in environmentally responsible actions and their subsequent behavioural action (Hanss et al., 2016; Peattie, 2010). Despite positive attitudes and intentions, a considerable proportion of individuals encounter challenges in translating these tendencies into actual sustainable behaviours. For instance, a notable segment of the UK population voiced concerns for the environment yet encountered difficulties in consistently executing eco-friendly purchases, thereby demonstrating the pronounced intention-action gap (Young et al., 2010). Likewise, despite favourable attitudes towards organic foods, the actual purchasing rates of these items remained regrettably modest (Hughner et al., 2007; Young et al., 2010).

Empirical investigations have revealed significant though imperfect associations between intentions to engage in eco-friendly consumption and the resulting behavioural outcomes (Nguyen et al., 2018, Wu & Chen, 2014).

These findings underscore the importance of exploring the interaction between intentions and behaviours, therefore the present study seeks to investigate the intention-action gap, with specific emphasis on sustainable consumer behaviour and investment behaviour. Leveraging the conceptual construct of "literal inconsistency" (Ajzen & Fishbein, 2005), this study aims to understand if people do not translate their intentions into action when it comes to sustainable practices and build on existing research (Moraes et al., 2012; Cowe & Williams, 2000; Sudbury-Riley & Kohlbacher, 2016) that highlights the importance of recognizing this gap. Ultimately, it seeks to enrich the understanding of the determinants influencing the intention-action gap.

2.4.2 Intention Action Gap in Sustainable Investment Decisions

There is a shortage of research in the exploration of the intention-action gap in investment contexts (Srivastava & Roy, 2021). A recent study conducted by Srivastava & Roy (2021) found a significant impact of Investment Intention on Investment Behaviour (Srivastava & Roy, 2021). In the field of sustainability, a study by Paetzold & Busch (2014) contributes to close this gap in literature by investigating explanations for the observed intention-action gap. Besides a great interest in sustainable investments, several factors explaining the intention-action gap were revealed. Firstly, the perception of sustainability as volatile, coupled with a preference for short-term investments, may adversely affect individuals' attitudes and hinder the realisation of investment intentions. Secondly, the perception of high volatility in conjunction with past financial losses can create hesitancy. Lastly, the lack of comprehensive information provided by investment advisors may act as a significant obstacle to translating intention into action (Paetzold & Busch, 2014).

Building upon the research conducted about the intention-action gap the following hypotheses were formulated to adapt to the research questions of the present study to investigate the relationship between sustainable investment intention and sustainable investment action:

H3: TPB components and Sustainable Investment Intention serially mediates the relationship between Sustainable Consumer Behaviour and Investment Action

H3a: Attitude and Sustainable Investment Intention serially mediates the relationship between Sustainable Consumer Behaviour on Sustainable Investment Action

H3b: Subjective Norm and sustainable investment intention serially mediates the relationship between Sustainable Consumer Behaviour and Investment Action

H3c: Perceived Behavioural Control and Sustainable Investment Intention serially mediates the relationship between Sustainable Consumer Behaviour and Investment Action

H3d: Sustainable Investment Intention has a positive impact on Sustainable Investment Action

2.5 Return

2.5.1 Expected Return

Theory suggests that sustainable investments may have lower expected returns due to increased demand for green assets from investors seeking responsible allocation. The better performance of green assets in adverse climate scenarios reinforces their attractiveness but results in lower expected returns (Pástor et al., 2020), as shown by empirical evidence (Pástor et al., 2022). Even though the relationship between ESG and expected returns is complex, with influencing factors such as unexpected shifts in ESG concerns, rating inconsistencies, and dynamic pricing models, literature reveals investors' willingness to prioritise sustainability over return. In addition, highly rated sustainable funds outperformed lowly rated ones during the COVID-19 crisis, suggesting that ESG investments may act as a hedge against downside risk (Kraeussl et al., 2022).

The present study examines whether a higher expected return moderates the effect of investment invention on investment action and the effect of sustainable consumer behaviour on sustainable investment behaviour.

H4a: Higher Expected Return moderates the effect of Sustainable Investment Intention on the likelihood of Sustainable Investment Action

H4b: Higher Expected Return moderates the effect of Sustainable Consumer Behaviour on the likelihood of Sustainable Investment Action

2.5.2 Willingness to Waive Return

The question of whether investors are willing to waive returns to invest sustainably compared to traditional investment, finds only heterogenous answers in the literature. Studies exist that show that investors are willing to waive return for sustainable investments (Kraeussl et al., 2022; Hafenstein & Bassen, 2016; Lewis & Mackenzie, 2000; Dorfleitner & Utz, 2014) as well as studies revealing the opposite (ROSEN et al., 1991; Mackenzie & Lewis, 1999; Lewis, 2001).

In the present study, it will be examined whether a greater willingness to waive returns positively moderates the relationship between investment intention and action, as well as sustainable consumer behaviour and investment behaviour.

H5a: Willingness to Waive Return moderates the effect of Sustainable Investment Intention on the likelihood of Sustainable Investment Action

H5b: Willingness to Waive Return moderates the effect of Sustainable Consumer Behaviour on the likelihood of Sustainable Investment Action

2.6 Additional Analyses

2.6.1 Neo Brokers in Germany

The rise of the internet in the 1990s has given rise to new business models in various industries, including the trading sector. Online trading stands among the most successful industries that emerged from the internet revolution. Particularly, retail investors have played a significant role in this trend. Due to the accessibility of information through the internet and the opportunity to invest directly without an intermediary, such as a broker, online brokerage offers the advantages of convenience, control, accessibility, and low commissions (Wu et al., 1999).

A notable trend in recent years has been the increasing interest of young investors in the realm of capital markets (Center for Research in Financial Communication et al., 2022). Compared to 2019 two-thirds more individuals under the age of 30 invested their money in the stock market (Redmer, 2022). Apps play a crucial role in translating this interest into action (Stelzer, 2020; Redmer, 2022). Nowadays, a new type of online broker, known as Neo Brokers, is

gaining popularity. The straightforward usability and accessibility (Hanson, 2021) with the convenience of opening accounts through a mobile application have significantly eased the process for these investors (Meissner-Wollnitz, 2023). Following the example of Robinhood in the United States, Trade Republic, the first German Neo broker, launched in 2019. Neo brokers are characterized by lower order fees and often provide a user-friendly interface, including mobile applications. Additionally, the sign-up process is straightforward and user-friendly, which also carries the risk of fostering a gambling-like mentality among its users, especially among young and inexperienced investors, the accessibility and ease of trading may encourage this speculative and impulsive approach (Prof. Dr. Hackethal, 2023).

In Germany, approximately 20% of the population owns stocks, and notably, the number of investors under the age of 30 has seen a significant 40% rise compared to the previous year (Deutsches Aktieninstitut, 2023). Additionally, it has been reported by the Center for Research in Financial Communication et al. (2022) that 37.9% of individuals below the age of 35 prefer to use Neo Brokers for their investments.

2.6.2 Moderating Socio-Demographic variables

Previous research efforts have delved into the impact of socio-demographic factors on Socially Responsible Investments (SRI) decision-making, providing valuable insights into the relationship. In this context, age has often been utilized as a determinant for investment decision (Nilsson, 2007; Williams, 2007; Jonwall et al.,2022). The age of an individual plays a pivotal role in shaping attitudes, SN, and PBC (Morris & Venkatesh, 2000). Morris & Venkatesh (2000) have noted that the impact of age is more prominent on attitudes among younger users, while it becomes more noticeable on perceived behavioural control among older users.

These findings underline the significance of socio-demographic variables, such as age, in understanding the decision-making processes of investors, particularly in the context of socially responsible investments.

For the additional analysis the following hypotheses were formulated:

Hypothesis 6a: Affiliation to GenZ and Millennials Generation increases the likelihood of investing sustainable

Hypothesis 6b: Affiliation to GenZ and Millennials Generation moderates likelihood to translate sustainable investment intention into action

2.7 Conceptual Framework

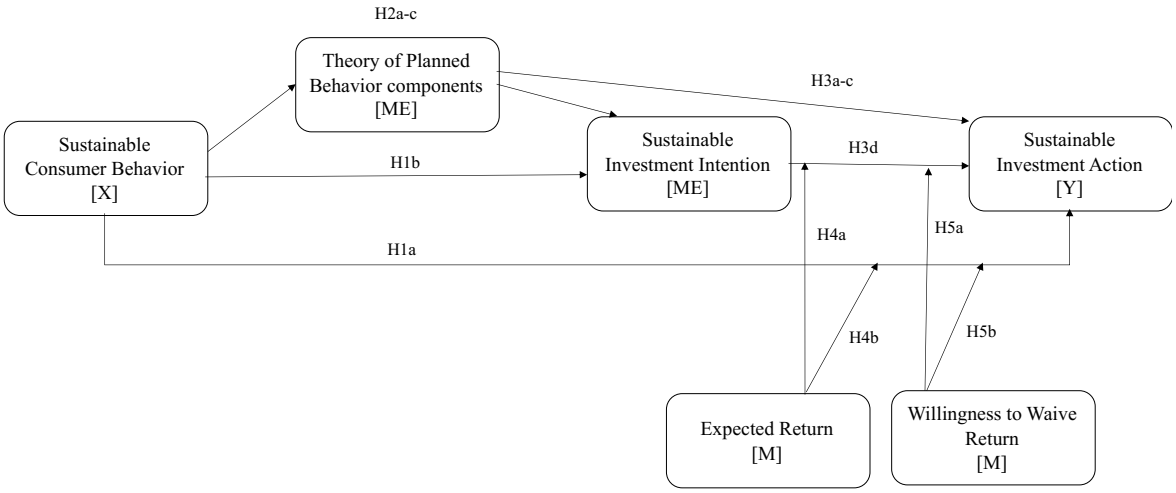

Table 1: Conceptual Framework

CHAPTER 3: METHODOLOGY

In this Chapter the used methodology to answer the research questions and test the hypotheses formulated in the previous chapter is described. First, the data collection is explained, followed by the description of the used measures, resulting in the operational model. Lastly, the data analysis approach is addressed.

3.1 Data Collection

This study relies on primary data collected via a questionnaire distributed online through Qualtrics. The survey was translated into German and distributed within the DACH market to tailor it to local preferences and characteristics. It was published on July 25 and closed on August 21, 2023. The questionnaire was composed of four sections (Appendix 1): section one included items designed to assess investment patterns, section two the self-reported sustainable consumer behaviour, section three consisted of TPB constructs (attitude, SN, and PBC) and financial investment considerations, the last section contained demographics, such as age, educational level, income, and sex. Questions in this study's questionnaire were adapted from previous studies. The variables will be explained in the subsequent chapter. Additionally, the questionnaire includes a decision experiment, where participants were asked to choose between a sustainable and a traditional investment voucher, disguised as appreciation for their participation, but serving as disclosure for their actual investment decision.

3.2 Measures

The following chapter will describe the development of the used variables, that were used for the hypotheses testing and recoded according to the table in Appendix 2.

3.2.1 Sustainable Consumer Behaviour

The study employed a scale designed to calculate a score for each participant, aiming to represent the self-reported sustainable consumer scale. Following the approach of Brunen & Laubach (2021), the Sudbury-Riley and Kohlbacher scale was employed to assess Ethically Minded Consumer Behaviour (EMCB) (Sudbury-Riley & Kohlbacher, 2016). Beyond fulfilling basic needs, EMCB entails incorporating environmental principles and social considerations

into purchasing decisions (Toti & Moulins, 2016). Participants rated the items using a five-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree). A 5-point Likert scale was chosen based on empirical research indicating its shorter reaction time compared to 7-point scales. Moreover, considering potential agreement bias and extreme response bias, five anchors were deemed optimal (Chen et al., 2015). A dummy variable was coded that signifies a high reported degree of sustainability of consumer habits if a respondent's score is equal to or above the median sample score.

3.2.2 Theory of Planned Behaviour Components

Attitudes reflect an individual's overall evaluation of performing a specific behaviour (Ajzen & Fishbein, 2000). In the survey, two questions were posed on this matter, one based on the example of Gutsche and Ziegler (2023) within the context of warm glow and the second based on example Brodback et al (2019). Derived from Ajzen's work and adjusted to the investment context, the self-developed measure encompasses subjective norm, delving into the control of social influences and comprising two factors (Fishbein & Ajzen, 1975). The two factors encompassed the opinions of individuals important to them and opinions of individuals like them. Perceived behavioural control, as defined by Ajzen (1991), relates to an individual's view of the ease or complexity associated with performing a specific behaviour. In the context of self-efficacy, it denotes an individual's belief in their capability to perform a particular action (Taylor & Todd, 1995). Taylor & Todd (1995) elaborate that conditions encouraging to resource facilitation encompass aspects such as adequate time, financial resources, and technological support. According to Ajzen (1991), and Pavlou and Fygenson (2006) resource limitation and self-efficacy are two constructs that can be used to measure behavioural control. Intention to perform a behaviour in the TPB concept refers to the extent to which an individual engages in or refrains from specific behaviours (Fishbein & Ajzen, 1975). Drawing from the study by Hrubes et al. (2001), the concept was tailored to investment intention. The first scale required respondents to express their intention, while the subsequent scale inquired about their plans concerning sustainable investments.

