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The Attitude-Behavior Gap – Drivers and Barriers of Sustainable Consumption

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Abstract

Individuals' consumption behavior plays a key role on the path to a sustainable future. Understanding what influences the decision to act in a sustainable manner is therefore crucial. The aim of this thesis is to provide a structured overview of the current state of academic literature on the drivers and barriers of sustainable consumption and to discuss the related phenomenon of the attitude-behavior gap. The identified influencing factors can be broadly divided into two categories: individual-related determinants and environmental determinants. The former includes socio-demographics, personal characteristics and value orientation, non-cognitive factors (habits and emotions) and cognitive factors like knowledge. The environmental determinants comprise product-, service-, or behavior-related factors (such as stereotypes towards sustainable products), corporate activities (e.g., communication efforts), social influence as well as structural conditions like the available infrastructure. From the diversity of influencing factors and their interplay, it becomes clear that to promote sustainable behavior or to close the attitude-behavior gap, a holistic approach is needed that combines different instruments and is adapted to the specific type of consumer behavior.

Keywords: Sustainable consumption; attitude-behavior gap; sustainable choices; sustainable consumer behavior.

1. Introduction

With adolescents around the globe demonstrating for a sustainable future and businesses increasingly embracing the idea of sustainable economic activities,¹ it is undeniable that sustainability has evolved from a niche topic into a mainstream one.² The consumption behavior of individuals plays a key role in enabling a sustainable future for the world.³ This is manifested in the United Nations' 2030 Agenda for Sustainable Development with Goal Number 12 being "Responsible Consumption and Production".⁴ In Germany, social justice as well as environment and climate protection rank in second and third place among the most important problems the country currently faces. However, only 19% of respondents think that enough is done for environmental and climate protection by German citizens.⁵ This indicates a dis-

crepancy between people's attitudes toward sustainable practices and the extent to which they actually act on them. This phenomenon is also frequently observed in the academic literature and is one of the few unambiguous insights concerning sustainable consumer behavior.⁶ Generally, this topic has received increasing and considerable coverage in academic publications across various fields of research.⁷ Nevertheless, there is a lack of understanding regarding the factors shaping sustainable consumer behavior, and researchers repeatedly comment on the need for clarity and further research.⁸

Therefore, this thesis aims to structure and discuss facilitators as well as obstacles of sustainable consumption identified in the literature to date and thereby give the reader an overview of the current state of scientific knowledge on this subject. This will be achieved through a systematic literature review. The thesis is structured as follows: Firstly, sustainable consumption, as well as the attitude-behavior gap, will be conceptualized, and reasons for the gap will be outlined.

¹Cf. Bové et al. (2017), p.1; British Broadcasting Corporation (2019), p.1.

²Cf. Carrington, Neville, and Whitwell (2010), p.40; Mittelstaedt, Shultz, Kilbourne, and Peterson (2014), p.260.

³Cf. Sanne (2002), p.273; Tanner, Wölfing, and Kast (2003), p.883.

⁴Cf. United Nations (2019).

⁵Cf. Rubik et al. (2019), p.16f.

⁶Cf. Caruana, Carrington, and Chatzidakis (2016), p.215.

⁷Cf. Liu, Qu, Lei, and Jia (2017), p.427.

⁸see, for example Chatzidakis, Kastanakis, and Stathopoulou (2016), p.95; Abdulrazak and Quoquab (2018), p.16.

Subsequently, relevant theories for understanding consumer behavior in the context of sustainability will be discussed. This is followed by a synopsis of the drivers and barriers of sustainable consumption. Finally, implications for the effective promotion of sustainable consumerism will be derived, and future directions for research will be suggested.

2. Conceptual foundation

2.1. Defining sustainable consumption

The concept of sustainable consumption is traced to the action plan for sustainable development adopted in 1992 by the United Nations' Rio Earth Summit (Agenda 21).⁹ Since no definition of the term was included therein, 'sustainable consumption' was first defined by the Oslo Symposium two years later. As this definition was not a scientific one, it was heavily criticized in the academic field.¹⁰ Hence, several attempts were made to provide a more accurate and comprehensive characterization of the term, leading to a lack of clarity within the academic literature due to a myriad of available definitions.¹¹ A selection of these as well as related concepts can be found in the appendix¹² (Appendix A). What becomes evident from these definitions is that conceptualizations of sustainable consumption should (a) capture the entire consumption cycle, (b) take into account ecological as well as social issues, (c) consider the well-being of the global population and (d) take a long-term perspective. With this in mind, the present thesis views sustainable consumption as the selection, acquisition, use and disposal of products and services that considers not only the consumer's own needs and wants, but also those of the current and future population in both an ecological and social respect.¹³

It is thus a very broad and multidimensional concept, which contains a range of different behaviors with varying levels of consumer commitment. It comprises, for instance, low-commitment acts such as buying fair-trade products but also actions that require deeper commitment like the reduction of the consumption level in general.¹⁴ The practice of reduced consumption also represents the difference between the terms 'sustainable consumption' and 'consumption of sustainable products', as the latter merely refers to consuming products with positive social and/or environmental attributes,¹⁵ omitting the act of not consuming at all.

Ethical consumption is often used as a synonym for sustainable consumption,¹⁶ although it denotes consumption activities that are influenced by the consumer's ethical con-

cerns.¹⁷ It, therefore, differs from the aforementioned conceptualization of sustainable consumption, which does not necessarily have to be morally motivated. The purchase of environmentally friendly alternatives for reasons of superior taste or look can be classified as sustainable without being considered ethical.¹⁸ Ethical consumption is commonly used to refer to problems with workers' rights, animal welfare or fair trade, but it includes environmental issues as well.¹⁹

Further similar and overlapping concepts can be found in the literature. These include 'green consumption' (inconsistent definitions exist in the literature, either referring to ecological issues only²⁰ or including social aspects too²¹), 'pro-environmental consumption or behavior' (concerned with effects on the natural and built world only²²), as well as 'responsible consumption' (varying definitions throughout the literature with different widths of associated activities²³). As this thesis views sustainable consumption as an encompassing and holistic construct, the just mentioned concepts all fall under this definition.

The cube model of sustainable consumption behavior by Geiger et al. (2017) is a framework that reflects the multifaceted nature of sustainable consumption. In addition to the already discussed aspects of (a) ecological as well as socio-economic impact and (b) different consumption phases, it highlights (c) the various areas of consumption in people's lives (e.g. food, housing, mobility) and (d) the impact of chosen behaviors (from low to high).²⁴ Although sustainable behavior comes down to its impact in the end, one cannot expect people to always be aware of the factual effect their consumption choices have. For the assessment of sustainability in consumption acts, the underlying pro-ecological or pro-social intention of the consumer therefore often counts. This is called an intent-orientated approach and it stands in contrast to the impact-orientated approach, which is concerned with the social and ecological consequences of the action at stake.²⁵ Both methods should ideally be combined for the promotion of sustainable consumption, meaning that in particular motives for consumer behaviors that have the highest sustainability impact should be identified and encouraged.²⁶

2.2. The attitude-behavior gap

As previously mentioned, an issue that often arises during the exploration of sustainable consumption is a phenomenon that stems from social psychology and is called

¹⁷Cf. Cooper-Martin and Holbrook (1993), p.113; Kushwah, Dhir, and Sagar (2019), p.3.

¹⁸Cf. Strubel (2017), p.11.

¹⁹Cf. Shaw and Shiu (2002), p. 286.

²⁰Cf. Tanner et al. (2003), p. 885.

²¹Cf. Moisander (2007), p.405.

²²Cf. Kollmuss and Afyeman (2002), p.240.

²³Cf. Valor and Carrero (2014), p.1110f.; Gupta and Agrawal (2018), p.524.

²⁴Cf. Geiger et al. (2017), p.20ff.

²⁵Cf. Fischer, Michelsen, Birgit, and Di Giulio (2012), p.73f.

²⁶Cf. Geiger et al. (2017), p.19.

⁹Cf. United Nations (2018), p.18.

¹⁰Cf. Geiger, Flischer, and Schrader (2017), p.20.

¹¹Cf. Peattie (2010), p.197.

¹²The Appendix can be found on <https://jums.academy>.

¹³Cf. Vermeir and Verbeke (2006), p.170* (this is only the secondary source as the primary source is in Dutch); Di Giulio, Fischer, Schäfer, and Blätzel-Mink (2014), p.54; Geiger et al. (2017), p.20.

¹⁴Cf. Prothero et al. (2011), p.32; Dermody, Hanmer-Lloyd, Koenig-Lewis, and Zhao (2015), p.1473; Scott and Weaver (2018), p.291.

¹⁵Cf. Luchs, Naylor, Irwin, and Raghunathan (2010), p.18.

¹⁶Cf. Luchs et al. (2010), p.18.

“attitude-behavior gap”.²⁷ Several synonyms and very similar concepts exist in the literature, such as ‘ethical purchasing gap’²⁸, ‘ethical consumption paradox’²⁹, ‘values-action gap’³⁰, ‘words/deeds inconsistency’³¹ or even ‘30:3 syndrome’ (attributed to a study which found that 30% of people claim to be motivated to buy ethically featured products, but these only account for 3% of the market share³²). The following section gives a more detailed outline in terms of definition and causes of this widely documented³³ matter.

2.2.1. Defining the attitude-behavior gap

Ajzen (1991) defines the attitude toward a behavior as “the degree to which a person has a favorable or unfavorable evaluation or appraisal of the behavior in question” (p. 188). In the simplest terms, it represents how a person feels or thinks about a certain behavior; for instance about buying groceries in zero waste shops. It should be clarified that ‘attitude toward a behavior’ refers to a specific attitude, which are to be distinguished from general ones, such as one’s attitude toward waste avoidance at large.³⁴ The conceptualization of attitudes usually contains both cognitive (rational considerations like cost and benefit) and affective (experienced feelings) elements.³⁵ The related concept of values, by contrast, is more basic. Values often underlie attitudes, which are linked more closely to specific objects or situations.³⁶ Beliefs are another concept related to attitudes. They refer to the information (the knowledge) a person has about an object, issue or person.³⁷

An interesting and at this point noteworthy model is the one of dual attitudes by Wilson, Lindsey, and Schooler (2000). It proposes that people can hold two attitudes about the same object simultaneously, one implicit and the other explicit. While implicit attitudes are automatically activated and thus often not recognized, explicit ones are under conscious control as they require cognitive effort. The cognitive capacity to retrieve the explicit attitude determines whether or not the implicit attitude gets overridden.³⁸ This differentiation will be relevant for a later discussion.

For now, it is important to note that attitudes can be changed or altered relatively easy by new information or by both internal and external circumstances,³⁹ which already indicates that once-voiced attitudes are not always in accordance with future actions. This discrepancy is what the attitude-behavior gap is about. It refers to the inconsistency

between a person’s attitude and their actual behavior; and it has been identified by several authors in the context of sustainable consumption.⁴⁰

In this context, it is important to distinguish between attitudes and intentions, the latter of which is defined as “instructions that people give to themselves to behave in certain ways” (Triandis, 1980, p. 203). They are conceptualized as people’s motivations or decisions to perform a particular action. Representative responses have the form “I intend / plan to do behavior x” or “I will do behavior x”⁴¹ Most models in the field of sustainable consumer behavior are based on the following core cognitive progression: Beliefs inform attitudes, these attitudes lead to intentions, and intentions, in turn, determine behavior. According to this framework, there may be a gap between attitude and intention as well as between intention and behavior that contribute to the overall discrepancy between what consumers express via attitudes and what they end up doing.⁴²

2.2.2. Causes for the attitude-behavior gap

Four major grounds for the attitude-behavior gap can be determined from the literature. These are briefly specified hereinafter.