3.2.3 Actual Behaviour

Based on the example of Brunen and Laubach (2021), at the end of the survey, participants were presented with the option to select either sustainable or traditional investment choices as their preferred prize in the lottery, conducted as a gesture of appreciation for their survey participation. The question was asked at the end of the survey to ensure that the answers to the preceding questions were "incentive-compatible" meaning that respondents' responses accurately reflected their preferences and decisions without being influenced by the investment decision. To ensure a clear understanding of the distinction between sustainable (with lower value) and traditional investment (higher value) options, an explanation was provided to all participants. The decision involved a cost associated with sustainable choices. Participants will be randomly selected to have their investment decisions realized for one year and will receive the current value of their investment at the end of the year. A sustainable fund instead of a company was chosen to control for personal preferences (Brunen & Laubach, 2021).

3.2.4 Expected and Waive Return

Based on the example from Riedl and Smeets (2017), the survey included a question about the expected return of sustainable investments compared to traditional investments, measured on a 5-point Likert scale, where 1 signifies a lower return and 5 a higher return. Subsequently, a dummy variable was created, categorizing responses as "higher expected return" (1) and "not higher expected return" (0), where "higher expected return" represents respondents who rated the expected return as "somewhat higher" or "higher", and "not higher expected return" represents the rest of the responses. Following the example from Brunen and Laubach (2021), respondents were asked about their willingness to waive return on a 5-point Likert scale. Subsequently, this variable was recoded into a dummy variable, where "1" represents respondents who indicated "willingness to waive return" (probably and somewhat probably), and "0" represents those with "no willingness to waive return."

Operational Model:

Framework	Measure	Items	Scale	Literature
IV	Sustainable Consumer Behaviour	10	5 – point Likert scale	EMCB (Sudbury-Riley & Kohlbacher, 2016)

Mediator 1	Attitude towards Behaviour	2	5 – point Likert scale	(Gutsche et al., 2023); (Brodback et al., 2019)
Mediator 2	Subjective Norm	2	5 – point Likert scale	Adjusted based on (Fishbein & Ajzen, 1975).
Mediator 3	Perceived Behavioural Control	2	5 – point Likert scale	Adjusted based on Taylor & Todd (1995)
Mediator 4	Sustainable Investment Intention	2	5 – point Likert scale	Adjusted based on Hrubes et al. (2001)
Moderator	Expected Return	1	5 – point Likert scale	(RIEDL & SMEETS, 2017)
Moderator	Willingness to waive return	1	5 – point Likert scale	(Brunen & Laubach, 2021)
DV	Sustainable Investment Behaviour	1	Dichotomous Scale	Adjusted based on (Brunen & Laubach, 2021).

Table 2: Operational Model

3.3 Data Analysis

For the analysis of the data collected via the survey IBM's SPSS software and the add-on PROCESS Macro by Hayes program was used. Descriptive statistical analyses were conducted for the main variables, demographic variables, and an additional descriptive statistical analysis was performed for the utilization of Neo Brokers. A Cronbach's Alpha Test has been conducted, which assesses the internal consistency of the components of the TPB and the self-reported sustainable consumer behaviour variables, ensuring that the items within each component measure the same underlying construct reliably. The individual hypotheses were tested using regression analyses, logistic regressions, and Hayes Process Models 1, 4, and 80. A significance threshold of 5% (alpha level of 0.05) was employed for significance testing.

CHAPTER 4: RESULTS AND DISCUSSION

The following chapter evaluates the results of the quantitative data collected through an online survey. The chapter contains the data preparation process, reliability and parametric testing, descriptive analyses and hypotheses testing.

4.1 Results

4.1.1 Data preparation

In total 228 individuals participated in the survey. 26 needed to be removed because they did not finish the survey, 19 failed the manipulation check, and 3 due to the screen-out question. Additionally, a Mahalanobis Distances check was conducted and identified 12 multivariate outliers that were removed. The final analysis was conducted with a total of 168 respondents.

4.1.2 Measurement of the reliability of constructs

The construct and scale to measure the self-reported sustainability level of participants was taken from previous studies (Sudbury-Riley & Kohlbacher, 2016; Chen et al., 2015). The four TPB constructs were also taken from previous studies (Gutsche et al., 2023; Brodback et al., 2019; Fishbein & Ajzen, 1975; Taylor & Todd, 1995; Hrubes et al., 2001) and partially adjusted to the present research question of sustainable investment behaviour. The scales ranged all from 1-5 (5 – point Likert scale; strongly agree – strongly disagree). All Cronbach's Alphas measured were close to or above 0.7 (Table 2), which indicates the ability to forecast the variables (Hair et al., 2021). Additionally, the study assumes the distribution of the sample to follow a normal distribution adhering to the Central Limit Theorem, as the sample size is $n > 30$ (Field, 2014).

Construct	Number of Items	Cronbach's Alpha
Sustainable Consumer Behaviour	10	0.853
Attitude towards Behaviour	2	0.783
Subjective Norm	2	0.808
Perceived Behaviour Control	2	0.686
Investment Intention	2	0.898

Table 3 Cronbach's Alpha

4.1.3 Parametric Data Test

For the continuous variables used in the analysis, the normal distribution was assessed using the Kolmogorov-Smirnov test (Appendix 3). The results reveal a significance level of < 0.001 for all tested variables (Sustainable Consumer Behaviour, Attitude towards Behaviour, Subjective Norm, Perceived Behaviour Control, Investment Intention). With a p-value < 0.05, the null hypothesis is rejected, that the data is parametric. However, following arguments can be made to justify continuing with the analysis despite this deviation. Firstly, based on the sample size (n = 168) most statistical tests tend to be robust against deviations from normality when a sufficiently large sample size (n > 30) is used (Radboud University, n.d.). In addition, the Central Limit Theorem states that regardless of the original distribution of the variables, the distribution of means of several independent variables tends to approximate a normal distribution (Ganti, 2019). Lastly, the used Process Macro by Hayes uses bootstrapping, a resampling-based method, to calculate confidence intervals and is recognized for being less susceptible to non-normality (The Pennsylvania State University, n.d.). However, it is still important to interpret the results with caution and acknowledging the absence of normal distribution. For the analysis of binary variables, logistic regressions were used, which do not require the assumption of a normally distributed dependent variable.

4.2 Descriptive Statistics

4.2.1 Main Model Descriptive Statistics

The descriptive statistics summary is provided in Table 1. Sustainable Consumer variable shows a moderate tendency towards sustainable consumption practices (M= 3.8274). Anchored within the TPB, 'Attitude towards Behaviour,' 'Subjective Norm,' and 'Perceived Behaviour Control' stand out as crucial components. Their mean values of 4.0565 (SD = 0.83240), 3.5565 (SD = 0.93889), and 3.5476 (SD = 0.99435) respectively, on a scale from 1 to 5, illuminate participants' perspectives and evaluations of the target behaviour (sustainable investment behaviour). The results suggest that on average the respondents tend to agree with the three TPB variables, this means they tend to have a rather strong positive attitude towards sustainable investments, moderate positive SN, and moderate PBC over performing sustainable investments. The dimensions 'Sustainable Investment Intention' shows a mean of 3.7708 (SD = 1.05231), spanning the 1-to-5 range. This indicates a moderate tendency towards adopting sustainable investment practices.

Within the binary variables, ‘Revealed Sustainable Investment Choice’ averaging 0.54 (SD = 0.5), suggesting that slightly more than half of the observed investment decisions were sustainable. Moreover, ‘Higher Expected Return’ and ‘Willingness to Waive Return’ revealing mean values of 0.24 (SD = 0.427) and 0.27 (SD = 0.444) respectively, these dimensions unveil a balance between participants gravitating towards elevated returns and those embracing sustainable investment even at a return cost. Similarly, ‘High Income’ and ‘Millennials & Gen Z’ encapsulate demographic insights, with averages of 0.23 (SD = 0.420) and 0.81 (SD = 0.394) respectively, reflecting the sample’s composition. Demographically, ‘Female’ has a mean of 0.54 (SD = 0.5), indicating a balanced gender representation. ‘Highly Educated,’ with an average of 0.68 (SD = 0.466), suggesting a higher presence of individuals with higher educational backgrounds.

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
TPB Attitude (con.)	168	1.00	5.00	4.0565	.83240
TPB Subjective Norm (con.)	168	1.00	5.00	3.5565	.93889
TPB Perceived Behavioural Control (con.)	168	1.00	5.00	3.5476	.99435
TPB Intention (con.)	168	1.00	5.00	3.7708	1.05231
Sustainable Consumer (con.)	168	2.00	5.00	3.8274	.66744
Sustainable Consumer (dummy)	168	0	1	.49	.501
Highly Educated	168	0	1	.68	.466
Millennials & GenZ	168	0	1	.81	.394
Female	168	0	1	.54	.500

High Income Group	168	0	1	.23	.420
Willingness to waive return for sustainability (dummy)	168	0	1	.27	.444
Higher Expected Return Sustainable Investments (dummy)	168	0	1	.24	.427
Revealed Sustainable Investment Choice	168	0	1	.54	.500
Valid N (listwise)	168				

Table 4: Descriptive Statistics

4.2.2. Additional Analysis Descriptive Statistics

Neo Broker were used by 33.3% (56) of the 168 participants. 20% of these had a high income, whereas 18 percent had a low income. Notably, the platform is most popular within the Millennial and GenZ groups, accounting for 98% of all users. The gender distribution is balanced, with 42% female and 58% male. Furthermore, Neo Broker attract a highly educated user population, with 88% having a bachelor's degree or higher. Among those interested by Neo Broker but not yet using it, 25% (43) expressed interest. This interest cuts across income levels, with 23% having a high income and 77% having a low income. Similarly, the bulk of individuals interested (86%) are from the Millennial and GenZ generations (Appendix 4).

4.3 Hypotheses Testing

4.3.1 Hypothesis 1: Direct Relationship between Sustainable Consumer Behaviour and Sustainable Investment Behaviour

Hypothesis 1a: The probability of sustainable investment behaviour significantly differs between sustainable consumers and non-sustainable consumers

To assess this hypothesis a binary logistic regression has been conducted because the dependent variable (Sustainable Investment Action) is coded as a binary variable (Appendix 2). The results (Appendix 5) provide evidence to reject the null hypothesis. The independent variable SCB has

a positive and statistically significant ($p < 0.01$) impact on the dependent binary variable (SIA). An increase in X is associated with an increase in the log odds (and hence the probability) of the event. The odds ratio of 1.894 suggests that the odds of the event increase by a factor of 1.894 for a one-unit increase in X. Therefore, we can reject the null hypothesis, supporting the existence of a significant difference in the probability of sustainable investment behaviour between sustainable and non-sustainable consumers.

Hypothesis 1b: Sustainable Consumer Behaviour affects Sustainable Investment Intention

Before conducting the linear regression, a Pearson Correlation Coefficient test was used to confirm a linear correlation between the two variables (Appendix 5). The results showed a significant ($p < 0.01$ level) correlation of 0.40, which indicates a relatively strong correlation and confirms the usability of a linear regression to test the hypothesis. The results of the regression (Appendix 5) show that the model explains 16.1 % of the variance of the dependent variable. The effect ($ß = 0.632$) of Sustainable Consumer Behaviour on Sustainable Investment Intention is positive and statistically significant ($p < 0.001$). That means when the independent variable (Sustainable Consumer Behaviour) is increased by one unit the dependent variable (Sustainable Investment Intention) increases by 0.632. The null hypothesis can be rejected, leading to the result that SCB has a significant positive effect on SII.

4.3.2 Hypothesis 2: The Mediating effect of TPB components on Sustainable Investment Intention

Hypothesis 2: The TPB components mediate the effect of Sustainable Consumer Behaviour on Sustainable Investment Intention

The three tested TPB components are Attitude, Subjective Norm, and Perceived Behavioural Control resulting in three subordinate hypotheses (H2a, H2b, H2c). To test these hypotheses, Process Macro's model 4 was used to assess the parallel mediation model where an indirect effect is mediated by more than one mediator parallel to each other (Appendix 7).

The total effect of Sustainable Consumer Behaviour on Sustainable Investment Intention is c[1] = 0.6318 ($p < 0.001$, $t = 5.6355$). There is a direct effect (ß = 0.0587, $t = 0.4887$) of Sustainable Consumer Behaviour on Sustainable Investment Behaviour, however this effect is not significant. This direct effect is marked as c' (Figure 2).

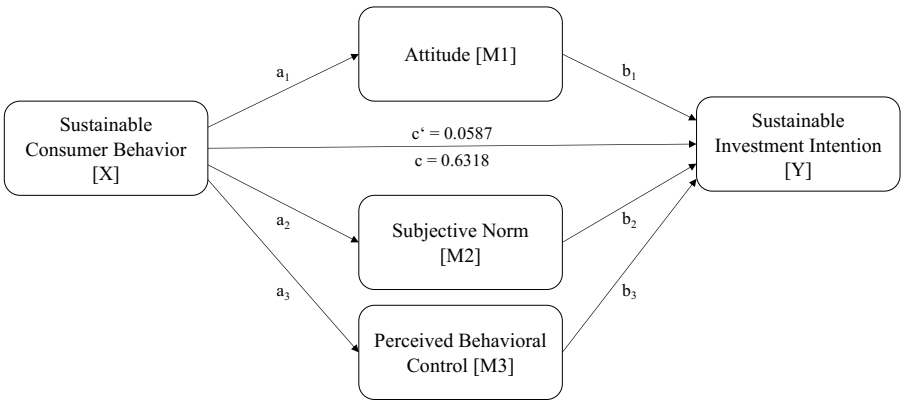

Figure 2: H2 Conceptual Model

H2a: Attitude mediates the effect of Sustainable Consumer Behaviour on Sustainable Investment Intention

SCB has a significant ($p = < 0.001$) impact (ß = 0.5019, $t = 5.6642$) on Attitude (path = a1 in Figure 3). Attitude has a significant ($p < 0.001$) impact (ß = 0.3825, $t = 4.3783$) on Sustainable Investment Intention (path = b1 in Figure 3). The mediation effect of SCB on SII is $ß_1 = 0.192$ and statistically significant since the bootstrap interval does not contain zero. When the independent variable (Sustainable Consumer Behaviour) is increased by one unit, the dependent variable (Sustainable Investment Intention) increases by 0.192.

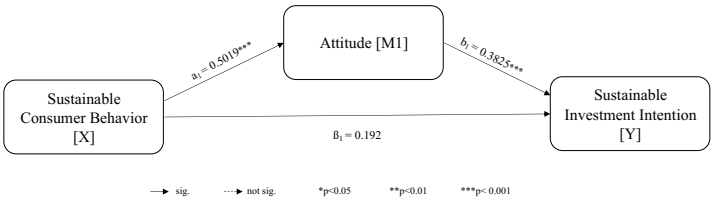

Figure 3: H2a Statistical Model

[1] (c = c' + a1b1 + a2b2 + a3b3)

H2b: Subjective Norm mediates the effect of Sustainable Consumer Behaviour on Sustainable Investment Intention

SCB has a significant (p = < 0.001) impact (ß = 0.8608, t = 9.9687) on Subjective Norm (path = a2 in Figure 4). Subjective Norm has a significant (p < 0.01) impact (ß = 0.2553, t = 2.7349) on Sustainable Investment Intention (path = b2 in Figure 4). The mediation effect of SCB on SII is $ß_2 = 0.2198$ and statistically significant since the bootstrap interval does not contain zero. When the independent variable (Sustainable Consumer Behaviour) is increased by one unit, the dependent variable (Sustainable Investment Intention) increases by 0.2198.

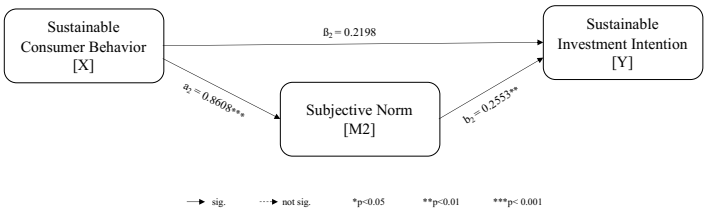

Figure 4: H2b Statistical Model

H2c: Perceived Behavioural Control mediates the effect on Sustainable Investment Intention of Sustainable Consumer Behaviour

SCB has a significant (p = < 0.001) impact (ß =0.5233, t = 4.8337) on PBC (path = a3 in Figure 5). PBC has a significant (p < 0.001) impact (ß = 0.3084, t = 4.3878) on Sustainable Investment Intention (path = b3 in Figure 5). The mediation effect of SCB on SII is $ß_3 = 0.1614$ and statistically significant since the bootstrap interval does not contain zero. When the independent variable (Sustainable Consumer Behaviour) is increased by one unit, the dependent variable (Sustainable Investment Intention) increases by 0.1614.

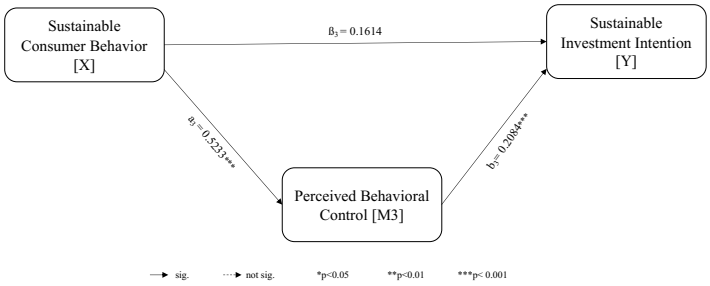

Figure 5: H2c Statistical Model

To summarise hypotheses 2 testing, the mediating role of TPB components on the relationship between Sustainable Consumer Behaviour and Sustainable Investment Intention. The results show a significant indirect effect of Sustainable Consumer Behaviour on Sustainable Investment Intention through attitude (b_1 = 0.192), supporting H1a. The study also found a significant indirect effect of Sustainable Consumer Behaviour on Sustainable Investment Intention through Subjective Norm (b_2 = 0.2198), supporting H1b. Furthermore, the study found a significant indirect effect of Sustainable Consumer Behaviour on Sustainable Investment Intention through Perceived Behavioural Control (b_3 = 0.1614), supporting H1c. The direct effect (c' = 0.0587) of SCB on Sustainable Investment Intention in presence of the mediators was not found significant. Hence, all three TPB components fully mediated the relationship between Sustainable Consumer Behaviour and Sustainable Investment Intention. In addition, it is complementary as all the signs of direct and indirect effects are the same (+).

4.3.3 Hypothesis 3: Serially Mediating effect of TPB and Intention on Investment Action

H3: TPB components and Sustainable Investment Intention serially mediates the relationship of Sustainable Consumer Behaviour and Investment Action

The Process Macro's model 80 was used to assess the serial mediation model where an indirect effect is mediated by sequential mediators (Appendix 8).

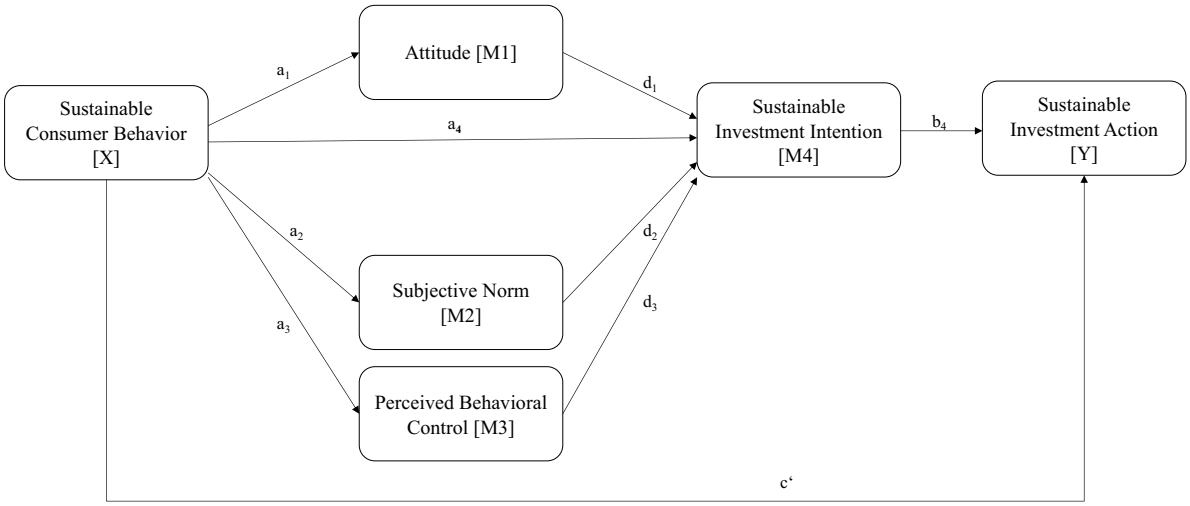

Figure 6: H3 Conceptual Model

H3a: Attitude and Sustainable Investment Intention serially mediates the relationship of Sustainable Consumer Behaviour and Sustainable Investment Action

In the previous model, a significant indirect effect of 0.192 was observed, mediating the relationship between SCB and SII through Attitude. In addition, in this model SII has a significant ($p < 0.001$) impact ($ß = 0.8597$) on Sustainable Investment Action, marked as b_4 in Figure 6. This results in an indirect effect of $ß = 0.165$ ($a_1 * d_1 * b_4$). Based on the provided bootstrap confidence interval of 0.057 to 0.3822, and the fact that the interval does not include one, the effect can be considered statistically significant. If the 95% confidence interval for the exponentiated coefficient (OR) does not include the 1, it indicates that the odds of the event are statistically significantly increased or decreased. The result for the indirect effect of SCB and SIA are on a log-odds metric because the dependent variable SIA is dichotomous. This means for the interpretation of the coefficient of 0.165 in a log-odds metric indicates how much the log-odds of the dependent variable change when the independent variable increases by one unit. To translate this into probabilities, the exponentiated coefficient (Exp(B)) is used: (exp(0.165) / (1 + exp(0.165))). The result indicates the higher likelihood of investing sustainably when the independent variable SCB increases by one unit in presence of the serial mediators Attitude and Investment Intention, supporting H3a.

H3b: Subjective Norm and sustainable investment intention serially mediates the relationship between Sustainable Consumer Behaviour and Investment Action

The previous model revealed a significant indirect effect of 0.2198, mediating the relationship between SCB and SII through Subjective Norm. In combination with the effect (ß = 0.8597) of SII on action the indirect effect of ß = 0.1889 results. Based on the provided bootstrap confidence interval and the fact that the interval does not include one, the effect can be considered statistically significant (Appendix 8). A coefficient of 0.1889 in a log-odds metric indicates the likelihood of the dependent variable taking the value of 1 when the independent variable increases by one unit. The result indicates a higher likelihood of investing sustainably when the independent variable sustainable consumer behaviour increases by one unit in presence of the serial mediators Subjective Norm and Investment Intention, supporting H3b.

H3c: Perceived Behavioural Control and Sustainable Investment Intention serially mediates the relationship between Sustainable Consumer Behaviour and Investment Action

In the previous model a significant indirect effect of 0.1614 was revealed, mediating the relationship between SCB and SII through Perceived Behavioural Control. In combination with the effect (ß = 0.8597) of SII on action an indirect effect of ß = 0.1388 results. Based on the provided bootstrap confidence interval and the fact that the interval does not include one, the effect can be considered statistically significant (Appendix 8). The coefficient of 0.1388 in a log-odds metric indicates the likelihood of the dependent variable taking the value of 1 when the independent variable increases by one unit. The result indicates the higher likelihood of the investing sustainably when the independent variable SCB increases by one unit in presence of the serial mediators Perceived Behavioural Control and Investment Intention, supporting H3c.

H3d: Sustainable Investment Intention has a positive impact on Sustainable Investment Action

Intention has a significant ($p < 0.001$) effect ß = 0.8597 on Sustainable Investment Action. When checking via a logistic regression a statistically significant effect of 0.875 is revealed

(Appendix 9). Minor deviations due to the utilization of different model are possible. To summarize the results of hypotheses 3 testing, SCB has a direct effect (ß = 0.0636) on SIA that is however not significant (path = c` in Figure 6). This means for all hypotheses a full mediator effect is shown since the indirect effects are significant, while the direct effect is not significant.

4.3.4 Hypothesis 4: Moderating effect of Expected Return on Sustainable Investment Behaviour

To test these hypotheses the Process Macro Model 1 was used to assess the moderating effect of an investor's expected return on sustainable investment behaviour. Most of the respondents assumed that the return on sustainable investments is lower than that of traditional investments (Table 4). Expected return is coded as a binary variable (1 = higher expected return of sustainable investment compared to traditional; 0 = lower expected return of sustainable investment compared to traditional). 24 % of the participants expected higher returns (Table 4).

H4a: Higher Expected Return moderates the effect of Sustainable Investment Intention on the likelihood of Sustainable Investment Action

The results of the regression (Appendix 10) show the effect of Sustainable Investment Intention (ß = 0.9176) and Higher Expected Return (ß = 1.3923) on the probability to invest sustainably, where only the effect of SII is significant ($p_1 < 0.001$), while the effects of Higher Expected Return (ß = 1.3923), and the interaction between these two variables (ß = -0.2632) are not significant. Based on the results, the null hypothesis cannot be rejected, which means there is no statistically significant evidence that Higher Expected Return moderates the relationship between SII and SIA.