Deficiency of research methods

The first reason for the gap can be attributed to the applied study designs, which can result in several biases and other problems, such as inadequate data collection or errors made by informants in the prediction of their behavior. Apart from biases that are associated with decontextualization of the respondents and sample selection toward more sustainable consumers,⁴³ the most prominent bias is the social desirability bias, where respondents feel social pressure to provide socially acceptable answers.⁴⁴ Consequently, consumers tend to overstate their socially and ecologically responsible attitudes. This is especially true for self-reported survey instruments.⁴⁵ These are predominantly used in studies on sustainable consumption, with only a few researchers observing actual behavior.⁴⁶ It was found that when self-reported rather than actual behavior was assessed, lower attitude-behavior correlations were obtained.⁴⁷ A solution to this issue was recently suggested: Implicit attitudes should serve as an additional measure since they are more robust to external stimuli and therefore also immune to the social desirability bias.⁴⁸

²⁷Cf. Lapiere (1934), p.230ff.

²⁸Cf. Nicholls and Lee (2006), p.369.

²⁹Cf. Carrington, Zwick, and Neville (2016), p.21.

³⁰Cf. Ertz, Karakas, and Sarigöllü (2016), p.3971.

³¹Cf. Newholm and Shaw (2007), p.257.

³²Cf. Cowe and Williams (2000), p.5.

³³Cf. Carrington et al. (2010), p.141.

³⁴Cf. Ajzen and Fishbein (2005), p.173f.

³⁵Cf. Newhouse (1990), p.26; Ajzen (2011), p.1116.

³⁶Cf. Homer and Kahle (1988), p.638.

³⁷Cf. Petty and Cacioppo (1996), p.7.

³⁸Cf. Wilson et al. (2000), p.104ff.

³⁹Cf. Ajzen and Fishbein (2005), p.177; Schwarz (2007), p.642.

⁴⁰E.g. Cf. Roberts (1996b), p.80; Boulstridge and Carrigan (2000), p.355; Carrigan and Attalla (2001), p.364; Chatzidakis, Hibbert, and Smith (2007), p.89.

⁴¹Cf. Sheeran (2002), p.2.

⁴²Cf. Carrington et al. (2010), p.142.

⁴³Cf. Auger and Devinney (2007), p.363ff.

⁴⁴Cf. Carrington et al. (2010), p.143.

⁴⁵Cf. Chung and Monroe (2003), p.296ff.

⁴⁶Cf. Davies, Lee, and Ahonkhai (2012), p. 38; see exceptions like Buttlar, Latz, and Walther (2017), p.155.

⁴⁷Cf. Hines, Hungerford, and Tomera (1987), p.4.

⁴⁸Cf. Govind, Singh, Garg, and D’Silva (2019), p. 1198.

Another problem that can lead to discrepancies in the attitude-behavior relation is the unequal scope of measurement of attitudes and actions, as demonstrated by the following exemplary questions: “Do you care about the environment?” and “Do you recycle?”, whereby the scope of the question referring to attitude is not as specific as the one about the behavior.⁴⁹ Furthermore, as the measurement of attitudes and the execution of the discussed behavior are temporally separated, consumers tend to make mistakes in their predictions of future behavior (e.g. due to unavailability of the sustainable product at the time of actual purchase) or in their recollection of past behavior.⁵⁰

Misleading monistic view of morality and personal goals

The second reasoning is not as well-explored in the literature as the social desirability bias, but it is, in a distant sense, also related to the just-mentioned insufficient capture of a person's attitudes. The core issues here are the multiple fragmented and competing identities of consumers.⁵¹ Consumption choices are outcomes of balancing several potentially conflicting demands and desires. Thus, failure to engage in a sustainable consumption act does not necessarily mean that the consumer has incorrectly stated their attitude toward sustainable consumption. Instead, not all moral demands were considered, including the most decisive one that has overruled the attitude toward consuming sustainably. While a mother, for instance, may care for the environment, the duty of care for her child might outrank her environmentally conscious motivations.⁵² The problem of duty conflicts is also reflected in the conceptualization of consumer choices as personal projects by Valor and Carrero (2014). According to this view, the gap is attributable to conflicts between different personal projects a consumer has, roles he or she plays and the influence of significant others.⁵³ This stresses the importance of holistically viewing all of a consumer's moral attitudes and the interactions between them.⁵⁴

Rationalization strategies

Thirdly, rationalization strategies used by consumers to reduce feelings of remorse when past consumption choices contradict their attitudes may also contribute to the attitude-behavior gap.⁵⁵ Chatzidakis et al. (2007) revealed different before- or after-the-purchase justifications, labeled as “neutralization techniques” and describing mechanisms that consumers use to validate actions in violation of their attitudes. These encompass (a) denial of responsibility (e.g. lack of available information), (b) appeal to higher loyalties (e.g. financial constraints or inferiority of product), (c) denial of in-

jury or of benefit (i.e. actions allegedly make little difference) and (d) condemning the condemners (referring to the unsustainable actions of others).⁵⁶ Additional authors extended these findings and discovered further justifications.⁵⁷ A table summarizing and explaining these can be found in the Appendix B. Justification strategies facilitate the gap by helping consumers minimize or even eliminate cognitive dissonance that usually arises from behaving against one's attitude. Neutralization techniques not only moderate the relationship between attitudes and behaviors but are also a determinant that can directly and negatively influence sustainable behaviors.⁵⁸

The plethora of influencing factors

Lastly, a parallel and partly overlapping line of research took a modelling approach and identified potential variables that have a negative effect on behavior and therefore inhibit the translation of pro-environmental and pro-social attitude into actual actions.⁵⁹ These variables comprise both individual-related as well as circumstantial factors and change during different phases of the consumption cycle.⁶⁰ Since they not only explain the gap between attitude and behavior in particular but also represent obstructive factors of sustainable consumption more broadly, they are discussed as part of the overview of determinants in chapter four.

3. Theoretical foundation

To deeply understand sustainable consumer behavior, not only an awareness of reasons for the distance between attitudes and actions but also a knowledge of how behavior is generally formed is required. There are three classical socio-cognitive behavioral theories originally applied in other fields that have dominated the research agenda of sustainable consumption.⁶¹ Their core statements are described and critically appraised below.

3.1. Theory of Reasoned Action and Theory of Planned Behavior

Ajzen and Fishbein (1980) Theory of Reasoned Action (TRA) revolutionized the comprehension of the link between attitude and behavior by introducing the mediating role of intention.⁶² It proposes that behavior is directly determined by an intention to perform the behavior and that this behavioral intention is, in turn, a function of subjective norms (the perceived social pressure of relevant others) and attitude

⁴⁹Cf. Newhouse (1990), p.28; Kollmuss and Afyeman (2002), p.242.

⁵⁰Cf. Carrington et al. (2010), p.141.

⁵¹Cf. Szmigin, Carrigan, and McEachern (2009), p.229; Heath, O'Malley, Heath, and Story (2016), p.246.

⁵²Cf. Heath et al. (2016), p.246.

⁵³Cf. Valor and Carrero (2014), p.1119.

⁵⁴Cf. Heath et al. (2016), p.246.

⁵⁵Cf. Chatzidakis et al. (2007), p.89; McDonald, Oates, Thyne, Timmis, and Carlile (2015), p.1504f.; Gruber and Schlegelmilch (2014), p.39.

⁵⁶Cf. Chatzidakis et al. (2007), p.89ff.

⁵⁷Cf. D'Astous and Legendre (2009), p.264; Eckhardt, Belk, and Devinney (2010), p.430ff.; Gruber and Schlegelmilch (2014), p.40f.; McDonald et al. (2015), p.1512ff..

⁵⁸Cf. Chatzidakis et al. (2007), p.95ff.

⁵⁹Cf. Caruana et al. (2016), p.215.

⁶⁰Cf. Mühlthaler and Rademacher. *uwf UmweltWirtschaftsForum* (2017), p.191.

⁶¹Cf. Chatzidakis et al. (2016), p.95.

⁶²Cf. Hassan, Shiu, and Shaw (2016), p.220.

toward the behavior.⁶³ In order to account for circumstantial limitations, i.e. when the individual lacks complete volitional control over the behavior, an otherwise identical theory was introduced under the name ‘Theory of Planned Behavior’ (TPB) which added a further antecedent of behavioral intention, namely Perceived Behavioral Control (PBC).⁶⁴ PBC represents the individual’s “perceived ease or difficulty of performing the behavior” (Ajzen, 1991, p.188). It is deemed to reflect both the individual’s anticipated impediments and past experiences. Not only does it indirectly influence behavior through its effect on intention, but it also has a direct influence on behavior in case it is a reliable predictor of objective behavioral control.⁶⁵ The three antecedents of behavioral intentions are underwritten by different kinds of salient beliefs held by consumers as demonstrated in the graphical representation of the TPB below:

As figure 1 illustrates, underlying behavioral, normative and control beliefs (further defined in the graphic) affect the antecedents of intention and can, in turn, vary as a function of a broad spectrum of different background factors.⁶⁷ In terms of control beliefs, it might be worth mentioning what perceived self-efficacy and controllability mean. Both are seen as lower-order constructs to PBC. While the former captures a person’s belief about their capability to execute a desired action, controllability refers to the extent to which performing the behavior is up to the actor.⁶⁸

Overall, behavior is viewed as a result of weighting costs and benefits (captured in the attitudes) as well as perceived social influence (social norms) and the difficulty of the action. Hence, the TPB regards individuals as utility-maximizing agents, acting rationally and consciously for their own good.⁶⁹ Many studies have tested whether the assumptions of TRA and TPB hold true. The results regarding the explanatory power vary significantly, from a mere R² of 0.0036 for recycling behavior⁷⁰ up to 0.84 for voting on a law that ensures a high reuse or recycling rate of bottles^{71,72}. Possible reasons for this may be the variation in either the operationalization of the variables or in the types of behaviors the studies tried to explain. Consequently, the two theories were frequently criticized by researchers of sustainable consumer behavior. The presumably most prominent point of criticism is the lack of attention given to understanding normative, affective and habitual dimensions of people’s behavior⁷³ and to contextual factors.⁷⁴

3.2. Norm Activation Theory

As sustainable consumption means acting on behalf of collective beneficial outcomes in the long run, it is unlikely only a rational decision as suggested by the TPB.⁷⁵ Thus, pro-social motives might also play a role, which are covered by the Model of Norm Activation (NAM) by Schwartz (1977).⁷⁶ Norm activation describes a process in which individuals construct self-expectations with regard to pro-social behavior.⁷⁷ According to this less widespread theory, personal norms, conceptualized as “feelings of moral obligation, not as intentions” (Schwartz, 1977, p.227) are the only direct determinants of altruistic actions, such as sustainable consumption practices. Personal norms, in turn, are created by two personality trait activators, namely the awareness of the consequences of performing or not performing a behavior as well as the ascription of responsibility to oneself. Groot and Steg (2009) provided strong empirical evidence that the NAM is a mediator model. According to this conceptualization, a person must be aware of the consequences of a behavior before feeling responsible for it,⁷⁸ as shown in figure 2 below.

Studies show empirical support for the NAM,⁸⁰ and a meta-analysis revealed that integrating the NAM and TPB is useful, thereby suggesting that sustainable consumption behavior is probably best understood as a mixture of self-interest and pro-social motivations.⁸¹

3.3. Deficiencies of the TRA, the TPB and the NAM

The abovementioned theories have three shortcomings in common. For one thing, they do not explicitly or sufficiently take into account emotions. For another thing, they do not make allowance for unconscious or habitual actions (for a discussion of their influence see chapter 4.1.3).⁸² Lastly, situational factors that intervene during the transition of intentions into actual behavior (see chapter 4.2) are not considered.⁸³ An attempt to overcome some of these insufficiencies has been made by Guagnano, Stern, and Dietz (1995) in their ABC model, which proposes behavior (B) is an interactive product of attitudinal variables (A) and contextual factors (C). It thus takes both an individual’s self-factors and external components into account, such as institutional context and social influence,⁸⁴ but it still omits the influence of habits on behavior. Triandis (1977) Theory of Interpersonal Behavior (TIB) is a model that does not suffer from this limitation. According to the TIB, intention – as in the TRA and

⁶³Cf. Ajzen and Fishbein (1980), p.6.

⁶⁴Cf. Ajzen (1991), p.182.