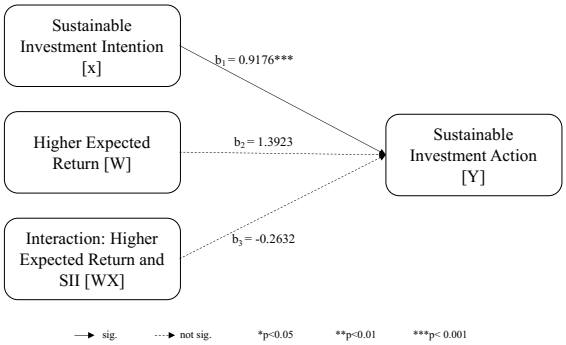

Figure 7: H4a Statistical Model

H4b: Higher Expected Return moderates the effect of Sustainable Consumer Behaviour on the likelihood of Sustainable Investment Action

The results of the regression (Appendix 11) show a positive effect of Sustainable Consumer Behaviour (ß = 0.3834) and a negative effect of Higher Expected Return (ß = -3.3110) on the probability to invest sustainably. The interaction effect of both variables is positive (ß = 1.0152) however, all effects are not statistically significant. Based on the results, the null hypothesis cannot be rejected, which means that Higher Expected Return does not significantly act as a moderator for the relationship between SCB and SIA. When considering the Conditional Effects, it becomes evident that the relationship between sustainable consumer behaviour and sustainable investment action depends on the level of expected return. If higher returns are expected, SCB appears to have a significant impact on investment behaviour, whereas this effect is not evident at lower expected returns.

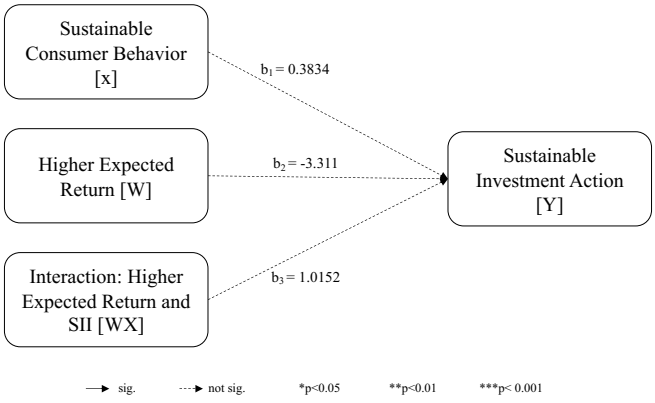

Figure 8: H4b Statistical Model

4.3.5 Hypothesis 5: Moderating effect of Willingness to waive return on Sustainable Investment Behaviour

To test these hypotheses the Process Macro Model 1 was used to assess the moderating effect of an investor's willingness to waive return on sustainable investment decisions. Most of the respondents assumed that the return on sustainable investments is lower than that of traditional investments (Table 4).

H5a: Willingness to Waive Return moderates the effect of Sustainable Investment Intention on the likelihood of Sustainable Investment Action

The log-likelihood value (Model LL) of 34.9753 indicates the quality of fit of the statistical model to the observed data and implies a relatively strong fit of the model to the data (Appendix 12). All three effects of Sustainable Investment Intention (ß = 1.0541), Willingness to Waive Return (ß = 4.4313), and the interaction between these two variables (ß = -0.9574), are statistically significant ($p_1 < 0.001$, $p_2 < 0.05$, $p_3 < 0.05$).

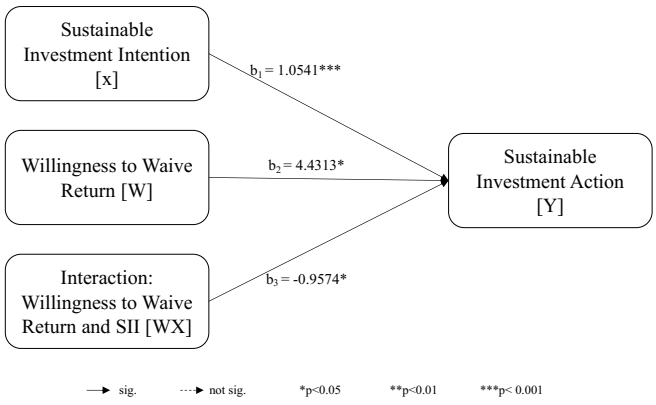

Figure 9: H5a Statistical Model

Based on the results, the null hypothesis can be rejected, which means that the Willingness to Waive Return acts as a moderator for the relationship between SCB and SIA. However, since the effect is negative, the effect of Sustainable Investment Intention on Sustainable Investment Action in the presence of the moderator "Willingness to waive Return" is weakened.

H5b: Willingness to Waive Return moderates the effect of Sustainable Consumer Behaviour on the likelihood Sustainable Investment Action

The results (Appendix 13) show that the effects of Sustainable Consumer Behaviour (ß = 0.5521) and Willingness to Waive Return (ß = 2.3245) on SIA are positive however, not statistically significant. The effect of the interaction between these two variables (ß = -0.3868), however also not significant. In summary, in the model neither SCB, Willingness to Waive Return nor the interaction have a significant impact on the likelihood of sustainable investing. It can be concluded that the null hypothesis cannot be rejected and Willingness to Waive Return does not act as a moderator for the effect of SCB on SIA.

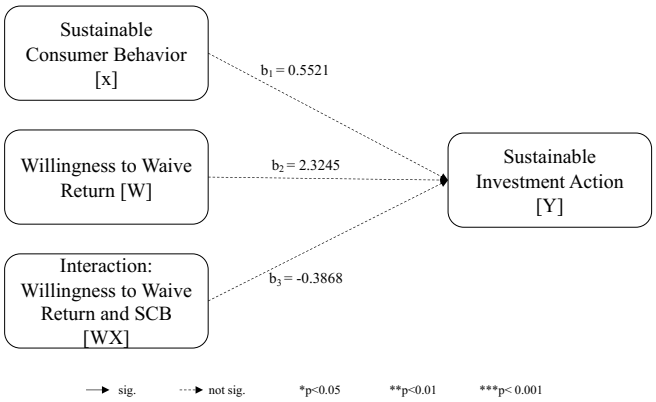

Figure 10: H5b Statistical Model

4.3.6 Hypotheses Results Summary

This table presents an overview of the hypotheses testing.

Hypothesis	Outcome
Hypothesis 1a: The probability of Sustainable Investment Behaviour significantly differs between sustainable consumers and non-sustainable consumers	**Validated**
Hypothesis 1b: Sustainable Consumer Behaviour affects Sustainable Investment Intention	**Validated**

H2a: Attitude mediates the effect of Sustainable Consumer Behaviour on Sustainable Investment Intention	**Validated**
H2b: Subjective Norm mediates the effect of Sustainable Consumer Behaviour on Sustainable Investment Intention	**Validated**
H2c: Perceived Behavioural Control mediates the effect on Sustainable Investment Intention of Sustainable Consumer Behaviour	**Validated**
H3a: Attitude and Sustainable Investment Intention serially mediates the relationship of Sustainable Consumer Behaviour and Sustainable Investment Action	**Validated**
H3b: Subjective Norm and Sustainable Investment Intention serially mediates the relationship between Sustainable Consumer Behaviour and Investment Action	**Validated**
H3c: Perceived Behavioural Control and Sustainable Investment Intention serially mediates the relationship between Sustainable Consumer Behaviour and Investment Action	**Validated**
H3d: Sustainable Investment Intention has a positive impact on Sustainable Investment Action	**Validated**
H4a: Higher Expected Return moderates the effect of Sustainable Investment Intention on the likelihood of Sustainable Investment Action	Not validated
H4b: Higher Expected Return moderates the effect of Sustainable Consumer Behaviour on the likelihood of Sustainable Investment Action	Not validated
H5a: Willingness to Waive Return moderates the effect of Sustainable Investment Intention on the likelihood of Sustainable Investment Action	**Validated**
H5b: Willingness to Waive Return moderates the effect of Sustainable Consumer Behaviour on Sustainable Investment Action	Not validated

Table 5: Hypotheses Testing Results Summary

4.3.7 Additional Hypotheses Testing

Hypothesis 6a: Affiliation to GenZ and Millennials Generation effects the likelihood of Sustainable Investing Action

This hypothesis was tested conducting a binary logistic regression because the dependent variable (Sustainable Investment Action) is coded as binary variable (Appendix 14). The results show that the independent variable "Generation" increases (ß = 0.676) the likelihood of the dependent binary variable (SIA) to change from 0 to 1 (investing sustainably). An increase in X is associated with an increase in the log-odds (and hence the probability) of the event. The Exp(B) value of 1.966 would mean that for every one-unit increase in the independent variable, the odds of success increase by a factor of 1.966. However, the results are not statistically significant. Therefore we cannot reject the null hypothesis that there is no difference in the likelihood of investing sustainably based on affiliation with the GenZ and Millennials generations.

Hypothesis 6b: Affiliation to GenZ and Millennials Generation moderates the effect of Sustainable Investment Intention on the likelihood of Sustainable Investment Action

To test this hypothesis the Process Macro Model 1 was used to assess the moderating effect of a participant's generation affiliation (Appendix 15). The log-likelihood value (Model LL) of 34.3966 indicates the quality of fit of the statistical model to the observed data and implies a relatively strong fit of the model to the data. All three effects of Sustainable Investment Intention (ß = 0.2105), GenZ & Millennials Generation (ß = - 2.5272), and the interaction between these two variables (ß = 0.8447), are not statistically significant. A conditional effect (ß = 1.0552) can only be shown for a value of 1 for the binary variable GenZ & Millennials, which is statistically significant ($p < 0.001$). That would mean that belonging to the Generation of GenZ and Millennials would have a positive effect of 1.0552. Even though, the moderating effect is positive, we cannot confirm the hypothesis due to the statistic insignificance and must

therefore accept the null hypothesis. There is no moderating effect of GenZ and Millennials affiliation of the likelihood to translate investment intention into action.

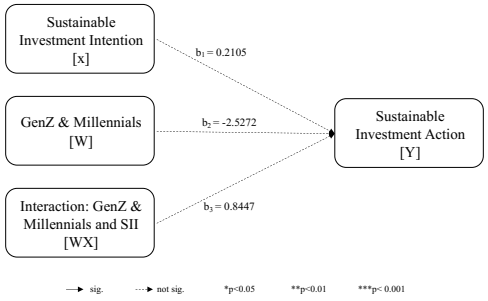

Figure 11: Additional Hypothesis Statistical Model

CHAPTER 5: CONCLUSION AND LIMITATIONS

5.1. MAIN FINDINGS AND CONCLUSION

The prevailing opinion in literature is that often peoples talk is cheap when it comes to sustainable decisions (Carlsson Hauff & Nilsson, 2022). In addition, the investment from private investors is essential to achieve the EU's anticipated climate goals (European Union, 2021). Therefore, the main objective of the thesis was to determine whether environmentally conscious consumers demonstrate a genuine interest in pursuing sustainable investments as well as ultimately walk their talk.

RQ1: Is there a link between Sustainable Consumer Behaviour and Sustainable Investment Behaviour?

The effect of Sustainable Consumer Behaviour on Sustainable Investment Behaviour is tested by hypotheses 1a. The hypothesis is validated, supporting the existence of a significant difference in the probability of Sustainable Investment Behaviour between sustainable and non-sustainable consumers. Additionally, the relationship between Sustainable Consumer Behaviour and sustainable investment intentions was assessed by hypothesis 1b, and here, the hypothesis can be validated, confirming the existence of a positive effect of Sustainable Consumer Behaviour on Sustainable Investment Intentions. Furthermore, the relationship between Sustainable Consumption Behaviour and Sustainable Investment Behaviour was examined in the presence of two moderators by hypotheses 4b and 5b, Higher Expected Return and Willingness to Waive Return. However, both hypotheses could not be validated. In summary, it can be concluded that based on the results, a connection between Sustainable Consumer Behaviour and Sustainable Investment Behaviour can be established.

RQ2: Is the Theory of Planned Behaviour a proper framework to explain the relationship between Sustainable Consumer Behaviour and Sustainable Investment Behaviour?

Whether the Theory of Planned Behaviour is a suitable model to explain the relationship between Sustainable Consumption Behaviour and Sustainable Investment Behaviour was tested through hypotheses 2 and 3. Hypotheses 2a – 2c tested the three components of the TPB as mediators between SCB and SII. All three hypotheses were validated, with Subjective Norm showing the strongest effect, followed by Attitude, and finally PBC. Hypotheses 3a to 3c examined the serial mediator effect between Sustainable Consumption Behaviour and Sustainable Investment Action through the three components of the TPB and SII. Once again,

all three hypotheses were validated. The results align with the previous hypothesis test, showing that Subjective Norm has the strongest indirect influence, followed by Attitude, and then Perceived Behavioural Control. In summary, it can be concluded that the TPB is an appropriate model for explaining the relationship between Sustainable Consumer Behaviour and Sustainable Investment Behaviour.

RQ3: Is there a gap between Sustainable Investment Intention and Sustainable Investment Action?

To answer this question, hypotheses 3d, 4a, and 5a were tested. Hypothesis 3d was validated through both the serial mediation model and a logistic regression, demonstrating a significant positive effect. Hypothesis 5a was validated, confirming the moderating effect of Willingness to Waive Return on the relationship between Sustainable Investment Intention and Sustainable Investment Action, however the effect was negative and therefor weakened the relationship. Hypotheses 4a, that tested the moderating effect of Expected Return could not be validated. Considering also the two hypotheses 1a and 1b, which also tested for consistency in sustainable behaviour, the question can be answered negatively based on the results of the present study. No gap between Sustainable Consumption Behaviour and Sustainable Investment Behaviour was found.

5.2 MANAGERIAL AND ACADEMIC IMPLICATIONS

The findings of this study provide valuable insights for companies and investment advisors who offer sustainable products and services or support their clients in sustainable investments. Companies can benefit from the results by aligning their marketing strategies with the target audience of sustainable consumers. These consumers have a strong interest in sustainable investments. Targeted advertising and product placements in this area could enhance their presence in the sustainable investment market. Financial institutions and investment advisors could develop specialized sustainable investment products to serve the needs and preferences of sustainable investors. This could potentially increase the demand for sustainable investment solutions. Consulting firms can expand their services to include sustainable investment advice and ensure that sustainable investors make informed decisions.

The findings of this study contribute to the academic research in the field of sustainable consumer and investments behaviour. The following are some academic implications: This

study contributes to a deeper understanding of the Theory of Planned Behaviour (TPB) in the context of sustainable investments. It validates that the TPB is an appropriate theoretical model for forecasting the investment behaviour of sustainable consumers. The identification of a connection between sustainable consumer behaviour and sustainable investment behaviour suggests that future research in this area should further explore the relationship between these two behaviours. Additional studies could also investigate the impact of education and habits of sustainable investment behaviour. The applied research methodology, including the use of the Theory of Planned Behaviour and statistical analyses, could serve as a foundation for further studies examining behaviours in the field of sustainability.

These managerial and academic implications provide an overview of how the results of this study are relevant both practically and academically, serving as a starting point for further discussions and research in this field.

5.3 LIMITATIONS AND FURTHER RESEARCH

There are limitations that should be considered when interpreting the findings of this study.

Firstly, the choice to conduct a survey to address the research questions at hand has some limitations. Theory of Planned Behaviour-based research often relies on self-reported measures of real behaviour. This reliance on self-reporting can introduce bias into responses and potentially result in less reliable outcomes (de Leeuw et al., 2015). To mitigate this issue, a financial incentive in the form of a lottery was implemented for the dependent variable (Sustainable Consumer Action). This was presented as a token of appreciation for participation and aimed to reduce potential biases. However, the bias remains a concern for the other measured variables. Indeed, measures of behaviour that cannot be validated may contribute to intention-action gap signifying the disparity between respondents' intentions to engage in specific actions and their actual conduct (Rhodes & de Bruijn, 2013; Sniehotta et al., 2005). Even though no gap was identified in this study, the bias persists. Furthermore, it is also claimed that sustainable behaviours are strongly influenced by knowledge and habits, factors that are not included in the Theory of Planned Behaviour (Stern, 2000), and were not considered in the study.

Secondly, another significant limitation factor is that the data utilized in this study are non-parametric, while the used Process Macro typically relies on this prerequisite.

Thirdly, the study generalizes sustainable investments, and therefore the results may differ for various types of sustainable investments. Further research should test for different kind of investments with different characteristics. For example, Green Bonds, Sustainable Equity Funds, Social Bonds, Sustainable ETFs (Exchange-Traded Funds). Additionally, other important variables can be included in the analysis, such as investment experience, risk tolerance, investment goals and time horizon. These variables could also serve as moderators in future research that may better explain the relationship between intention and action, since no moderator effect was observed in the present study.

Lastly, another interesting point that can be utilized for future research is the question of how well informed investors are about sustainable products. It is often criticized that investors may have a desire to invest sustainably but lack reliable and readily accessible information on the subject.

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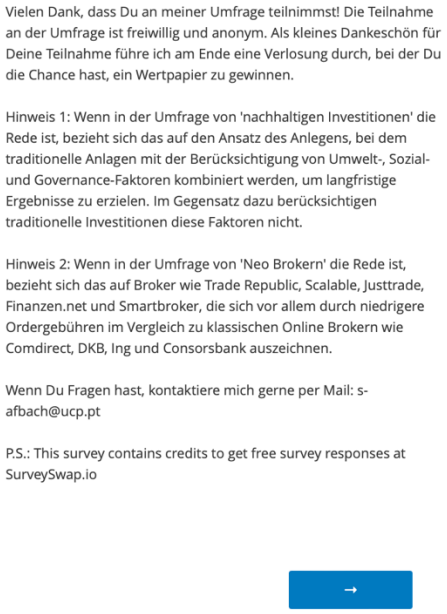
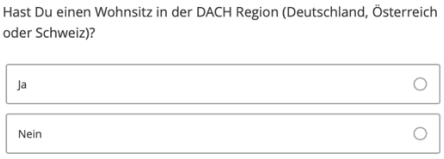
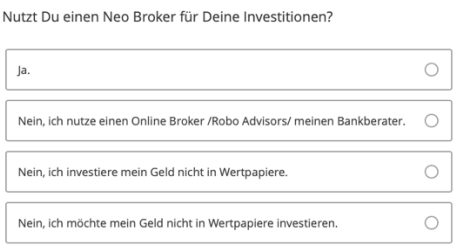
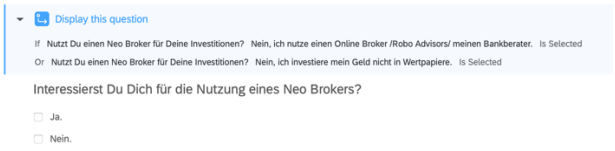
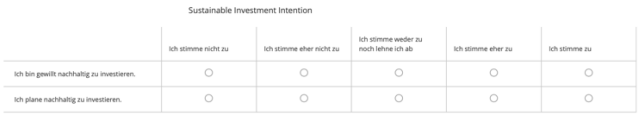
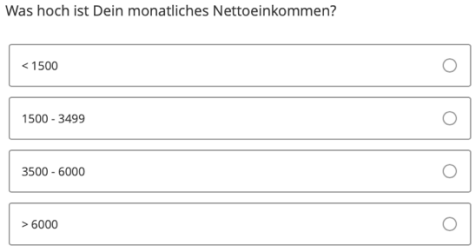
APPENDICES

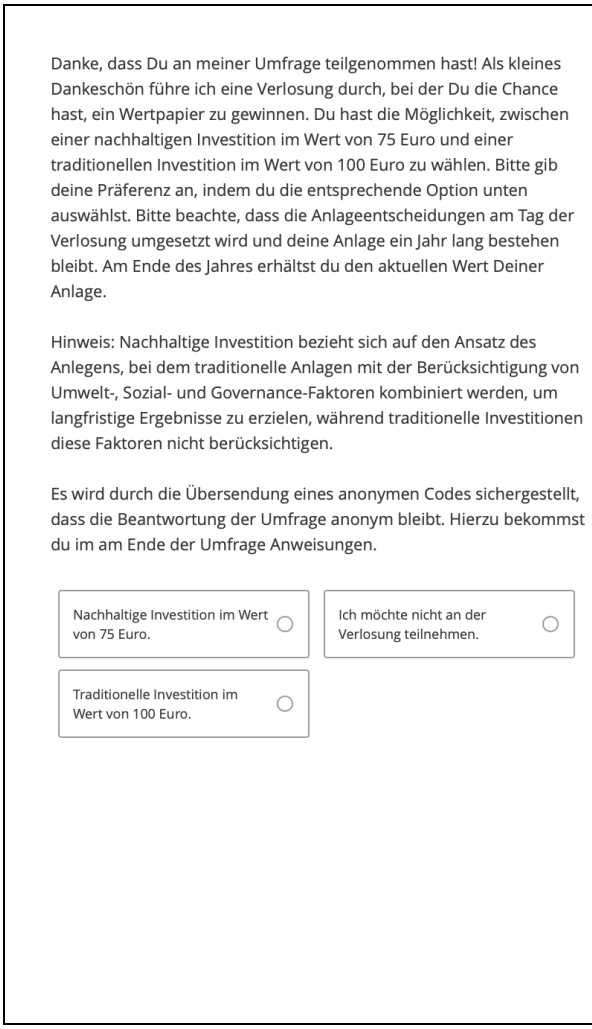
Appendix 1: Questionnaire

	Thank you for participating in my survey! Participation in the survey is voluntary and anonymous. As a token of appreciation for your participation, I will be conducting a giveaway at the end, where you have a chance to win a security. Note 1: When the survey refers to 'sustainable investments,' it pertains to the approach of investing that combines traditional investments with the consideration of environmental, social, and governance factors to achieve long-term results. In contrast, traditional investments do not take these factors into account. Note 2: When the survey mentions 'Neo Brokers,' it refers to brokers such as Trade Republic, Scalable, Justtrade, Finanzen.net, and Smartbroker, which are known for their lower trading fees compared to traditional online brokers like Comdirect, DKB, Ing, and Consorsbank. If you have any questions, feel free to contact me via email: s-afbach@ucp.pt P.S.: This survey contains credits to get free survey responses at SurveySwap.io.
	Do you have a residence in the DACH region (Germany, Austria, or Switzerland)? Yes No
	Do you use a Neo Broker for your investments? Yes No, I use an online broker/robo-advisors/my bank advisor. No, I do not invest my money in securities. No, I do not wish to invest my money in securities.

	Are you interested in using a Neo Broker? Yes No
	I make an effort to purchase paper products (toilet paper, tissues, etc.) made from recycled paper. I do not purchase a product if I know that the company selling it acts socially irresponsibly. If I am aware of potential environmental risks associated with certain products, I do not purchase them. I have paid more for socially responsible products even when a cheaper alternative was available. I have paid more for environmentally friendly products even when a cheaper alternative was available. I do not purchase household products that harm the environment. I do not buy products from companies that I know engage in forced labor, child labour, or other poor working conditions. When I have the choice, I always opt for products that cause the least environmental harm. I have purchased other products due to environmental reasons. If possible, I buy products in reusable or recyclable packaging. 5-Point Likert Scale: 1. Strongly Agree 2. Agree 3. Neutral 4. Disagree 5. Strongly Disagree
	I believe that sustainable investment has a positive impact on the environment and society. I believe that sustainable investment would give me a positive feeling. Most people who are important to me find sustainable investing desirable. Most people similar to me invest sustainably.

	If you answer the questions attentively, please select “I agree” now. (Attention Question) I believe I have the necessary knowledge and skills to invest sustainably. I believe I have the financial means to invest sustainably.
	I am willing to invest sustainably. I plan to invest sustainably. 5-Point Likert Scale: 1. I Strongly Disagree 2. I Disagree 3. I’m Neutral 4. I Agree 5. I Strongly Agree
	How would you assess the returns of sustainable investments compared to conventional investments 1. Much lower 2. A bit lower 3. Equal 4. A bit higher 5. Much higher
	How likely are you to forgo returns to invest sustainably rather than traditionally? 1. Very Likely 2. Likely 3. Neutral 4. Unlikely 5. Very Unlikely
	What is your monthly net income? 1. Up to 1499 2. Between 1500 and 3499 3. Between 3500 and 6000 4. More than 6000

Bitte gib Dein Alter an. 18-26 Jahre 27-42 Jahre 43 - 58 Jahre 57 - 75 Jahre	Please provide your age.
Mit welchem Geschlecht identifizierst Du dich? Weiblich Männlich Non-binär Kein Angabe	How do you identify your gender? Female Male Non-binary Not stated
Was ist Dein höchster Bildungsabschluss? Kein Abschluss Schulabschluss Berufsausbildung Bachelor Master Promotionsabschluss	What is your highest educational qualification? 1. No graduation 2. Secondary school leaving certificate 3. Vocational baccalaureate diploma 4. Bachelor 5. Master 6. Doctorate / habilitation



Thank you for including me in your survey! As a token of appreciation, I'd like to participate in the lottery to potentially win a security. I have the option to choose between a sustainable investment worth 75 euros and a traditional investment worth 100 euros. Please indicate my preference by selecting the appropriate option below. Please note that the investment decisions will be implemented on the day of the drawing and my investment will remain in place for one year. At the end of the year, I will receive the current value of my investment.

Note: Sustainable investment refers to an approach to investing that combines traditional investments with consideration for environmental, social, and governance factors to achieve long-term results, while traditional investments do not take these factors into account.

To ensure the survey remains anonymous, I understand that I will receive instructions on how to send an anonymous code at the end of the survey.