⁶⁵Cf. Ajzen (1991), p.188; Bamberg and Möser (2007), p.16.

⁶⁶Own illustration based on Ajzen and Fishbein (2005), p. 194ff.

⁶⁷Cf. Ajzen and Fishbein (2005), p. 194.

⁶⁸Cf. Ajzen (2002), p.672.

⁶⁹Cf. Ajzen (1991), p.191ff.; Bamberg and Möser (2007), p.16.

⁷⁰Cf. Davies, Foxall, and Pallister (2002), p.70.

⁷¹Cf. Gill, Crosby, and Taylor (1986), p.547.

⁷²Cf. Hassan et al. (2016), p.224.

⁷³Cf. Shaw, Shiu, Hassan, Bekin, and Hogg (2007), p.33.

⁷⁴Cf. Sutton (1998), p.1335; Carrington et al. (2010), p.148.

⁷⁵Cf. van Dam (2016), p.30.

⁷⁶Cf. Bamberg and Möser (2007), p.15.

⁷⁷Cf. Schwartz (1977), p.223.

⁷⁸Cf. Groot and Steg (2009), p. 443.

⁷⁹Own illustration based on Schwartz (1977), p.223 and Groot and Steg (2009), p.443.

⁸⁰Cf. Harland, Staats, and Wilke (2007), p.328; Onwezen, Antonides, and Bartels (2013), p.149.

⁸¹Cf. Bamberg and Möser (2007), p.21.

⁸²Cf. Ajzen and Fishbein (2000), p.3ff.; J. Davies et al. (2002), p.98.; Conner, Godin, Sheeran, and Germain (2013), p.264.

⁸³Cf. Carrington et al. (2010), p.142.

⁸⁴Cf. Guagnano et al. (1995), p.701ff.

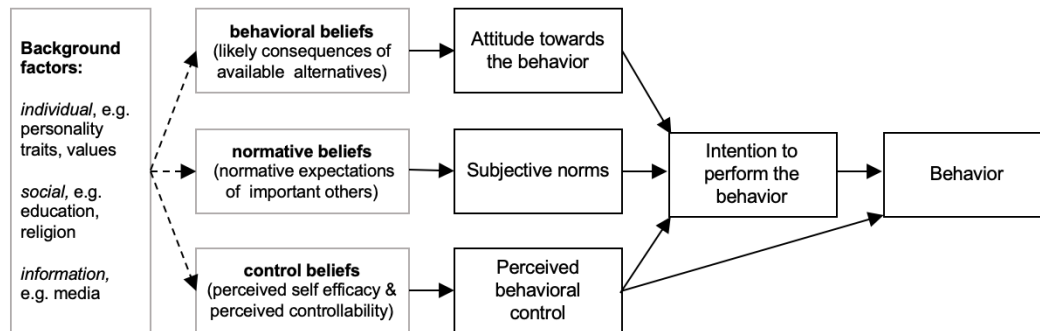


Figure 1: Antecedents of behavior as originally conceptualized in the TPB⁶⁶

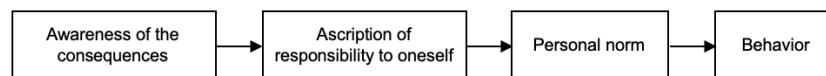


Figure 2: Antecedents of behavior according to the NAM⁷⁹

TPB – is the immediate antecedent of behavior. Critically, habits also mediate behavior, and hence it allows for unconsciousness factors to guide behavior as well. Additionally, the TIB explicitly incorporates the purely emotional factor of “affect”, which forms intention together with social factors and attitude.⁸⁵ Nevertheless, these two theories are rarely used in the literature on sustainable consumer behavior, which is why they are not discussed in detail here.

What becomes certain from the discussion above, however, is that understanding the behavior of individuals in the field of sustainability is a complex and multifaceted issue, which is influenced by a wide variety of factors. This can be ascribed to the functional and hedonic nature of sustainability and the nuanced and emotional experiences of individuals when dealing with it.⁸⁶

4. Drivers and barriers of sustainable consumption

The following compilation of the academic literature dealing with barriers and drivers of sustainable consumer acts is intended to bring more clarity into this complex topic. The review of the status quo of research was carried out as follows: Synonyms for ‘sustainable consumption’ and ‘attitude-behavior gap’ were determined and entered in the search engine of the databases of EBSCOhost and ScienceDirect. Filters concerning the article type and language helped to narrow down the results, whose abstracts were subsequently screened to identify papers that explored individual leisure behavior and discovered drivers or barriers thereof. An additional selection criterion applied was the quality of

the article, measured by the ranking of the journal where it was published, which is further elaborated within Appendix F. While reading the filtered articles, a literature table, which can be found in the appendix (Appendices F and G), was created and the bibliographies were screened for additional useful articles. In the end, the results of 118 papers have been incorporated into the overview of determining factors below. The purchasing phase of the consumption cycle lies in the focus of these articles, with buying groceries being a particularly dominant theme.⁸⁷ The post-purchase behavior recycling has also received considerable coverage in the literature, with less attention given to behaviors like reduced consumption and its various practices such as repurposing, which describes using a product for something for which it was not initially intended.⁸⁸ Further statistics on the key characteristics of the reviewed literature can be found in the appendix (Appendices C, D and E).

The determinants found in the literature review were broadly subdivided into individual-related factors and environmental factors. Within each of these two categories, related determining factors were grouped. No differentiation was made between drivers and barriers in the listing because in the majority of cases, one factor represents both a facilitator and an obstacle, depending on the nature of the manifestation or whether the factor is absent or present (e.g. a consumer’s control orientation is a facilitator if he or she has an internal locus of control, whereas it is an inhibitor in case of an external one). Following the written description below, a graphical illustration of the determinants is presented.

⁸⁵Cf. Triandis (1977), page is missing as the source could not be found. Information is therefore assembled from different articles citing Triandis (1977), e.g. Ozaki (2011), p.3.

⁸⁶Cf. Dolan (2002), p.174f.; Schaefer and Crane (2005), p.85.

⁸⁷Cf. Chatzidakis et al. (2016), p.96.

⁸⁸Cf. Tilikidou and Delistavrou (2008), p.61; Scott and Weaver (2018), p. 291.

4.1. Individual-related factors

This category comprises variables that positively or negatively affect consumers' decision-making and behavior from within. They are strongly dependent on the individual but may not be completely detached from external influences.

4.1.1. Socio-demographics

Studies exploring the socio-demographic characteristics of sustainable consumers examined variables like age, income level, educational level, gender, and religiosity, and they provided mixed results.⁸⁹ A meta-analysis on responsible environmental behavior found the following correlations between variable and behavior which reflect results of later studies as well: (a) educational level: 0.185, (b) income: 0.162, (c) age: -0.151 and (d) gender: 0.075. For the last two variables, the standard deviation was larger than the correlation itself, indicating a tenuous relationship.⁹⁰ Due to the generally inconsistent and thus inconclusive results demographic variables provide, they are said to be of very limited help in understanding the adoption of sustainable practices.⁹¹ Moreover, differences in gender, for instance, were attributed to the underlying personality traits which are typically observed in women vs. men.⁹² Consequently, research focused on understanding intrapersonal factors,⁹³ and the same approach is taken in this thesis. Socio-demographical factors further cannot be changed by promotion measures, which is another reason why they are not elaborated at this point.

4.1.2. Personal characteristics and value orientation

This cluster discusses the character traits and the personal value orientation of consumers, which are two closely inter-related factors and are mostly developed in the early years or are even innate. They do not specifically relate to sustainability but represent the general basic disposition of a person. It follows from this that such determinants are not easily changed by either the individuals themselves or external influences like marketing efforts. However, they are still viewed as important antecedents of a person's decision to act in a sustainable manner⁹⁴ and in some cases also as a driver of the translation of attitudes regarding sustainability into behavior, which is why they are discussed below.

Regarding influencing personal characteristics, the following were identified as relevant by researchers:

- Altruism, i.e. active concern for the welfare of others, has a significant positive influence on sustainable consumer behavior.⁹⁵ Moreover, altruistic personal values were found to contribute to feelings of guilt after a consumer has opted for the non-sustainable choice,⁹⁶ thereby they might indirectly drive sustainable consumption (see section 4.1.3).
- Commitment to one's beliefs in general also increases the likelihood that the consumer follows through on their beliefs regarding sustainability.⁹⁷
- Emotional intelligence also facilitates consuming sustainably as it moderates the effect of environmental engagement on behavior.⁹⁸
- An individual's locus of control, the perception of whether one has the ability to bring about change through their behavior instead of attributing change to chance or powerful others (such as the government) is seen as a driver when the individual has an internal locus of control and viewed as a barrier in case of an external locus of control.⁹⁹
- Long-term orientation was found to positively influence attitudes toward sustainable acts.¹⁰⁰ This might be explained by the fact that sustainability issues involve a long-time horizon, which is, in turn, generally viewed as an inhibitor to the adoption of sustainable practices.¹⁰¹
- A person's openness and affinity for new ideas proved to be an essential factor in understanding how attitudes are causally related to sustainable consumer behavior.¹⁰²
- Self-discipline is a trait demonstrated by sustainable consumers in qualitative studies, as it allows them, for instance, to resist the temptation to buy cheap but unsustainable products.¹⁰³

Besides personality traits, the related value orientations and their influence on sustainable consumer behavior have been examined by several researchers and proved to be positively or negatively related to behavior.¹⁰⁴ One of the concordant results of these studies is that egoistic values, also

⁸⁹Cf. Davies et al. (2002), p.84; Rowlands, Scott, and Parker (2003), p.44; Pelsmacker, Janssens, Sterckx, and Mielants (2005), p.522; Grønhøj and Ölander (2007), p.218; Tilikidou and Delistavrou (2008), p.66; Doran (2009), p.559f.; Bateman and Valentine (2010), p.393; Graafland (2017), p.121; Park and Lin (2018), p.5.

⁹⁰Cf. Hines et al. (1987), p.5f.

⁹¹Cf. Diamantopoulos, Schlegelmilch, Sinkovics, and Bohlen (2003), p.477

⁹²Cf. Brough, Wilkie, Jingjing, Isaac, and Gal (2016), p.568.

⁹³Cf. Buerke, Straatmann, Lin-Hi, and Müller (2016), p.965.

⁹⁴Cf. E.g. Barbarossa and Pelsmacker (2016), p.229.

⁹⁵Cf. Straughan (1999), p.568; Rowlands et al. (2003), p.45; Pepper, Jackson, and Uzzell (2009), p.133; Song and Kim (2018), p.1162ff..

⁹⁶Cf. Antonetti and Maklan (2014b) p.723.

⁹⁷Cf. Maxwell-Smith, Conway, Wright, and Olson (2018), p.851.

⁹⁸Cf. Kadic-Magljajic, Arslanagic-Kalajdzic, Micevski, Dlacic, and Zabkar (2019), p.8.

⁹⁹Cf. Hines et al. (1987), p.5; McCarty and Shrum (2001), p.101; Tilikidou and Delistavrou (2008), p.69; Yang and Weber (2019), p.63.

¹⁰⁰Cf. Leonidou, Leonidou, and Kvasova (2010), p.1337.

¹⁰¹Cf. Zaval, Markowitz, and Weber (2015), p.235.

¹⁰²Cf. Grob (1995), p.215; Englis and Phillips (2013), p. 169; Song and Kim (2018), p.1169.

¹⁰³Cf. Shaw, Grehan, Shiu, Hassan, and Thomson (2005), p.194; Johnstone and Tan (2015), p. 316.