Sustainable Investment worth 75 €

Traditional Investment worth 100 €

I do not want to participate in the lottery

Appendix 2: Variable Recoding

Variable Name	Type	Recode Approach	Values
Sustainable Consumer Behaviour Dummy	Binary Dummy	Mean from original continuous score into divided into quartiles. Scores below or equal median (50%) were classified as 'Not Sustainable.' Scores above the median were categorized as 'Sustainable.' This approach helps account for extreme values while maintaining a meaningful comparison within the sample.	0 – Not Sustainable 1- Sustainable
Sustainable Consumer Behaviour Con.	Continuous	Mean score calculated from responses of ten questions related to sustainable consumer behaviour. This mean score represents the participants' level of reported sustainable consumer behaviour	1 – 5
Theory of Planned Behaviour components	Continuous	Mean scores were computed for each of the four TPB components: Attitude, Subjective Norm, Perceived Behavioural Control, Intention	1 – 5

Sustainable Investment Action	Binary dummy	No choice and traditional investment choice was coded into 0. Sustainable investment choice into 1.	0 – Not Sustainable Investment Action 1 – Sustainable Investment Action
Demographics	Binary Dummy	Gen Z & Millennials': Coded as 1 for participants falling into this age group, and 0 otherwise. 'Female': Coded as 1 for female participants, and 0 for others. 'Highly Educated': Coded as 1 for participants with higher education, and 0 for others. 'High Income': Coded as 1 for participants with high income, and 0 for others.	0 – Not GenZ & Millennials , 1 – Millennials; 0 – Male, 1 – Female; 0 – Not Highly Educated, 1 – Highly Educated; 0 – Low Income, 1 – High Income

Appendix 3: Kolomogrov-Smirnov Test

One-Sample Kolmogorov-Smirnov Test

			Sustainable Consumer (con.)	TPB Attitude (con.)	TPB Subjective Norm (con.)	TPB Perceived Behavioral Control (con.)	TPB Intention (con.)
N			168	168	168	168	168
Normal Parameters[a,b]	Mean		3.8274	4.0565	3.5565	3.5476	3.7708
	Std. Deviation		.66744	.83240	.93889	.99435	1.05231
Most Extreme Differences	Absolute		.096	.175	.134	.164	.205
	Positive		.039	.129	.116	.075	.121
	Negative		-.096	-.175	-.134	-.164	-.205
Test Statistic			.096	.175	.134	.164	.205
Asymp. Sig. (2-tailed)[c]			<.001	<.001	<.001	<.001	<.001
Monte Carlo Sig. (2-tailed)[d]	Sig.		.001	.000	.000	.000	.000
	99% Confidence Interval	Lower Bound	.000	.000	.000	.000	.000
		Upper Bound	.002	.000	.000	.000	.000

a. Test distribution is Normal.
b. Calculated from data.
c. Lilliefors Significance Correction.
d. Lilliefors' method based on 10000 Monte Carlo samples with starting seed 926214481.

Appendix 4: Neo Broker Descriptive Statistics

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
High Income Group * Neo Broker User	168	100.0%	0	0.0%	168	100.0%
High Income Group * Neo Broker Usage Interest	168	100.0%	0	0.0%	168	100.0%
Millenials & GenZ * Neo Broker User	168	100.0%	0	0.0%	168	100.0%
Millenials & GenZ * Neo Broker Usage Interest	168	100.0%	0	0.0%	168	100.0%
Female * Neo Broker User	168	100.0%	0	0.0%	168	100.0%
Female * Neo Broker Usage Interest	168	100.0%	0	0.0%	168	100.0%
Highly Educated * Neo Broker User	168	100.0%	0	0.0%	168	100.0%
Highly Educated * Neo Broker Usage Interest	168	100.0%	0	0.0%	168	100.0%

High Income Group * Neo Broker User Crosstabulation

			Neo Broker User		
			Not a Neo Broker User	Neo Broker User	Total
High Income Group	LowIncome	Count	85	45	130
		% within High Income Group	65.4%	34.6%	100.0%
		% within Neo Broker User	75.9%	80.4%	77.4%
		% of Total	50.6%	26.8%	77.4%
	HighIncome	Count	27	11	38
		% within High Income Group	71.1%	28.9%	100.0%
		% within Neo Broker User	24.1%	19.6%	22.6%
		% of Total	16.1%	6.5%	22.6%
Total		Count	112	56	168
		% within High Income Group	66.7%	33.3%	100.0%
		% within Neo Broker User	100.0%	100.0%	100.0%
		% of Total	66.7%	33.3%	100.0%

High Income Group * Neo Broker Usage Interest Crosstabulation

			Neo Broker Usage Interest		
			Not interested in Neo Broker	Interested in Neo Broker	Total
High Income Group	LowIncome	Count	97	33	130
		% within High Income Group	74.6%	25.4%	100.0%
		% within Neo Broker Usage Interest	77.6%	76.7%	77.4%
		% of Total	57.7%	19.6%	77.4%
	HighIncome	Count	28	10	38
		% within High Income Group	73.7%	26.3%	100.0%
		% within Neo Broker Usage Interest	22.4%	23.3%	22.6%
		% of Total	16.7%	6.0%	22.6%
Total		Count	125	43	168
		% within High Income Group	74.4%	25.6%	100.0%
		% within Neo Broker Usage Interest	100.0%	100.0%	100.0%
		% of Total	74.4%	25.6%	100.0%

Millenials & GenZ * Neo Broker User Crosstabulation

			Neo Broker User		
			Not a Neo Broker User	Neo Broker User	Total
Millenials & GenZ	GenXBabyBommer	Count	31	1	32
		% within Millenials & GenZ	96.9%	3.1%	100.0%
		% within Neo Broker User	27.7%	1.8%	19.0%
		% of Total	18.5%	0.6%	19.0%
	MilGenZ	Count	81	55	136
		% within Millenials & GenZ	59.6%	40.4%	100.0%
		% within Neo Broker User	72.3%	98.2%	81.0%
		% of Total	48.2%	32.7%	81.0%
Total		Count	112	56	168
		% within Millenials & GenZ	66.7%	33.3%	100.0%
		% within Neo Broker User	100.0%	100.0%	100.0%
		% of Total	66.7%	33.3%	100.0%

Millenials & GenZ * Neo Broker Usage Interest Crosstabulation

			Neo Broker Usage Interest		
			Not interested in Neo Broker	Interested in Neo Broker	Total
Millenials & GenZ	GenXBabyBommer	Count	26	6	32
		% within Millenials & GenZ	81.3%	18.8%	100.0%
		% within Neo Broker Usage Interest	20.8%	14.0%	19.0%
		% of Total	15.5%	3.6%	19.0%
	MilGenZ	Count	99	37	136
		% within Millenials & GenZ	72.8%	27.2%	100.0%
		% within Neo Broker Usage Interest	79.2%	86.0%	81.0%
		% of Total	58.9%	22.0%	81.0%
Total		Count	125	43	168
		% within Millenials & GenZ	74.4%	25.6%	100.0%
		% within Neo Broker Usage Interest	100.0%	100.0%	100.0%
		% of Total	74.4%	25.6%	100.0%

Female * Neo Broker User Crosstabulation

			Neo Broker User		
			Not a Neo Broker User	Neo Broker User	Total
Female	Not Female	Count	45	33	78
		% within Female	57.7%	42.3%	100.0%
		% within Neo Broker User	40.2%	58.9%	46.4%
		% of Total	26.8%	19.6%	46.4%
	Female	Count	67	23	90
		% within Female	74.4%	25.6%	100.0%
		% within Neo Broker User	59.8%	41.1%	53.6%
		% of Total	39.9%	13.7%	53.6%
Total		Count	112	56	168
		% within Female	66.7%	33.3%	100.0%
		% within Neo Broker User	100.0%	100.0%	100.0%
		% of Total	66.7%	33.3%	100.0%

Female * Neo Broker Usage Interest Crosstabulation

			Neo Broker Usage Interest		
			Not interested in Neo Broker	Interested in Neo Broker	Total
Female	Not Female	Count	60	18	78
		% within Female	76.9%	23.1%	100.0%
		% within Neo Broker Usage Interest	48.0%	41.9%	46.4%
		% of Total	35.7%	10.7%	46.4%
	Female	Count	65	25	90
		% within Female	72.2%	27.8%	100.0%
		% within Neo Broker Usage Interest	52.0%	58.1%	53.6%
		% of Total	38.7%	14.9%	53.6%
Total		Count	125	43	168
		% within Female	74.4%	25.6%	100.0%
		% within Neo Broker Usage Interest	100.0%	100.0%	100.0%
		% of Total	74.4%	25.6%	100.0%

Highly Educated * Neo Broker Usage Interest Crosstabulation

			Neo Broker Usage Interest		
			Not interested in Neo Broker	Interested in Neo Broker	Total
Highly Educated	Not Highly Educated	Count	38	15	53
		% within Highly Educated	71.7%	28.3%	100.0%
		% within Neo Broker Usage Interest	30.4%	34.9%	31.5%
		% of Total	22.6%	8.9%	31.5%
	Highly Educated	Count	87	28	115
		% within Highly Educated	75.7%	24.3%	100.0%
		% within Neo Broker Usage Interest	69.6%	65.1%	68.5%
		% of Total	51.8%	16.7%	68.5%
Total		Count	125	43	168
		% within Highly Educated	74.4%	25.6%	100.0%
		% within Neo Broker Usage Interest	100.0%	100.0%	100.0%
		% of Total	74.4%	25.6%	100.0%

Highly Educated * Neo Broker User Crosstabulation

			Neo Broker User		
			Not a Neo Broker User	Neo Broker User	Total
Highly Educated	Not Highly Educated	Count	46	7	53
		% within Highly Educated	86.8%	13.2%	100.0%
		% within Neo Broker User	41.1%	12.5%	31.5%
		% of Total	27.4%	4.2%	31.5%
	Highly Educated	Count	66	49	115
		% within Highly Educated	57.4%	42.6%	100.0%
		% within Neo Broker User	58.9%	87.5%	68.5%
		% of Total	39.3%	29.2%	68.5%
Total		Count	112	56	168
		% within Highly Educated	66.7%	33.3%	100.0%
		% within Neo Broker User	100.0%	100.0%	100.0%
		% of Total	66.7%	33.3%	100.0%

Appendix 5: Hypothesis 1 SPSS Results

Investment Action

Dependent Variable Encoding

Original Value	Internal Value
Not Sustainable Investment	0
Revealed Sustainable Investment	1

Block 0: Beginning Block

Classification Table[a,b]

			Predicted		
			Revealed Sustainable Investment Choice		
	Observed		Not Sustainable Investment	Revealed Sustainable Investment	Percentage Correct
Step 0	Revealed Sustainable Investment Choice	Not Sustainable Investment	0	77	.0
		Revealed Sustainable Investment	0	91	100.0
	Overall Percentage				54.2

a. Constant is included in the model.

b. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 0	Constant	.167	.155	1.164	1	.281	1.182

Investment Intention

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.401[a]	.161	.156	.96701

a. Predictors: (Constant), Sustainable Consumer (con.)

b. Dependent Variable: TPB Intention (con.)

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	29.699	1	29.699	31.759	<.001[b]
	Residual	155.229	166	.935		
	Total	184.927	167			

a. Dependent Variable: TPB Intention (con.)

b. Predictors: (Constant), Sustainable Consumer (con.)

Coefficients[a]

		Unstandardized Coefficients		Standardized Coefficients			Correlations			Collinearity Statistics	
Model		B	Std. Error	Beta	t	Sig.	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	1.353	.436		3.106	.002					
	Sustainable Consumer (con.)	.632	.112	.401	5.636	<.001	.401	.401	.401	1.000	1.000

a. Dependent Variable: TPB Intention (con.)

Pearson Test

Correlations

		Sustainable Consumer (con.)	TPB Intention (con.)
Sustainable Consumer (con.)	Pearson Correlation	1	.401**
	Sig. (2-tailed)		<.001
	N	168	168
TPB Intention (con.)	Pearson Correlation	.401**	1
	Sig. (2-tailed)	<.001	
	N	168	168

**. Correlation is significant at the 0.01 level (2-tailed).

Appendix 6: Cronbach's Alpha

Sustainable Consumer Behaviour

Reliability

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	168	100.0
	Excluded[a]	0	.0
	Total	168	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.853	10

Intraclass Correlation Coefficient

	Intraclass Correlation[b]	95% Confidence Interval		F Test with True Value 0			
		Lower Bound	Upper Bound	Value	df1	df2	Sig
Single Measures	.367[a]	.309	.432	6.799	167	1503	.000
Average Measures	.853[c]	.817	.884	6.799	167	1503	.000

Two-way mixed effects model where people effects are random and measures effects are fixed.

a. The estimator is the same, whether the interaction effect is present or not.

b. Type C intraclass correlation coefficients using a consistency definition. The between-measure variance is excluded from the denominator variance.

c. This estimate is computed assuming the interaction effect is absent, because it is not estimable otherwise.

Attitude towards Behaviour

Reliability

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	167	99.4
	Excluded[a]	1	.6
	Total	168	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.783	2

Intraclass Correlation Coefficient

	Intraclass Correlation[b]	95% Confidence Interval		F Test with True Value 0			
		Lower Bound	Upper Bound	Value	df1	df2	Sig
Single Measures	.643[a]	.545	.724	4.605	166	166	.000
Average Measures	.783[c]	.705	.840	4.605	166	166	.000

Two-way mixed effects model where people effects are random and measures effects are fixed.

a. The estimator is the same, whether the interaction effect is present or not.

b. Type C intraclass correlation coefficients using a consistency definition. The between-measure variance is excluded from the denominator variance.

c. This estimate is computed assuming the interaction effect is absent, because it is not estimable otherwise.

Subjective Norm

Reliability

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	166	98.8
	Excluded[a]	2	1.2
	Total	168	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.808	2

Intraclass Correlation Coefficient

	Intraclass Correlation[b]	95% Confidence Interval		F Test with True Value 0			
		Lower Bound	Upper Bound	Value	df1	df2	Sig
Single Measures	.678[a]	.586	.752	5.204	165	165	.000
Average Measures	.808[c]	.739	.859	5.204	165	165	.000

Two-way mixed effects model where people effects are random and measures effects are fixed.

a. The estimator is the same, whether the interaction effect is present or not.

b. Type C intraclass correlation coefficients using a consistency definition. The between-measure variance is excluded from the denominator variance.

c. This estimate is computed assuming the interaction effect is absent, because it is not estimable otherwise.

Perceived Behavioural Control

Reliability

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	168	100.0
	Excluded[a]	0	.0
	Total	168	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.686	2

Intraclass Correlation Coefficient

	Intraclass Correlation[b]	95% Confidence Interval		F Test with True Value 0			
		Lower Bound	Upper Bound	Value	df1	df2	Sig
Single Measures	.523[a]	.403	.624	3.189	167	167	<.001
Average Measures	.686[c]	.575	.769	3.189	167	167	<.001

Two-way mixed effects model where people effects are random and measures effects are fixed.

a. The estimator is the same, whether the interaction effect is present or not.

b. Type C intraclass correlation coefficients using a consistency definition. The between-measure variance is excluded from the denominator variance.

c. This estimate is computed assuming the interaction effect is absent, because it is not estimable otherwise.

Intention

Reliability

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	168	100.0
	Excluded[a]	0	.0
	Total	168	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.898	2

Intraclass Correlation Coefficient

	Intraclass Correlation[b]	95% Confidence Interval		F Test with True Value 0			
		Lower Bound	Upper Bound	Value	df1	df2	Sig
Single Measures	.815[a]	.757	.860	9.795	167	167	.000
Average Measures	.898[c]	.862	.925	9.795	167	167	.000

Two-way mixed effects model where people effects are random and measures effects are fixed.

a. The estimator is the same, whether the interaction effect is present or not.

b. Type C intraclass correlation coefficients using a consistency definition. The between-measure variance is excluded from the denominator variance.

c. This estimate is computed assuming the interaction effect is absent, because it is not estimable otherwise.

Appendix 7: Hypothesis 2 SPSS Results

```
Run MATRIX procedure:

***************** PROCESS Procedure for SPSS Version 4.2 *****************

         Written by Andrew F. Hayes, Ph.D.       www.afhayes.com
    Documentation available in Hayes (2022). www.guilford.com/p/hayes3

**************************************************************************
Model  : 4
    Y  : TPB_Int
    X  : ConsSC
   M1  : TPB_Atti
   M2  : TPB_SN
   M3  : TPB_PBC

Sample
Size:  168

**************************************************************************
OUTCOME VARIABLE:
 TPB_Atti

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .4025      .1620      .5842    32.0829     1.0000   166.0000      .0000

Model
             coeff         se          t          p       LLCI       ULCI
constant    2.1355      .3442     6.2035      .0000     1.4558     2.8152
ConsSC       .5019      .0886     5.6642      .0000      .3270      .6769

Standardized coefficients
            coeff
ConsSC      .4025

**************************************************************************
OUTCOME VARIABLE:
 TPB_SN

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .6119      .3745      .5547    99.3751     1.0000   166.0000      .0000

Model
             coeff         se          t          p       LLCI       ULCI
constant     .2619      .3355      .7806      .4361     -.4005      .9242
ConsSC       .8608      .0864     9.9687      .0000      .6903     1.0313

Standardized coefficients
            coeff
ConsSC      .6119
```

```
**************************************************************************
OUTCOME VARIABLE:
 TPB_PBC

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .3513      .1234      .8720    23.3643     1.0000   166.0000      .0000

Model
             coeff         se          t          p       LLCI       ULCI
constant    1.5447      .4206     3.6728      .0003      .7143     2.3751
ConsSC       .5233      .1083     4.8337      .0000      .3096      .7371

Standardized coefficients
            coeff
ConsSC      .3513

**************************************************************************
OUTCOME VARIABLE:
 TPB_Int

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .6541      .4278      .6491    30.4696     4.0000   163.0000      .0000

Model
             coeff         se          t          p       LLCI       ULCI
constant    -.0075      .4166     -.0181      .9856     -.8301      .8151
ConsSC       .0587      .1201      .4887      .6257     -.1784      .2957
TPB_Atti     .3825      .0874     4.3783      .0000      .2100      .5550
TPB_SN       .2553      .0934     2.7349      .0069      .0710      .4396
TPB_PBC      .3084      .0703     4.3878      .0000      .1696      .4473

Standardized coefficients
             coeff
ConsSC       .0372
TPB_Atti     .3026
TPB_SN       .2278
TPB_PBC      .2915

************************* TOTAL EFFECT MODEL ****************************
OUTCOME VARIABLE:
 TPB_Int

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .4007      .1606      .9351    31.7593     1.0000   166.0000      .0000

Model
             coeff         se          t          p       LLCI       ULCI
constant    1.3526      .4355     3.1055      .0022      .4927     2.2125
ConsSC       .6318      .1121     5.6355      .0000      .4105      .8532

Standardized coefficients
            coeff
ConsSC      .4007

****************** CORRELATIONS BETWEEN MODEL RESIDUALS ******************

           TPB_Atti     TPB_SN    TPB_PBC    TPB_Int
TPB_Atti     1.0000      .3500      .1246      .0000
TPB_SN        .3500     1.0000      .3035      .0000
TPB_PBC       .1246      .3035     1.0000      .0000
TPB_Int       .0000      .0000      .0000     1.0000


************** TOTAL, DIRECT, AND INDIRECT EFFECTS OF X ON Y **************

Total effect of X on Y
     Effect         se          t          p       LLCI       ULCI       c_cs
      .6318      .1121     5.6355      .0000      .4105      .8532      .4007

Direct effect of X on Y
     Effect         se          t          p       LLCI       ULCI      c'_cs
      .0587      .1201      .4887      .6257     -.1784      .2957      .0372

Indirect effect(s) of X on Y:
            Effect     BootSE   BootLLCI   BootULCI
TOTAL         .5732      .1013      .3852      .7800
TPB_Atti      .1920      .0639      .0905      .3420
TPB_SN        .2198      .1029      .0178      .4198
TPB_PBC       .1614      .0602      .0596      .2953

Completely standardized indirect effect(s) of X on Y:
            Effect     BootSE   BootLLCI   BootULCI
TOTAL         .3635      .0647      .2441      .5005
TPB_Atti      .1218      .0414      .0569      .2157
TPB_SN        .1394      .0660      .0111      .2691
TPB_PBC       .1024      .0367      .0387      .1821


********************** ANALYSIS NOTES AND ERRORS ************************

Level of confidence for all confidence intervals in output:
  95.0000

Number of bootstrap samples for percentile bootstrap confidence intervals:
  5000

------ END MATRIX -----
```

Appendix 8: Hypothesis 3 SPSS Results

Matrix

```
[DataSet1] /Users/ameliebach/Downloads/BackUpDataCleaned.sav

Run MATRIX procedure:

***************** PROCESS Procedure for SPSS Version 4.2 *****************

          Written by Andrew F. Hayes, Ph.D.       www.afhayes.com
    Documentation available in Hayes (2022). www.guilford.com/p/hayes3

**************************************************************************
Model  : 80
    Y  : TPB_Act
    X  : ConsSC
   M1  : TPB_Atti
   M2  : TPB_SN
   M3  : TPB_PBC
   M4  : TPB_Int

Sample
Size:  168

**************************************************************************
OUTCOME VARIABLE:
 TPB_Atti

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .4025      .1620      .5842    32.0829     1.0000   166.0000      .0000

Model
             coeff         se          t          p       LLCI       ULCI
constant    2.1355      .3442     6.2035      .0000     1.4558     2.8152
ConsSC       .5019      .0886     5.6642      .0000      .3270      .6769

**************************************************************************
OUTCOME VARIABLE:
 TPB_SN

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .6119      .3745      .5547    99.3751     1.0000   166.0000      .0000

Model
             coeff         se          t          p       LLCI       ULCI
constant     .2619      .3355      .7806      .4361     -.4005      .9242
ConsSC       .8608      .0864     9.9687      .0000      .6903     1.0313


**************************************************************************
OUTCOME VARIABLE:
 TPB_SN

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .6119      .3745      .5547    99.3751     1.0000   166.0000      .0000

Model
             coeff         se          t          p       LLCI       ULCI
constant     .2619      .3355      .7806      .4361     -.4005      .9242
ConsSC       .8608      .0864     9.9687      .0000      .6903     1.0313

**************************************************************************
OUTCOME VARIABLE:
 TPB_PBC

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .3513      .1234      .8720    23.3643     1.0000   166.0000      .0000

Model
             coeff         se          t          p       LLCI       ULCI
constant    1.5447      .4206     3.6728      .0003      .7143     2.3751
ConsSC       .5233      .1083     4.8337      .0000      .3096      .7371

**************************************************************************
OUTCOME VARIABLE:
 TPB_Int

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .6541      .4278      .6491    30.4696     4.0000   163.0000      .0000

Model
             coeff         se          t          p       LLCI       ULCI
constant     -.0075      .4166     -.0181      .9856     -.8301      .8151
ConsSC       .0587      .1201      .4887      .6257     -.1784      .2957
TPB_Atti     .3825      .0874     4.3783      .0000      .2100      .5550
TPB_SN       .2553      .0934     2.7349      .0069      .0710      .4396
TPB_PBC      .3084      .0703     4.3878      .0000      .1696      .4473

**************************************************************************
OUTCOME VARIABLE:
 TPB_Act

Coding of binary Y for logistic regression analysis:
   TPB_Act  Analysis
      .00       .00
     1.00      1.00

Model Summary
      -2LL    ModelLL         df          p   McFadden   CoxSnell   Nagelkrk
   195.9162    35.8133     5.0000      .0000      .1545      .1920      .2566
```

```
Model
              coeff         se          Z          p       LLCI       ULCI
constant   -4.1275     1.2433    -3.3199     .0009    -6.5643    -1.6908
ConsSC       .0636      .3525      .1805     .8567     -.6273      .7546
TPB_Atti     .4320      .2640     1.6364     .1017     -.0854      .9495
TPB_SN       .1423      .2778      .5123     .6084     -.4021      .6867
TPB_PBC     -.4151      .2212    -1.8768     .0606     -.8485      .0184
TPB_Int      .8597      .2397     3.5871     .0003      .3900     1.3294

These results are expressed in a log-odds metric.


****************** DIRECT AND INDIRECT EFFECTS OF X ON Y ******************

Direct effect of X on Y
     Effect         se          Z          p       LLCI       ULCI
      .0636      .3525      .1805      .8567     -.6273      .7546

Indirect effect(s) of X on Y:
           Effect     BootSE   BootLLCI   BootULCI
TOTAL      .6653      .3011      .1853     1.3451
Ind1       .2168      .1506     -.0490      .5433
Ind2       .1225      .2584     -.3535      .6780
Ind3      -.2172      .1346     -.5330     -.0045
Ind4       .0504      .1366     -.2047      .3468
Ind5       .1650      .0862      .0570      .3822
Ind6       .1889      .1152      .0159      .4631
Ind7       .1388      .0645      .0482      .2988

Indirect effect key:
Ind1 ConsSC      ->    TPB_Atti    ->    TPB_Act
Ind2 ConsSC      ->    TPB_SN      ->    TPB_Act
Ind3 ConsSC      ->    TPB_PBC     ->    TPB_Act
Ind4 ConsSC      ->    TPB_Int     ->    TPB_Act
Ind5 ConsSC      ->    TPB_Atti    ->    TPB_Int     ->    TPB_Act
Ind6 ConsSC      ->    TPB_SN      ->    TPB_Int     ->    TPB_Act
Ind7 ConsSC      ->    TPB_PBC     ->    TPB_Int     ->    TPB_Act

************************ ANALYSIS NOTES AND ERRORS ************************

Level of confidence for all confidence intervals in output:
  95.0000

Number of bootstrap samples for percentile bootstrap confidence intervals:
  5000

NOTE: Total effect model not available with dichotomous Y.

NOTE: STAND/EFFSIZE options not available with dichotomous Y.

NOTE: Direct and indirect effects of X on Y are on a log-odds metric.

------ END MATRIX -----
```

Appendix 9: Hypothesis 3d SPSS Log Regression

Classification Table[a]

Observed		Predicted: Revealed Sustainable Investment Choice		
		Not Sustainable Investment	Revealed Sustainable Investment	Percentage Correct
Step 1	Revealed Sustainable Investment Choice: Not Sustainable Investment	45	32	58.4
	Revealed Sustainable Investment	19	72	79.1
	Overall Percentage			69.6

a. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	TPB Intention (con.)	.875	.184	22.523	1	<.001	2.399
	Constant	-3.138	.723	18.835	1	<.001	.043

a. Variable(s) entered on step 1: TPB Intention (con.).