¹⁰⁴See, for instance, Stern and Dietz (1994), p.65ff.; Poortinga, Steg, and Vlek (2004), p.87f.

called self-enhancement or power values, show an inverse relationship to pro-environmental and pro-social attitudes and behaviors. This is because they trigger actions that only take into account oneself and not the others,¹⁰⁵ which stands in contrast with the positive influencing trait altruism. Universalism values also emphasize prosocial concern and are proven to have a favorable influence on sustainable consumer behavior.¹⁰⁶ Interestingly, a study revealed that the predominance of universalism values as opposed to benevolence values, which, however, are similar to universalism values since they are both focused on supporting others, distinguish loyal fair trade consumers from those who buy fair trade only intermittently. This is because universalism values concern all people, whereas benevolence values focus on a person's own group, the so-called in-group.¹⁰⁷ It was concluded that an overriding sense of responsibility to one's in-group prevents some consumers from buying pro-social products as this includes sharing resources with members of one's out-group, for example farmers in remote regions of the world.¹⁰⁸ Other findings in the field of values state that consumers who hold traditional values (e.g. being humble or not having extreme ideas or feelings) have a higher tendency to buy sustainable products than power seekers.¹⁰⁹ Environmentally responsible consumption is also more likely to be shown by consumers holding generativity values (the belief that one's current behavior has consequences for future generations).¹¹⁰ Furthermore, while materialism is viewed as negatively impacting sustainable consumption in Western countries, the influence for Chinese people is positive, indicating different meanings of materialism between countries and thus cultural differences in sustainable consumer behavior.¹¹¹ Other cultural values such as collectivism, which is predominant in Asian countries, showed positive relations to responsible consumption.¹¹² This is because individuals valuing collectivism are more likely to subordinate their own interests in pursuit of group interests, which might be necessary for sustainable consumer acts.¹¹³ This finding supports the notion that there are differences in sustainable consumer behavior between individuals of disparate cultures.

Related to values is the more concrete concept of personal norms or moral obligations, defined above. Even though it was found by one study that personal norms play no significant role in predicting green food purchases,¹¹⁴ it is generally seen as an important driver for sustainable behavior,¹¹⁵ as

demonstrated by its key role in the NAM as well.¹¹⁶ In some cases, consumers even integrate environmental motives into their self-identity, thereby enhancing sustainable consumption behavior¹¹⁷ since this integration mediates the relationship between values and behavior.¹¹⁸ However, the aspiration to maintain a positive self-perception can result in the negative effect of self-defensive behaviors such as denigrating others who act more sustainably.¹¹⁹

In order to complete the discussion on values, it can be stated that the so-called "consumerism paradigm", which has established in most cultures and thus peoples' values, is another factor that is holding people back from consuming in a sustainable manner. This is due to the paradigm's underlying assumptions that more consumption makes happier, that perpetual growth is what people should strive for and that humans have the right to exploit natural resources.¹²⁰ Since consumption is mainly a cultural process and results from norms rather than needs, scientists concluded that a cultural shift to a low consumption paradigm is necessary.¹²¹ This also indicates that individuals are influenced by others in their behavior, as elaborated in section 4.2.3.

4.1.3. Non-cognitive factors

The next cluster has something in common with the preceding one, which is that associated factors cannot easily be changed by marketing measures. Non-cognitive factors are characterized by the fact that consumers are not consciously aware of them and thus are not fully in control of the effects they bring about. Although their contribution is, as aforementioned, underrepresented in the TRA, TPB and NAM,¹²² they are of great relevance to actual sustainable consumer behavior, as shown hereinafter.

Emotions

Generally, both positive and negative emotions can not only be an outcome of but also a generator or inhibitor of sustainable behavior.¹²³ To begin with, it was found that emotional affinity or proximity toward nature enhances the tendency to act pro-environmentally.¹²⁴ This feeling is strengthened by past and present experiences in natural environments.¹²⁵ From this it can be inferred that the increasing urbanization and the related decrease of time spent in nature may aggravate sustainable behaviors in the future.¹²⁶

al. (2002), p.93; Harland et al. (2007), p.332; Barbarossa and Pelsmacker (2016), p.243.

¹¹⁶Cf. Schwartz (1977), p.223.

¹¹⁷Cf. Barbarossa and Pelsmacker (2016), p.238; Carfora et al. (2019), p.7.

¹¹⁸Cf. Dermody et al. (2015), p.1489.

¹¹⁹Cf. Zane and Irwin and Walker Reczek (2015), p.346f..

¹²⁰Cf. Assadourian (2010), p. 189.

¹²¹Cf. Dolan (2002), p.172ff.; Lorenzoni, Nicholson-Cole, and Whitmarsh (2007), p.456.

¹²²Cf. Russell, Young, Unsworth, and Robinson (2017), p.108.

¹²³Cf. Gregory-Smith, Smith, and Winklhofer (2013), p.1203.

¹²⁴Cf. Kals, Schumacher, and Montada (1999), p.197; Chan (2001), p.403; Kunchambo, Lee, and Brace-Govan (2017), p.131.

¹²⁵Cf. Kals et al. (1999), p.193.

¹²⁶Assumption also based on Johnstone and Tan (2015), p.317.

¹⁰⁵Cf. Urien and Kilbourne (2011), p.71.

¹⁰⁶Cf. Thøgersen and Olander (2002), p.623; Shaw et al. (2005), p.196; Doran (2009), p.559; Thøgersen and Zhou (2012), p.327; Eberhart and Naderer (2017), p.1165.

¹⁰⁷Cf. Doran (2009), p.559.

¹⁰⁸Cf. Doran (2010), p.536.

¹⁰⁹Cf. Vermeir and Verbeke (2008), p.549.

¹¹⁰Cf. Urien and Kilbourne (2011), p.69f..

¹¹¹Cf. Dermody et al. (2015), p. 1487.

¹¹²Cf. Chan (2001), p.404; Leonidou et al. (2010), p.1335.

¹¹³Cf. Chan (2001), p.392.

¹¹⁴Cf. Tanner et al. (2003), p.891.

¹¹⁵Cf. Hunecke, Blöbaum, Matthies, and Hoeger (2001), p.844; Davies et

More general negative emotions, such as anger or guilt, are associated with greater intentions to engage in sustainable consumption. However, this intention does not translate into behavior, as results of a survey studying food waste behavior revealed. Participants who experienced more negative emotion when thinking about food waste ended up wasting more food although they intended differently.¹²⁷ The same is true for positive anticipated emotions like pride or excitement. A study in the field of saving electricity found that positive anticipated emotions boosted intentions, which did not result in actual saving behavior. It was suggested that this could be grounded in the fact that individuals may think that they can save electricity in the future, which makes not saving in the present forgivable.¹²⁸ A second possible explanation is that individuals may want to avoid having to think about the negative situation (like wasting food) and therefore make no effort to change it.¹²⁹

The first explanation already indicates that emotions may play a role in the application of the aforementioned rationalization techniques which are used by consumers after having engaged in a behavior that is not in line with their attitude.¹³⁰ Antonetti and Maklan (2014) show that feelings of guilt and pride have an impact on the use of neutralization techniques and the consumer's perceptions of agency and thereby regulate sustainable consumption. More specifically, experiencing guilt and pride forces consumers to recognize the causal link between their own actions and certain sustainability outcomes. As a consequence, their ability to neutralize their sense of personal responsibility decreases, leading to an increased sense of effectiveness in turn and thus to a positive relationship between guilt/pride and intentions to engage in sustainable consumer behavior.¹³¹ Nevertheless, Gregory-Smith et al. (2013) argued that the cognitive dissonance that is usually accompanied by emotions of guilt and regret is relieved by specific strategies (e.g. promising oneself to act differently next time), thereby reducing or even ruining the suggested positive effect of such emotions on future behavior. They additionally found, however, that the experience of positive post-decision emotions like pride or happiness, which arise when the consumer made a choice in line with their beliefs, will reinforce such sustainable decisions in the future.¹³²

Furthermore, the meta-analysis of Bamberg and Möser (2007) revealed that feelings of guilt are a significant predictor of the personal moral norm, the immediate determinant of behavior in the NAM.¹³³ Others found that anticipated emotions form the underlying mechanism through which personal norms guide behavior. They motivate individuals to behave in accordance with their moral standards in order

to not only avoid negative emotions, but also to aim for positive ones.¹³⁴ This contradicts the finding mentioned above that did not find this enhancing effect of positive anticipated emotions on behavior.¹³⁵ The reason why guilt and pride are regarded by some as motivational is because they initiate a process of self-evaluation, i.e. a comparison between the actions of the actual self and those of the 'ideal' self or of the self that others want to see.¹³⁶

Lastly, guilt influences the perception of the ease of performing an action as well as its outcomes. If an individual anticipates stronger feelings of guilt when not acting in a sustainable manner, they tend to view engaging in the sustainable alternative as easier and associate more positive personal consequences with opting for this option.¹³⁷

Habits

The second non-cognitive determinant are habits, which were, to recall, just like emotions proposed to affect behavior in the TIB.¹³⁸ They may also be viewed as influences on a person's controllability and thus their PBC, an important determinant of behavior in the TPB.¹³⁹ Habits are defined as "relatively stable behavioral patterns" (Verplanken, Aarts, Knippenberg, & Knippenberg, 1994, p. 287) that are executed without deliberate considerations, which means that an automatic response guides them.¹⁴⁰ This requires less cognitive effort than what would be required for conscious reasoning.¹⁴¹ Hence, habitual behavior may involve selective attention, leading consumers to concentrate on information that confirms their choices and disregard what is not in line with their habits.¹⁴² Since habits tend to be mechanically prompted by contextual and environmental factors, they hinder consumers to switch to an alternative behavior,¹⁴³ simply put because they forget that they intended to act differently.¹⁴⁴ Habits were found to play a greater role for low-involvement decisions as consumers tend to put less cognitive effort in such decisions and are thus more vulnerable to acting automatically.¹⁴⁵ This can have both a negative and a positive effect, depending on whether the habit at issue is a sustainable one. The inhibiting role of habit on sustainable consumption was observed in several studies.¹⁴⁶ Nevertheless, if the established habit is a sustainable one, habitual

¹³⁴Cf. Onwezen et al. (2013), 150f..

¹³⁵Cf. Wang et al. (2018), p.177.

¹³⁶Cf. Gregory-Smith et al. (2013), p.1203.

¹³⁷Cf. Bamberg and Möser (2007), p.21.

¹³⁸Cf. Triandis (1977), page is missing for the reason explained above.

¹³⁹Cf. Carrington et al. (2010), p.146.

¹⁴⁰Cf. Verplanken et al. (1994), p.287.

¹⁴¹Cf. Welsch and Kühling (2009), p.173.

¹⁴²Cf. Steg and Vlek (2009), p.312.

¹⁴³Cf. Verplanken and Wood (2006), p.93.

¹⁴⁴Cf. Carrington et al. (2010), p.144; Yeow, Dean, and Tucker (2014), p.97.

¹⁴⁵Cf. J. Davies et al. (2002), p.70; Tarkiainen and Sundqvist (2009), p.858f; Young, Hwang, McDonald, and Oates (2010), p.26; Torma, Aschemann-Witzel, and Thøgersen (2018), p.143.

¹⁴⁶Cf. Thøgersen (1994), p. 259; Jansson, Marell, and Nordlund (2010), p.365; Young et al. (2010), p.26; Bray et al. (2011), p.601; Wiederhold and Martinez (2018), p.425; Hiller and Woodall (2019), p.902.

¹²⁷Cf. Russell et al. (2017), p.111.

¹²⁸Cf. Wang, Lin, and Li (2018), p.177.

¹²⁹Cf. Russell et al. (2017), p.12.

¹³⁰Cf. Chatzidakis et al. (2007), p.97; Bray, Johns, and Kilburn (2011), p.603.

¹³¹Cf. Antonetti and Maklan (2014b), p.129.

¹³²Cf. Gregory-Smith et al. (2013), p.1214f.

¹³³Cf. Bamberg and Möser (2007), p. 21.

behavior is beneficial since a once formed habit supports future sustainable actions.¹⁴⁷ The difficulty here, however, is the time required to establish new habits or change old ones.¹⁴⁸

Besides habits, mere past experiences with a sustainable action were also found to increase the likelihood of executing it again.¹⁴⁹ Research even suggested that sustainable behavior in one area has the potential to leak into other areas.¹⁵⁰ This means that individuals who perform one type of sustainable behavior are more likely to engage in another type as well.¹⁵¹ This so-called 'spillover-effect' is found to be only of moderate size and contingent on how closely the behaviors are associated in a consumer's mind.¹⁵² For instance, low-involvement consumption practices were not found to spill over to high-involvement behaviors.¹⁵³ Habit is expected to be a reason for this limited effect as it decreases the likelihood that behaving sustainably in one area makes the consumer reflect on their behaviors in other domains.¹⁵⁴ Another line of reasoning is provided by Phipps et al. (2013), who suggest that a licensing effect, which was observed in studies conducted in similar fields, could occur in sustainable consumption too. This effect describes a phenomenon where individuals who consume sustainably do the opposite later on as they treat the previous sustainable behavior as an excuse.¹⁵⁵ One study already points to such an effect as they identified a few negative cross-lagged effects between buying organic food and recycling. This can be viewed as an indicator that the performance of a sustainable action reduces the propensity to behave sustainably in other areas.¹⁵⁶

However, there are two techniques to limit the negative power of habits and turn them into drivers for sustainable consumption. Firstly, habits can be changed by small triggers at the point of behavior implementation. For instance, a sign which reads a request to only use one paper towel to dry one's hands lead to a significant reduction in towel use among participants of a study.¹⁵⁷ Nevertheless, it was also observed that when participants are faced with threatening prospects about the future and personal fallout thereof, they fall back into their environmentally harmful habits, even when these are in fact normatively inconsistent.¹⁵⁸ This already gives an indication that how a message is framed plays an important role, which will be discussed as part of chapter

4.2.2. Secondly, the formation of implementation intentions by the consumer, i.e. an if-then plan that describes when, where and how their intentions will be realized as actual behavior,¹⁵⁹ can help individuals to change their habits to more sustainable ones.¹⁶⁰ In case of purchasing responsibly, for instance, forming plans helps not only to limit the influence of habitually buying non-sustainable products but also to resist spontaneous purchases.¹⁶¹

Both emotions and habits are powerful in guiding consumers' behaviors and also contribute to the attitude-behavior gap.¹⁶² It was found that the attitude-behavior link is stronger when habits are weak or absent¹⁶³ and that emotions can override expressed attitudes.¹⁶⁴

4.1.4. Cognitive factors

In contrast to the previous cluster, this one comprises factors that involve intellectual activity of the consumer.

Awareness, knowledge and concern

Although a study showed that subjects who were aware of the consequences their behavior has acted more responsibly,¹⁶⁵ most researchers are in agreement that only a small part of sustainable behavior can be directly linked to awareness.¹⁶⁶

A concept closely tied to and difficult to clearly distinguish from awareness is environmental knowledge. In some cases, it has been conceptualized as a subcategory of environmental awareness.¹⁶⁷ While some studies showed a positive relation between knowledge and sustainable actions,¹⁶⁸ others came to the conclusion that knowledge only plays a minor role.¹⁶⁹ This inconsistency might be attributed to the different operationalizations and interpretations of knowledge in the context of sustainable consumption. It either covers knowing definitions, causes or consequences of environmental and social problems (factual knowledge) or being familiar with how to take action on them (action-related knowledge or task-specific knowledge).¹⁷⁰ In contrast to factual knowledge, action-related knowledge is more likely to have an impact on behavior.¹⁷¹ It refers, for instance, to the ability to distinguish sustainable products from the less environmentally friendly ones. This was found to be a driving factor of responsible purchasing,¹⁷² whereas a lack of this ability rep-

¹⁴⁷Cf. Welsch and Kühling (2009), p.173; Russell et al. (2017), p.12; Wang et al. (2018), p.177.

¹⁴⁸Cf. Thøgersen (1994), p.159; Verplanken and Wood (2006), p.100.

¹⁴⁹Cf. Vassallo, Scalvedi, and Saba (2016), p.430; Carfora et al. (2019), p.6.

¹⁵⁰Cf. Thøgersen and Ölander (2003), p.234.

¹⁵¹Thøgersen and Ölander (2003), p.234; Tilikidou and Delistavrou (2008), p.72; Barbarossa and Pelsmacker (2016), p.241; Romani, Grappi, and Bagozzi (2016), p.262.

¹⁵²Cf. Thøgersen and Ölander (2003), p.234.

¹⁵³Cf. Moraes, Carrigan, Bosangit, Ferreira, and McGrath (2017), p.531.

¹⁵⁴Cf. Thøgersen and Ölander (2003), p.234.

¹⁵⁵Cf. Phipps et al. (2013), p.1229.

¹⁵⁶Cf. Thøgersen and Ölander (2003), p.234.

¹⁵⁷Cf. Buttlar et al. (2017), p.156.

¹⁵⁸Cf. Buttlar et al. (2017), p.159.

¹⁵⁹Cf. Gollwitzer and Sheeran (2006), p.82.

¹⁶⁰Cf. Carrington, Neville, and Whitwell (2014), p.2764; Grimmer, Kilburn, and Miles (2016), p.1585.

¹⁶¹Cf. Carrington et al. (2014), p.2764.

¹⁶²Cf. Gregory-Smith et al. (2013), p.1202; Carfora et al. (2019), p.6.

¹⁶³Cf. Verplanken et al. (1994), p.296; Carfora et al. (2019), p.6.

¹⁶⁴Cf. Gregory-Smith et al. (2013), p.1202.

¹⁶⁵Cf. Buerke et al. (2016), p.979.

¹⁶⁶Cf. Kollmuss and Afyeman (2002), p.250.

¹⁶⁷Cf. Grob (1995), p.209; Kollmuss and Afyeman (2002), p.248.

¹⁶⁸Cf. Hines et al. (1987), p.3; Tanner et al. (2003), p.893; Mostafa (2007), p.460.

¹⁶⁹Cf. Grob (1995), p.215; Vainio and Paloniemi (2014), p.25.

¹⁷⁰Cf. Hines et al. (1987), p.3; Tanner et al. (2003), p.886.

¹⁷¹Cf. Tanner et al. (2003), p.886.

¹⁷²Cf. Shaw and Clarke (1999), p.115; Pelsmacker and Janssens (2007), p.374; D'Astous and Legendre (2009), p.263; Young et al. (2010), p.29; Moraes et al. (2017), p.535.

resented an inhibitor.¹⁷³ A study on the reasons for never buying green products showed that 70% of respondents lack understanding of the scope of green products and their characteristics and do not buy them as a consequence.¹⁷⁴ Hence, the dearth of knowledge about how to perform a particular sustainable behavior or what the most sustainable action in which to engage in is, represents an important barrier to its adoption.¹⁷⁵ However, this is a problem that can, in some cases, not simply be solved by the acquisition of more information. Longo et al. (2019) revealed the contrasting and paradoxical role knowledge plays in sustainable consumption. They discovered that having great knowledge can also be a source of dilemma, tension and paralysis and can thus disempower consumers in their choice to consume sustainably. For example, combining both social and environmental principles in one single purchasing option can be challenging since there exist trade-offs between these two dimensions (e.g. fair-trade wine from a distant country vs. a non-fair-trade one from a local vineyard). Moreover, knowledge can contribute to feeling inescapably trapped in unsustainable practices, which may cause tension for the individual.¹⁷⁶ This finding also indicates that the dysfunctional nature of consumer knowledge may partly be a result of the impacts caused by information overload and complexity common in the present times.¹⁷⁷

There is one last interesting discovery concerning consumers' knowledge. Information on the sustainability of products or services is sometimes willfully ignored in order to avoid negative emotions when making unethical consumption decisions. A study found that respondents who cared about the underlying ethical issue were the least likely to request and use environmental attribute information when they made their purchase decisions so that they can justify their unethical purchase by defensively claiming ignorance.¹⁷⁸

A concept that shares commonalities with awareness and knowledge is concern, whereby the most important distinguishing factor is said to be the association of concern to emotions. While environmental knowledge is more about the cold facts of environmental problems, environmental concern brings about feelings of personal involvement and thus marks a step forward from merely being aware.¹⁷⁹ Although the two constructs are distinct from one another and people can be concerned with issues they have incomplete or

no knowledge about,¹⁸⁰ they are positively correlated.¹⁸¹ In terms of environmental concern being a driver for sustainable behavior, studies delivered mixed results, with some claiming it is an important driver,¹⁸² while others did not see concern translating into behavior.¹⁸³ Inconsistent findings may be grounded in the different interpretations of the term and measurement scales used. Environmental concern is not simply ranging from low to high but is a multi-dimensional construct (concern for the self, other people or the biosphere), and it can either refer to a specific issue or to the environment in general.¹⁸⁴ As mentioned above in terms of general and specific attitudes, the specificity of the concern also determines its influence. It should be viewed as an important indirect rather than a direct driver of specific behavior.¹⁸⁵ It was argued that there are variables mediating the relationship between concern and behavior (e.g. perceived marketplace influence, see below), indicating that concern may be a necessary but not a sufficient requirement for engagement in sustainable consumption.¹⁸⁶

Sense of personal responsibility

Another factor that drives sustainable consumption acts is a heightened sense of personal responsibility for environmental or social problems.¹⁸⁷ This is also reflected by the NAT as it views the denial of responsibility as restricting the emergence of personal norms that guide behavior.¹⁸⁸ The inhibiting role of denial of responsibility on behavior was empirically found to be true by researchers.¹⁸⁹ One argument for not feeling personally responsible is the reliance on institutions to take care of such issues (see also Appendix B).¹⁹⁰

Perceived Consumer Effectiveness (PCE)

A concept very similar to the above mentioned locus of control is a consumer's perceived effectiveness (or efficacy) of consumption decisions, which is domain-specific and refers to the context of consumerism in particular.¹⁹¹ It describes to what degree a consumer believes that their personal efforts can have an impact on the environment,¹⁹² and it is similar to the concept of self-efficacy (SE). The same set of beliefs

¹⁸⁰Cf. Pagiaslis and Kroutalis (2014), p.346.

¹⁸¹Cf. Chai, Bradley, Lo, and Reser (2015), p.101.

¹⁸²Cf. Kilbourne and Pickett (2008), p.891; Mobley, Vagias, and Deward (2010), p.436; Lin and Chang (2012), p.15; Pagiaslis and Kroutalis (2014), p.345; Vainio and Paloniemi (2014), p.25.

¹⁸³Cf. Alwitt and Pitts (1996), p.60; Roberts (1996b), p.82; Mainieri, Barnett, Valdero, Unipan, and Oskamp (1997), p.200; Straughan (1999), p.570; Dermody et al. (2015), p.1485.

¹⁸⁴Cf. Schultz, Nolan, Cialdini, Goldstein, and Griskevicius (2007), p.397.

¹⁸⁵Cf. Alwitt and Pitts (1996), p.60; Bamberg (2003), p.21.

¹⁸⁶Cf. Leary, Vann, Mittelstaedt, Murphy, and Sherry (2014), p.1596.

¹⁸⁷Cf. Tilikidou and Delistavrou (2008), p.72; Luchs, Phipps, and Hill (2015), p.1455.

¹⁸⁸Cf. Schwartz (1977), p.230.

¹⁸⁹Cf. Blake (1999), p.266; Lorenzoni et al. (2007), p.452.

¹⁹⁰Cf. Eckhardt et al. (2010), p.431.

¹⁹¹Cf. Hines et al. (1987), p.4f.; Ellen, Wiener, and Cobb-Walgreen (1991), p.103.

¹⁹²Cf. Park and Lin (2018), p.2.

¹⁷³Cf. Shaw and Clarke (1999), p.155; Bray et al. (2011), p.602; Pappoikonomou, Tyan, and Ginieis (2011), p.83; Lin and Chang (2012), p.16; Gabler, Butler, and Adams (2013), p.168; Gleim, Smith, Andrews, and Cronin (2013), p.57; Eberhart and Naderer (2017), p.1163.

¹⁷⁴Cf. Lin and Chang (2012), p.16.

¹⁷⁵Cf. Thøgersen (1994), p.145; Tanner et al. (2003), p.893; Longo, Shankar, and Nuttall (2019), p.762.

¹⁷⁶Cf. Shaw and Clarke (1999), p.113; Longo et al. (2019), p.769ff.