Bootstrap for Variables in the Equation

		Bootstrap[a]					
		B	Bias	Std. Error	Sig. (2-tailed)	95% Confidence Interval Lower	Upper
Step 1	TPB Intention (con.)	.875	.032	.213	<.001	.523	1.352
	Constant	-3.138	-.129	.838	.002	-5.028	-1.761

a. Unless otherwise noted, bootstrap results are based on 1000 bootstrap samples

Appendix 10: Hypothesis 4a Hayes 1 SII on SIA W Exp_Ret

```
**************************************************************************
Model  : 1
    Y  : TPB_Act
    X  : TPB_Int
    W  : Exp_Ret

Sample
Size:  168

**************************************************************************
OUTCOME VARIABLE:
 TPB_Act

Coding of binary Y for logistic regression analysis:
   TPB_Act  Analysis
       .00       .00
      1.00      1.00

Model Summary
       -2LL    ModelLL         df          p   McFadden   CoxSnell   Nagelkrk
   202.3336    29.3958     3.0000      .0000      .1269      .1605      .2145

Model
              coeff         se          Z          p       LLCI       ULCI
constant    -3.3827      .8338    -4.0570      .0000    -5.0169    -1.7485
TPB_Int       .9176      .2143     4.2820      .0000      .4976     1.3376
Exp_Ret      1.3923     1.7497      .7958      .4262    -2.0370     4.8217
Int_1        -.2632      .4358     -.6039      .5459    -1.1174      .5910

These results are expressed in a log-odds metric.

Product terms key:
 Int_1    :        TPB_Int  x        Exp_Ret

Covariance matrix of regression parameter estimates:
           constant    TPB_Int    Exp_Ret      Int_1
constant      .6952     -.1738     -.6952      .1738
TPB_Int      -.1738      .0459      .1738     -.0459
Exp_Ret      -.6952      .1738     3.0615     -.7426
Int_1         .1738     -.0459     -.7426      .1899

Likelihood ratio test(s) of highest order
unconditional interactions(s):
        Chi-sq         df          p
X*W      .3537     1.0000      .5520

*********************** ANALYSIS NOTES AND ERRORS ************************

Level of confidence for all confidence intervals in output:
  95.0000

NOTE: Total effect model not available with dichotomous Y.

------ END MATRIX -----
```

Appendix 11: Hypothesis 4b Hayes 1 SCB on SIA W Exp_Ret

```
**************************************************************************
Model  : 1
    Y  : TPB_Act
    X  : ConsSC
    W  : Exp_Ret

Sample
Size:  168

**************************************************************************
OUTCOME VARIABLE:
 TPB_Act

Coding of binary Y for logistic regression analysis:
   TPB_Act  Analysis
       .00       .00
      1.00      1.00

Model Summary
       -2LL    ModelLL         df          p   McFadden   CoxSnell   Nagelkrk
   219.7510    11.9785     3.0000      .0075      .0517      .0688      .0920

Model
              coeff         se          Z          p       LLCI       ULCI
constant    -1.4249     1.0919    -1.3049      .1919    -3.5650      .7153
ConsSC        .3834      .2835     1.3525      .1762     -.1722      .9391
Exp_Ret     -3.3110     2.4713    -1.3398      .1803    -8.1546     1.5327
Int_1        1.0152      .6478     1.5673      .1170     -.2544     2.2848

These results are expressed in a log-odds metric.

Product terms key:
 Int_1    :        ConsSC   x        Exp_Ret

Covariance matrix of regression parameter estimates:
           constant     ConsSC    Exp_Ret      Int_1
constant     1.1923     -.3054    -1.1923      .3054
ConsSC       -.3054      .0804      .3054     -.0804
Exp_Ret     -1.1923      .3054     6.1073    -1.5789
Int_1         .3054     -.0804    -1.5789      .4196

Likelihood ratio test(s) of highest order
unconditional interactions(s):
        Chi-sq         df          p
X*W     2.8012     1.0000      .0942
----------
    Focal predict: ConsSC   (X)
          Mod var: Exp_Ret  (W)


Conditional effects of the focal predictor at values of the moderator(s):

    Exp_Ret     Effect         se          Z          p       LLCI       ULCI
      .0000      .3834      .2835     1.3525      .1762     -.1722      .9391
     1.0000     1.3987      .5824     2.4014      .0163      .2571     2.5402

************************ ANALYSIS NOTES AND ERRORS ************************

Level of confidence for all confidence intervals in output:
  95.0000

NOTE: Total effect model not available with dichotomous Y.

------ END MATRIX -----
```

********** PROCESS Procedure for SPSS Version 4.2 **********

Written by Andrew F. Hayes, Ph.D. www.afhayes.com

Documentation available in Hayes (2022). www.guilford.com/p/hayes3

****

Appendix 12: Hypothesis 5a Hayes 1 SII on SIA W Waive Return

```
**************************************************************************
Model  : 1
    Y  : TPB_Act
    X  : TPB_Int
    W  : WaiveRet

Sample
Size:  168

**************************************************************************
OUTCOME VARIABLE:
 TPB_Act

Coding of binary Y for logistic regression analysis:
   TPB_Act  Analysis
       .00       .00
      1.00      1.00

Model Summary
       -2LL    ModelLL         df          p   McFadden   CoxSnell   Nagelkrk
   196.7541    34.9753     3.0000      .0000      .1509      .1879      .2512

Model
              coeff         se          Z          p       LLCI       ULCI
constant    -3.9392      .8957    -4.3981      .0000    -5.6947    -2.1838
TPB_Int      1.0541      .2335     4.5141      .0000      .5964     1.5117
WaiveRet     4.4313     1.8413     2.4066      .0161      .8224     8.0402
Int_1        -.9574      .4405    -2.1733      .0298    -1.8209     -.0940

These results are expressed in a log-odds metric.

Product terms key:
 Int_1    :        TPB_Int  x        WaiveRet

Covariance matrix of regression parameter estimates:
           constant    TPB_Int   WaiveRet      Int_1
constant      .8022     -.2037     -.8022      .2037
TPB_Int      -.2037      .0545      .2037     -.0545
WaiveRet     -.8022      .2037     3.3905     -.7920
Int_1         .2037     -.0545     -.7920      .1941

Likelihood ratio test(s) of highest order
unconditional interactions(s):
        Chi-sq         df          p
X*W     4.8221     1.0000      .0281
----------
    Focal predict: TPB_Int  (X)
          Mod var: WaiveRet (W)

Conditional effects of the focal predictor at values of the moderator(s):

   WaiveRet     Effect         se          Z          p       LLCI       ULCI
      .0000     1.0541      .2335     4.5141      .0000      .5964     1.5117
     1.0000      .0966      .3736      .2587      .7959     -.6355      .8288
```

Run MATRIX procedure:

```
***************** PROCESS Procedure for SPSS Version 4.2 *****************

        Written by Andrew F. Hayes, Ph.D.       www.afhayes.com

    Documentation available in Hayes (2022). www.guilford.com/p/hayes3

**************************************************************************
```

Appendix 13: Hypothesis 5b Hayes 1 SCB on SIA W Waive Return

```
Run MATRIX procedure:

***************** PROCESS Procedure for SPSS Version 4.2 *****************

          Written by Andrew F. Hayes, Ph.D.       www.afhayes.com
    Documentation available in Hayes (2022). www.guilford.com/p/hayes3

**************************************************************************
Model  : 1
    Y  : TPB_Act
    X  : ConsSC
    W  : WaiveRet

Sample
Size:  168

**************************************************************************
OUTCOME VARIABLE:
 TPB_Act

Coding of binary Y for logistic regression analysis:
   TPB_Act  Analysis
       .00       .00
      1.00      1.00

Model Summary
       -2LL    ModelLL         df          p   McFadden   CoxSnell   Nagelkrk
   220.6102    11.1192     3.0000      .0111      .0480      .0640      .0856

Model
              coeff         se          Z          p       LLCI       ULCI
constant    -2.1195     1.0980    -1.9304      .0536    -4.2714      .0325
ConsSC        .5521      .2924     1.8880      .0590     -.0210     1.1253
WaiveRet     2.3245     2.7642      .8409      .4004    -3.0931     7.7422
Int_1        -.3868      .6666     -.5803      .5617    -1.6933      .9196

These results are expressed in a log-odds metric.

Product terms key:
 Int_1    :        ConsSC   x        WaiveRet

Covariance matrix of regression parameter estimates:
           constant     ConsSC   WaiveRet      Int_1
constant     1.2055     -.3166    -1.2055      .3166
ConsSC       -.3166      .0855      .3166     -.0855
WaiveRet    -1.2055      .3166     7.6406    -1.8232
Int_1         .3166     -.0855    -1.8232      .4443

Likelihood ratio test(s) of highest order
unconditional interactions(s):
        Chi-sq         df          p
X*W      .3367     1.0000      .5617
```

Appendix 14: Hypothesis 6a Log Regression

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	2.916	1	.088
	Block	2.916	1	.088
	Model	2.916	1	.088

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	228.814[a]	.017	.023

a. Estimation terminated at iteration number 3 because parameter estimates changed by less than .001.

Classification Table[a]

			Predicted		
			Revealed Sustainable Investment Choice		
	Observed		Not Sustainable Investment	Revealed Sustainable Investment	Percentage Correct
Step 1	Revealed Sustainable Investment Choice	Not Sustainable Investment	19	58	24.7
		Revealed Sustainable Investment	13	78	85.7
	Overall Percentage				57.7

a. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	Millenials & GenZ	.676	.400	2.861	1	.091	1.966
	Constant	-.379	.360	1.112	1	.292	.684

a. Variable(s) entered on step 1: Millenials & GenZ.

Appendix 15: Hypothesis 6b Hayes 1 SII on SIA W Generation

```
Run MATRIX procedure:

***************** PROCESS Procedure for SPSS Version 4.2 *****************

          Written by Andrew F. Hayes, Ph.D.       www.afhayes.com
    Documentation available in Hayes (2022). www.guilford.com/p/hayes3

**************************************************************************
Model  : 1
    Y  : TPB_Act
    X  : TPB_Int
    W  : MilGZDUm

Sample
Size:  168

**************************************************************************
OUTCOME VARIABLE:
 TPB_Act

Coding of binary Y for logistic regression analysis:
   TPB_Act  Analysis
       .00       .00
      1.00      1.00

Model Summary
       -2LL    ModelLL         df          p   McFadden   CoxSnell   Nagelkrk
   197.3328    34.3966     3.0000      .0000      .1484      .1851      .2474

Model
              coeff         se          Z          p       LLCI       ULCI
constant    -1.1599     1.4347     -.8085      .4188    -3.9719     1.6520
TPB_Int       .2105      .3721      .5656      .5717     -.5189      .9398
MilGZDUm    -2.5272     1.6736    -1.5100      .1310    -5.8074      .7530
Int_1         .8447      .4326     1.9526      .0509     -.0032     1.6927

These results are expressed in a log-odds metric.

Product terms key:
 Int_1    :        TPB_Int  x        MilGZDUm

Covariance matrix of regression parameter estimates:
           constant    TPB_Int   MilGZDUm      Int_1
constant     2.0583     -.5166    -2.0583      .5166
TPB_Int      -.5166      .1385      .5166     -.1385
MilGZDUm    -2.0583      .5166     2.8010     -.7018
Int_1         .5166     -.1385     -.7018      .1872

Likelihood ratio test(s) of highest order
unconditional interactions(s):
        Chi-sq         df          p
X*W     3.5744     1.0000      .0587
----------
    Focal predict: TPB_Int  (X)
          Mod var: MilGZDUm (W)

Conditional effects of the focal predictor at values of the moderator(s):

   MilGZDUm     Effect         se          Z          p       LLCI       ULCI
      .0000      .2105      .3721      .5656      .5717     -.5189      .9398
     1.0000     1.0552      .2207     4.7818      .0000      .6227     1.4877

************************ ANALYSIS NOTES AND ERRORS ************************

Level of confidence for all confidence intervals in output:
  95.0000

NOTE: Total effect model not available with dichotomous Y.

------ END MATRIX -----
```