¹⁷⁷Cf. Carrigan and Attalla (2001), p.573; Bray et al. (2011), p.602; Longo et al. (2019), p.762.

¹⁷⁸Cf. Ehrlich and Irwin (2005), p.175f.

¹⁷⁹Cf. Vainio and Paloniemi (2014), p.25.

is measured in this context by some researchers,¹⁹³ although SE is more concerned with the ability to perform a task rather than influencing the underlying outcome.¹⁹⁴ As intuition suggests, PCE/SE promotes sustainable consumption, or its absence inhibits it, a phenomenon that has been empirically proven by numerous researchers.¹⁹⁵ Furthermore, PCE is enhanced by guilt and pride as discussed above.¹⁹⁶

PCE is not to be confused with PBC, although not all studies make a clear distinction between these two.¹⁹⁷ As PBC is one of the key components of the TPB, it has proven to be an important driver of sustainable behavior or a barrier in case of its absence by numerous studies.¹⁹⁸

Another concept related to agency and thus similar in nature to PCE is the perceived marketplace influence, defined as the belief that the own sustainable actions actively influence the marketplace behavior of other consumers and organizations. The belief in marketplace influence was revealed to play a crucial role in transforming a consumer's environmental concern into actual actions, as mentioned above.¹⁹⁹

Perceived lack of urgency and advantageousness

The last factor is not of the same level of concreteness as the ones mentioned above, but it can still be a reason why consumers do not act in a sustainable manner. The elusive nature of sustainability can lead to the unfavorable perception that sustainable actions are not urgent or advantageous. The consequences of sustainable behavior lie in the future and are uncertain, abstract and difficult for the consumers to grasp.²⁰⁰ Furthermore, these consequences may merely be indirect, which promotes doubts about the effectiveness and thus negatively influences the implementation of behavior.²⁰¹ What also contributes to the inability to realize the necessity of sustainability is that consumers have not experienced the negative consequences of unsustainable actions first-hand.²⁰² An exploratory study found that when individuals were personally affected by an environmental problem, they were more likely to change their behavior in a more sustainable direction. The same was true when current news forced informants to contemplate about a negative issue, indicating that they were thereby reminded of the urgency to act.²⁰³ The role of personal affectedness on behavior was confirmed

by a quantitative study, where the subjects behaved more environmentally friendly when they were emotionally affected by the damage to the environment.²⁰⁴

4.2. Environmental factors

The second major category describes external forces from the environment of the consumer that have an influence on their sustainable consumption behaviors in either a positive or negative respect. The three behavioral theories explained above do not include such contextual factors sufficiently. The construct of PBC, as included in the TPB, merely captures the individuals' perceptions of contextual factors.²⁰⁵ The identified environmental factors can be divided into four clusters: product, service or behavior-related factors, corporate activities, social influence and structural conditions. All are subsequently discussed.

4.2.1. Product, service or behavior-related factors

This cluster includes determinants that stem from the sustainable product or service per se or the implementation of a particular sustainable behavior, which is why they do not apply to every sustainable consumption act.

Cost of consumption

Price is a factor that is particularly present when purchasing sustainable products or services and is proving to be a controversial issue. While consumers commonly state that the higher prices of sustainable products or services inhibit their consumption,²⁰⁶ some studies showed that it is not a barrier.²⁰⁷ Thus, it was argued that price is not an obstacle per se, but it arises as one when consumers are financially constrained²⁰⁸ or if they are particularly price sensitive.²⁰⁹ This was proven by a qualitative study, which found that consumers experiencing economic difficulties more frequently mention price as a barrier.²¹⁰ This indicates an intersection of the environmental factor price with the individual's perception about whether the higher price for a sustainable product or service is justified or not. The perception of consumers about the economic profitability of sustainable products was shown to be disadvantageous. Some consumer assume that sustainable products are generally more expensive than 'regular' ones and therefore infer that they will not be able to afford them, even when this is, in fact, not always true.²¹¹ Others do not take into account future cost savings

¹⁹³Cf. Rice (2006), p.375; Hanss and Böhm (2013), p.55.

¹⁹⁴Cf. Bandura (1977), p.193.

¹⁹⁵Cf. Webster (1975), p.195; Roberts (1996a), p.224; Straughan (1999), p.570; Rowlands et al. (2003), p.45; Webb, Mohr, and Harris (2008), p.97; Gupta and Ogden (2009), p.386; Gabler et al. (2013), p.165; Lin and Hsu (2015), p.336; Wiederhold and Martinez (2018), p.426; Joshi and Rahman (2019), p.241.

¹⁹⁶Cf. Antonetti and Maklan (2014), p.129.

¹⁹⁷See, for example Gabler et al. (2013), p.161.

¹⁹⁸Cf. Bamberg and Möser (2007), p.20.

¹⁹⁹Cf. Leary et al. (2014), p.1597.

²⁰⁰Cf. McCarty and Shrum (2001), p.93; Spence, Poortinga, and Pidgeon (2012), p.7ff.; Trudel (2018), p.88.

²⁰¹Cf. Eberhart and Naderer (2017), p.1163.

²⁰²Cf. Ozaki (2011), p.13; Johnstone and Tan (2015), p.320; Eberhart and Naderer (2017), p.1162.

²⁰³Cf. Bray et al. (2011), p.601f.

²⁰⁴Cf. Grob (1995), p.215.

²⁰⁵Cf. Steg and Vlek (2009), p.312.

²⁰⁶Cf. Carrigan and Attalla (2001), p.569; Hunecke et al. (2001), p.845; Bray et al. (2011), p.601; Ozaki (2011), p.11; Öberseder, Schlegelmilch, and Gruber (2011), p.455; Papaioannidou et al. (2011), p.84; Gleim et al. (2013), p.52; Han, Seo, and Ko (2017), p.165; Papista, Chrysochou, Krystallis, and Dimitriadis (2018), p.108; Wiederhold and Martinez (2018);

²⁰⁷Cf. Thøgersen (1994), p.159; Tanner et al. (2003), p.893; Lin and Chang (2012), p.17.

²⁰⁸Cf. Cherrier, Szuba, and Özçağlar Toulouse (2012), p.13; Valor and Carrero (2014), p.1115.

²⁰⁹Cf. Gleim et al. (2013), p.52; Janssen (2018), p.26.

²¹⁰Cf. Valor and Carrero (2014), p.1115.

²¹¹Cf. Öberseder et al. (2011), p.455.

that sustainable products with an initially higher price provide.²¹² A reason for this unfavorable perception is that in some consumers' minds, ethics and business are two separate dimensions and they therefore assume that sustainable practices must involve higher costs.²¹³

Besides the monetary costs, there are other resources a person has to spend on the consumption, such as the time and effort needed throughout the whole consumption cycle. The higher amount of effort needed to engage in the sustainable behavior and the inconvenience this entails is naturally a barrier to its adoption.²¹⁴ Again, it depends not only on the objective costs of engaging in the behavior but also the perception of the individual's personal inconvenience involved.²¹⁵ Other decisive factors are the amount of time engaging in a sustainable behavior requires and how much time an individual has at one's disposal.²¹⁶ It was shown that a lack of discretionary time prevents consumers from developing preferences that are in line with their underlying environmental concerns, and an increase in discretionary time enhances sustainable consumption behaviors and also reduces the attitude-behavior gap.²¹⁷

A less researched topic is the cost involved in changing from one product, service or behavior to another one, so-called switching costs, such as search effort or performance risk.²¹⁸ While one study on this topic found no significant effect of switching costs on customer value,²¹⁹ another one revealed that the inconvenience of switching to a green energy tariff and uncertainty about its performance is a barrier to its adoption.²²⁰

While cost of consumption is often mentioned in the reviewed literature, hardly any benefits connected to the sustainability of consumption occur. The exception to this is the enjoyment consumers find in repurposing products.²²¹

Performance, stereotypes and image

The issue with the quality of sustainable products and services varies among different categories and is very intricate. Firstly, despite a few respondents commenting on the better quality of sustainable products, for instance in terms of naturalness and healthiness of organic food or clothing,²²² others stated perceptions of lesser quality,²²³ e.g. with regard to the

design of clothing²²⁴ or effectiveness of cleaning products.²²⁵

The latter might be explained by the following finding: Sustainable products are associated with gentleness-related attributes by consumers, while less sustainable alternatives are associated with strength-related attributes.²²⁶ This effect of gentleness works against perceptions of effectiveness and competence, and as a consequence, sustainability is found to be unfavorable when consumers are looking for strength-related products (i.e., where benefits such as power and durability are in the foreground, like for cleaning products). In contrast, when gentle attributes (e.g. baby shampoo) are searched for, consumers prefer sustainable products. This shows that the product category, or more precisely the related degree to which strength is valued in a given category, determines if negative product quality impressions are triggered and thus whether the sustainability of the product is seen as advantageous or not.²²⁷ An implicitly or explicitly held negative perception decreases the likelihood of purchasing sustainable products.²²⁸ It also results in an increase of the amount of sustainable product used to gain a desired result, for instance to make something clean.²²⁹ While one study found that environmentally conscious consumers are more likely to display this usage pattern,²³⁰ another one showed that increased interest in sustainability can reduce the negative perception of a sustainable product, albeit the implicit negative associations remain.²³¹ Moreover, this study observed that consumers are more likely to opt for the conventional instead of the sustainable option in case of impulse choices or in case the consumers are unobserved.²³² This supports the prior discussed finding that low-involvement or habitual behavior is more prone to unsustainability and indicates that the visibility of actions might have an influence (see also below). Interestingly, even the presence of very fundamental human needs, such as hunger, were found to affect stereotypical perceptions of sustainable products in a negative way. Food deprivation unconsciously alters the implicit associations concerning sustainability, i.e. the products' gentleness, and consequently leads to less sustainable purchase decisions.²³³

As with the previously stated assumption that sustainability comes with higher costs, consumers were also found to have the impression that sustainability must be compensated by inferiority in other dimensions such as the product's quality, especially when companies deliberately consider sustain-

²¹²Cf. Gleim et al. (2013), p.46.

²¹³Cf. Davies et al. (2012), p.45.

²¹⁴Cf. Carrigan and Attalla (2001), p.570; McCarty and Shrum (2001), p.101; Tilikidou and Delistavrou (2008), p.69; Young et al. (2010), p.26; Gleim et al. (2013), p.48; Barbarossa and Pelsmacker (2016), p.240; Johnstone and Tan (2015), p.316; Papista et al. (2018), p.108.

²¹⁵Cf. Barbarossa and Pelsmacker (2016), p.239.

²¹⁶Cf. Carrigan and Attalla (2001), p.573; Tanner et al. (2003), p.893; Young et al. (2010), p.25.

²¹⁷Cf. Chai et al. (2015), p.105.

²¹⁸Cf. Papista et al. (2018), p.108.

²¹⁹Cf. Papista et al. (2018), p.108.

²²⁰Cf. Ozaki (2011), p.9ff.

²²¹Scott and Weaver (2018), p.303.

²²²Cf. Bray et al. (2011), p.602; Thøgersen and Zhou (2012), p.327; Janssen (2018), p.26.

²²³Cf. Bray et al. (2011), p.602; Lin and Chang (2012), p.133; Newman,

Gorlin, and Dhar (2014), p.834; Eberhart and Naderer (2017), p.1163; Han et al. (2017), p.165; Wiederhold and Martinez (2018), p.424; Kushwah et al. (2019), p.10.

²²⁴Cf. Wiederhold and Martinez (2018), p.426.

²²⁵Cf. Lin and Chang (2012), p.133.

²²⁶Cf. Luchs et al. (2010), p.21.

²²⁷Cf. Luchs et al. (2010), p.22ff.

²²⁸Cf. Mai, Hoffmann, Lasarov, and Buhs (2019), p.672.

²²⁹Cf. Lin and Chang (2012), p.132.

²³⁰Cf. Lin and Chang (2012), p.132.

²³¹Cf. Mai et al. (2019), p.669.

²³²Cf. Mai et al. (2019), p.671.

²³³Cf. Hoffmann, Mai, Lasarov, Krause, and Schmidt (2019), p.100f.

ability aspects in their products in order to enhance them.²³⁴ Once again, this highlights the intersection of external stimuli and the perceptions of the individual.

Apart from the stereotype that sustainable products are less strong and effective, there also exists the stereotype that being environmentally friendly is unmanly.²³⁵ This often keeps men from buying sustainable products as they want to preserve their gender identity.²³⁶ In addition, it was recognized that users of responsible brands are perceived as stereotypically warm, which diminishes feelings of envy and weakens the desire to emulate such consumers.²³⁷ Another study discovered that consumers generally have an unfavorable perception of sustainable consumers, also called social stigma, which prevents consumers from engaging in such behaviors.²³⁸ This points to the importance of social influence, further discussed below. However, as with almost all determinants so far, this one does not come without contradictions: With regard to organic food, *Kushwah et al. (2019)* could not find evidence for an image barrier.²³⁹

4.2.2. Corporate activities

While companies or institutions cannot eliminate the information overload, whose negative effect on knowledge is discussed above, they can influence how and what information they present. This is particularly important as deficient credibility was also discovered to hinder sustainable consumption.²⁴⁰ However, providing credible information in an adequate amount is not a simple task. Sustainability claims and other communication on this subject, for example about a company's social responsibility, are generally approached with mistrust and skepticism.²⁴¹ This influences how consumers perceive and judge sustainable offerings and thus also their behavior.²⁴² Trustworthy and clear information was found as a driver for sustainable consumption and can, for example, be provided via labels. This helps to reduce the cognitive effort of a consumer's decision²⁴³ and was found to be especially effective for low-involvement decisions where consumers are less motivated to carefully evaluate information. A sustainable appeal can then act as a prominent and easily accessible trigger to opt for the sustainable product.²⁴⁴ Indeed, a more complete, easily interpretable and standardized label was observed to promote eco-friendly consumption.²⁴⁵ This applies at least to the purchase of gro-

ceries, as consumers were found to use their personal networks as a source of information for higher-involvement decisions.²⁴⁶ Furthermore, it was observed that the European government and non-governmental organizations like Greenpeace are the most trusted issuers of such labels. This shows that effective communication requires collaboration between companies and institutions.²⁴⁷ Apart from this, technology and more specifically green mobile apps proved to be another method for consumers to acquire information and thereby foster sustainable purchasing.²⁴⁸

Generally, research showed that a company's communication efforts can alter consumers' behaviors in a more sustainable direction. An exemplary measure to be mentioned is that of a retailer which presented standard food waste reduction messages to its consumers via different conventional communication channels (e.g. social media and in-store demonstrations) and thereby decreased the consumers' food waste.²⁴⁹ Companies should, however, be careful in their message framing as this has an effect on the consumers' reaction and in turn the behavior. While negatively framed messages are more effective than positively framed ones due to the shame it elicits in consumers,²⁵⁰ too assertively phrased messages can have a negative impact on consumers' behavior, depending on the importance the message recipient attaches to the behavior at stake.²⁵¹

Besides the fact that companies can be enablers of sustainable consumer behavior, they can also represent a reason why an individual does not consume in a sustainable manner. This is the case when brand loyalty to an unsustainable company prevents a consumer from switching to a sustainable alternative.²⁵² In case of small electrical appliances, for instance, it was found that the brand is given priority over sustainability criteria.²⁵³ However, the power that companies possess in this context may offer an opportunity, as individuals might consume in a more sustainable manner if a company to which they are loyal eliminates unsustainable products and services from their assortment.

4.2.3. Social influence

Much of consumption decisions are not made in isolation but also take into account the needs, desires and expectations of others, such as family members, friends, community members and even the general public.²⁵⁴ How this variety of actors can impact a person's behavior is explained below.

For one thing, there is the influence on an interpersonal level that comes from close persons like family and friends.²⁵⁵

²³⁴Cf. *Newman et al. (2014)*, p.834.

²³⁵Cf. *Shang and Pelozo (2015)*, p.140; *Brough et al. (2016)*, p.579.

²³⁶Cf. *Brough et al. (2016)*, p.579.

²³⁷Cf. *Antonetti and Maklan (2016)*, p.797.

²³⁸Cf. *Johnstone and Tan (2015)*, p.319f.

²³⁹Cf. *Kushwah et al. (2019)*, p.11.

²⁴⁰Cf. *Papaoikonomou et al. (2011)*, p.83.; *Pelsmacker and Janssens (2007)*, p.374; *Antonetti and Maklan (2014b)*, p.729.

²⁴¹Cf. *Bray et al. (2011)*, p.603; *Öberseder et al. (2011)*, p.456; *Gleim et al. (2013)*, p.47; *Rettie, Burchell, and Banham (2014)*, p.13; *Johnstone and Hooper (2016)*, p. 824.

²⁴²Cf. *Pelsmacker and Janssens (2007)*, p.364; *Bray et al. (2011)*, p.603; *Öberseder et al. (2011)*, p.457.

²⁴³Cf. *Young et al. (2010)*, p.26f..

²⁴⁴Cf. *Rahman (2018)*, p.402.

²⁴⁵Cf. *Vlaeminck, Jiang, and Vranken (2014)*, p.187f..

²⁴⁶Cf. *McDonald, Oates, Thyne, Alevizou, and McMorland (2009)*, p.143.

²⁴⁷Cf. *Pelsmacker et al. (2005)*, p.524.

²⁴⁸Cf. *Perera, Auger, and Klein (2018)*, p.850.

²⁴⁹Cf. *Young, Russell, Robinson, and Chintakayala (2018)*, p.11ff..

²⁵⁰Cf. *Amatulli, De Angelis, Peluso, Soscia, and Guido (2019)*, p.1125.

²⁵¹Cf. *Kronrod, Grinstein, and Wathieu (2012)*, p.100.

²⁵²Cf. *Bray et al. (2011)*, p.605; *Papaoikonomou et al. (2011)*, p.80; *Gleim et al. (2013)*, p.48.

²⁵³Cf. *McDonald et al. (2009)*, p.140.

²⁵⁴Cf. *Cherrier et al. (2012)*, p.28; *Gleim et al. (2013)*, p.46.

²⁵⁵Cf. *Trudel (2018)*, p.91.

The most common theme in the literature relating thereto seems to be the phenomenon of subordinating one's own sustainable intentions to the opinions or wishes of family and friends. Essentially, interacting with people that do not share one's sustainable principles and might not even show understanding for them represented an inhibitor to the pursuit of one's sustainable practices in several studies.²⁵⁶ Examples of this include buying unsustainable products because one's partner enjoys them, one's children refuse to consume alternatives, or flying to a family gathering one is expected to join.²⁵⁷ As already described in paragraph 2.2.2, the difference in the wishes and attitudes of close others and of one's self can contribute to the gap between attitude and behavior. However, significant others can also be a driver of sustainable consumption,²⁵⁸ for instance in case of adolescents, who are found to be more inclined to act pro-environmentally when their parents visibly do so.²⁵⁹

For another thing, unrelated others, not necessarily belonging to one's group affiliation, can have an impact on a consumer's behavior.²⁶⁰ This mostly takes the form of social norms, which are "unwritten rules developed through shared interactions of a social group that govern social behavior" (Trudel, 2018, p.91). Studies have demonstrated the usefulness of social norms to affect behavior across several different domains, including reusing towels in hotels²⁶¹, composting²⁶², reducing household energy consumption²⁶³ and purchasing sustainable food²⁶⁴. Social norm was also shown to have an impact on attitude and PCB, as it is used by consumers for judgements of how easy and advantageous the performance of a specific action would be.²⁶⁵ While research collectively shows the persuasive power of social norms, it is of importance to note that the success depends on what type of and how social norm is applied. The first type are descriptive norms, which describe what most people do in a situation. The second type are injunctive norms, which characterize what others think one should be doing, indicating which behaviors commonly receive approval or disapproval.²⁶⁶ It is best to align these two types,²⁶⁷ demonstrated by the results of the following study, which tested the effect of normative appeals on household energy reduction: The messages sent differed depending on whether the household's energy consumption was above or below average. While providing above-average households with descriptive norm informa-

tion led to a decrease of consumption, the same descriptive norm information increased consumption in below-average households. However, adding an injunctive norm conveying approval of their low energy consumption eliminated this negative effect.²⁶⁸ Furthermore, it was found that the effectiveness of descriptive norms also depends on the reference group mentioned in the appeal sent. It works best to refer to the norms of the consumer's local setting and circumstances. e.g. individuals that stayed in the specific hotel room before the consumer's own stay.²⁶⁹ A third factor that possibly influences how strong social norm affects a consumers' behavior is whether the action at issue is visible to others and whether it is in the individual's hands only, such as saving energy or wasting food at home.²⁷⁰

Another observation worth mentioning in connection with social influence is the process of social normalization and how it shapes consumer's behavior. Rettie et al. (2014) discovered that consumers' perception of what a 'normal' behavior is influences its adoption. Consumers are reluctant to behave in a way that is not considered as 'normal' and, conversely, are more likely to engage in activities that are deemed mainstream. This contributes to understanding why some unsustainable behaviors are difficult to change: they are taken for granted and are not questioned due to the perception that they are just 'normal' and part of modern life, such as driving a car.²⁷¹

Apart from the influence caused by family, friends or unrelated others, there is a third way by which other people can affect somebody else's sustainable behavior, this time a positive one only. Research found that online communities of likeminded consumers can reinforce sustainable consumption, especially due to informational benefits (e.g. provision of answers to common questions or sharing of practical tips and ideas on sustainable consumption).²⁷² From this it can be deduced that influencers who promote sustainability could drive sustainable consumer behavior in a similar vein.

4.2.4. Structural conditions

The final cluster addresses determinants over which neither the individual companies nor the consumer alone can exert influence because they deal with public policy, infrastructure and today's lifestyle. Collective action and collaboration between different stakeholders are necessary to make changes to these barriers and turn them into drivers.

It was argued that structural issues are creating a dependence on unsustainable consumption practices. It is suggested that several factors contribute toward this lock-in, including living and working conditions as well as public policy.²⁷³ Thus, governments are responsible for part of the external circumstances that restrict a consumer's freedom of

²⁵⁶Cf. Papaioikonomou et al. (2011), p.84; Szmigin et al. (2009), p.228; Cherrier et al. (2012), p.19; Johnstone and Tan (2015), p.318; McDonald et al. (2015), p.1513.

²⁵⁷Cf. Szmigin et al. (2009), p.228; Cherrier et al. (2012), p.19; Papaioikonomou et al. (2011), p.85.

²⁵⁸Cf. Yeow et al. (2014), p.91.

²⁵⁹Cf. Grønhøj and Thøgersen (2012), p.299.

²⁶⁰Cf. Trudel (2018), p.91.

²⁶¹Cf. Goldstein, Cialdini, and Griskevicius (2008), p.479.

²⁶²Cf. White and Simpson (2013), p.78.

²⁶³Cf. Schultz et al. (2007), p.432; Ozaki (2011), p.12.

²⁶⁴Cf. Gleim et al. (2013), p.53; Vermeir and Verbeke (2006), p.187.

²⁶⁵Cf. Bamberg and Möser (2007), p.22.

²⁶⁶Cf. Cialdini (2003), p.105.

²⁶⁷Cf. Cialdini (2003), p.105.

²⁶⁸Cf. Schultz et al. (2007), p.432.

²⁶⁹Cf. Goldstein et al. (2008), p.479.

²⁷⁰Cf. Russell et al. (2017), p.108f.; Wang et al. (2018), p.178.

²⁷¹Cf. Rettie et al. (2014), p.12ff.

²⁷²Cf. Gummerus, Liljander, and Sihlman (2017), p.459f.

²⁷³Cf. Sanne (2002), p.273; Prothero et al. (2011), p.33; Banbury, Stine-rock, and Subrahmanyam (2012), p.503; Di Giulio et al. (2014), p.48.

choice and action. Among them are the availability and quality of public transportation, accessibility of recycling facilities and the presence and affordability of sustainable products and services.²⁷⁴ An empirical case study, for example, showed that the introduction of new recycling policies which included economic incentives had a powerful positive effect on the recycling rates of the inhabitants of the city being researched.²⁷⁵ Furthermore, the lack of available sustainable alternatives was often mentioned in the literature as discouraging sustainable behavior and, conversely, the availability of sustainable products and services was mentioned as encouraging it.²⁷⁶ This barrier might increasingly vanish, at least with regard to sustainable groceries and clothing, as they are becoming more widely and easily available in current times.²⁷⁷ What is indeed regarded as an obstacle are living and working circumstances that limit the time and scope for engaging in sustainable behaviors.²⁷⁸ The growing urbanization, for instance, may lead to longer commutes to work, which in turn results in people using their cars more intensively.²⁷⁹

4.3. Conceptual model and additional remarks

The above described variety of influencing factors, their interconnectedness and the different consumption behaviors that can be classified as sustainable contribute to the difficulty of developing a model that incorporates all possible factors.²⁸⁰ However, figure 3 depicts the main categories of the factors that could be derived from the literature. For ease of presentation, possible interplays between determinants are not shown.

The numerous factors that have a bearing on the consumer's eventual behavior act at different stages in the process from values or beliefs to behavior.²⁸² After reviewing the different determinants as well as the mutual influence they have on the implementation of behavior,²⁸³ it becomes comprehensible why consumers with positive attitudes toward sustainable actions do not always follow through and an attitude-behavior gap emerges. In addition to the determinants identified in the reviewed empirical studies, it sometimes might even be a small, momentary factor at the point of

behavior implementation that inhibits or facilitates the translation of sustainable intentions into behavior.²⁸⁴ Such interferences in the choice context have so far been discussed theoretically in the context of sustainable purchasing and include temporary external factors, such as the physical surrounding in a store (e.g. product placement or promotions) or the social surrounding (e.g. interaction with salespeople or presence of a shopping companion) as well as internal factors like a consumer's mood.²⁸⁵

Besides this, what is holding one person back from acting in a sustainable manner may not be an obstacle for another. Equally, a consumer's preference for sustainable behaviors varies across time and situations. A consumer that acted in a sustainable manner once might not do so another day or when it comes to another behavior.²⁸⁶ This irregularity was also shown to depend on the product category and the associated involvement of the consumer and purchase frequency. The literature on these differences, however, is scarce to date.²⁸⁷ Apart from the ones already indicated above, there are some differences with regard to, for instance, the likelihood to resist consumption of a product (renunciation of fridge or washing machine is not considered viable while doing without meat is comparatively common)²⁸⁸, purchase criteria used (prestige or self-image are additional criteria for luxury products)²⁸⁹ or social influence (the effect is smaller on low-involvement behavior)²⁹⁰. This highlights again that sustainable consumption needs to be viewed in a differentiated way.

Finally, drivers and barriers of sustainable consumption are in some cases also viewed or conceptualized as determinants of the gap between attitude and sustainable consumption behavior,²⁹¹ as suggested in chapter 2.2.2 above. Hence, figure 4 below not only gives a more detailed outline of the identified drivers and barriers but also marks which of them is said to contribute to the gap in the reviewed articles, denoted by a red (green) background in case the determinant increases (reduces) the attitude-behavior gap.

5. Implications and future research

As the previous chapter makes clear, there exists no ultimate way to promote a sustainable behavior or to close the attitude-behavior gap due to the variety and otherness

²⁷⁴Cf. Thøgersen (2005), p.145; Press and Arnould (2009), p.105; Barr (2007), p.467; Steg and Vlek (2009), p.312; Johnstone and Hooper (2016), p.846f..

²⁷⁵Cf. Viscusi, Huber, and Bell (2011), p.70.

²⁷⁶Cf. Shaw and Clarke (1999), p.115; Hira and Ferrie (2006), p.109; Vermeir and Verbeke (2008), p.547; Papaoikonomou et al. (2011), p.84; Davies et al. (2012), p.46; Gleim et al. (2013), p.48; Grimmer et al. (2016), p.1585; Lundblad and Davies (2016), p.157; Moraes et al. (2017), p.535.

²⁷⁷Cf. Bray et al. (2011), p.604; Lundblad and Davies (2016), p.157.

²⁷⁸Cf. Sanne (2002), p.277ff.; Chai et al. (2015), p.105.

²⁷⁹Cf. Sanne (2002), p.277.

²⁸⁰Cf. Hines et al. (1987), p.6; Kollmuss and Afyeman (2002), p.239.

²⁸¹Own illustration on the basis of the determinants identified in the reviewed literature.

²⁸²Cf. Papaoikonomou et al. (2011), p. 86; C. Janssen and Vanhamme (2015), p.778.

²⁸³Cf. Lin and Hsu (2015), p.327.

²⁸⁴Cf. Carrington et al. (2010), p.147.

²⁸⁵Cf. Carrington et al. (2010), p.152ff..

²⁸⁶Cf. Roberts and Bacon (1997), p.81; Papaoikonomou et al. (2011), p.79; McDonald et al. (2009), p.141; Szmigin et al. (2009), p.229.

²⁸⁷Cf. Jansson et al. (2010), p.358; McDonald et al. (2009), p.143; Welsch and Kühling (2009), p.173; Prothero et al. (2011), p.33; Davies et al. (2012), p.37; Rahman (2018), p.400; Trudel (2018), p.93.

²⁸⁸Cf. McDonald et al. (2009), p.142.

²⁸⁹Cf. Davies et al. (2012), p.47.

²⁹⁰Cf. Shaw and Shiu (2003), p.1492; Pelsmacker and Janssens (2007), p.364.

²⁹¹See, for instance, Wiederhold and Martinez (2018), p.424.

²⁹²Own illustration on the basis of the determinants identified in the reviewed literature.

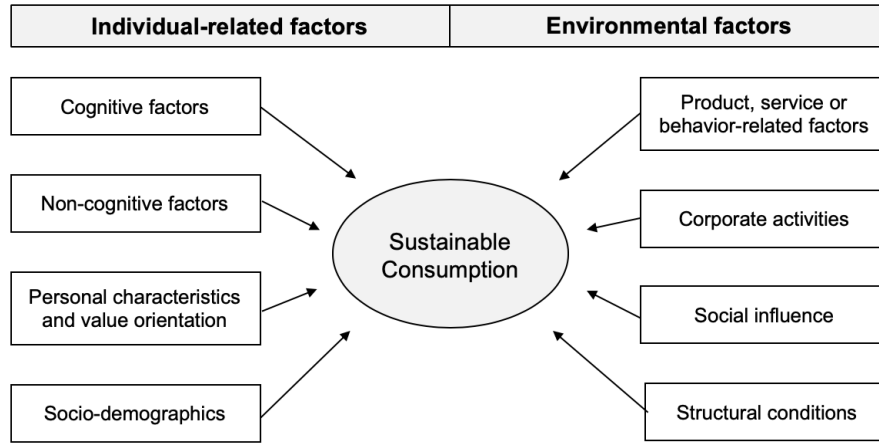


Figure 3: The main factors that have an impact on sustainable consumption²⁸¹

Individual-related factors		Environmental factors	
Socio-demographics	Non-cognitive factors	Product, service or behavior related factors	Social influence
Age, gender, income level, religiosity and educational level	Emotions	Price of behavior (-)	Influence of significant others
	Habits	Time and effort needed to perform the action (-)	Influence of unrelated others / social norms
Personal characteristics and value orientation	Cognitive factors	Switching costs (-)	Sustainability communities (+)
Altruism	Awareness of consequences	Product performance	
Emotional intelligence	Factual knowledge	Image and stereotypes (-)	
Openness and affinity for new ideas	Action-related knowledge		
Commitment to beliefs	Environmental concern	Corporate activities	Structural conditions
Locus of control	Sense of personal responsibility	Information utility and credibility	Public policy
Time orientation	Perceived consumer effectiveness	Communication efforts	Infrastructure
Self-discipline	Perceived behavioral control	brand loyalty (-)	Today's lifestyle (-)
Benevolence values	Perceived marketplace influence		
Collectivistic values	Perceived lack of urgency and advantageousness (-)		
Egoistic values	Application of neutralization techniques (-)		
Generativity values			
Materialistic values			
Traditional values			
Universalism values			
Pro-environmental self-identity			
Dominant cultural paradigm (-)			

Legend:
 (+/-) : factor only has a positive/negative influence on behavior according to the literature (possibly together with no influence in other studies)
 □ factor increases the gap according to the literature
 □ factor reduces the gap according to the literature

situational contingency factors at point of behavior implementation

Figure 4: More detailed representation of the drivers and barriers of sustainable consumption as well as factors influencing the attitude-behavior gap²⁹²

of factors that have an impact. Thus, a combination of different instruments adapted to the specific type of consumption act is required.²⁹³ Generally, a mixture of informational strategies, i.e. altering individual-related factors like perceptions or knowledge and structural strategies aimed at changing the external circumstances in which choices are made is useful.²⁹⁴ Informational strategies include but are not lim-

ited to social support and role models, since solely informing consumers was found not to be effective.²⁹⁵ This was also demonstrated above by the knowledge dilemma and the great influence that social norms proved to have. Structural strategies like increasing the quality of the public transportation system enhance individual opportunities to act sustainably and make this behavior more attractive. It also indirectly

²⁹³Cf. Di Giulio et al. (2014), p.56.

²⁹⁴Cf. Thøgersen (1994), p.159; Steg and Vlek (2009), p.313.

²⁹⁵Cf. Abrahamse, Steg, Vleg, and Rothengatter (2005), p.281; Steg and Vlek (2009), p.313.

impacts individual-related factors in that it makes, for instance, an individual's attitude toward a specific sustainable behavior more favorable.²⁹⁶ Equally, marketers of sustainable products or services should tailor their strategy to their respective offering.²⁹⁷ Thus, an important step is to assess the factors that inhibit or drive the adoption of the product or service at stake.²⁹⁸ The determinants identified above provide a good overview of possible factors. For instance, when promoting a sustainable product where strength attributes are important, the effectiveness should clearly and credibly be highlighted to counteract negative stereotypes.²⁹⁹ Besides appropriate labels, in-store demonstrations can be helpful to meet consumer's information needs in this respect and also to assist consumers in distinguishing sustainable products from unsustainable ones – an important aforementioned barrier.

Moreover, the literature review revealed several avenues for future research. Firstly, as research so far has focused on low-involvement behaviors (e.g. buying sustainable groceries),³⁰⁰ there is a scarcity of articles dealing with high-involvement and infrequent behaviors (e.g. installing solar panels). However, these are of great importance as they also have a large impact on the environment.³⁰¹ More work on this and comparisons between low and high involvement decisions as well as utilitarian and hedonic products and services is needed. Secondly, since the focus of researchers has lied on the purchasing phase of the consumption cycle or the act of recycling,³⁰² behaviors in other stages of the consumption cycle or anti-consumption and associated phenomena such as voluntary simplicity or re-usage have been rarely studied so far.³⁰³ Reduced consumption might be of special interest as such behavior is difficult to encourage³⁰⁴ and can presumably make a major contribution to the world's sustainable development. Thirdly, the articles published so far almost exclusively examine purchasing products and not the utilization of services. The latter might therefore be another interesting area for future research. Furthermore, cross-country comparisons are rare,³⁰⁵ which is why culture and other local differences particularities³⁰⁶ is another suggested direction for future research. In addition to this, there exists little research on the role of purchase situations and momentary factors in general that might have an influence on the consumer's behavior.³⁰⁷ Finally yet importantly, future research might consider methods such as ethnography and actual data rather than the current primarily used in-

strument of self-reporting, which is prone to widening the attitude-behavior gap.³⁰⁸

6. Conclusion

The investigation of the drivers and barriers shows that sustainable consumption is complex, multi-faceted and depends on the consumer's circumstances³⁰⁹ – both the physical and social ones.³¹⁰ Thus, for predicting and promoting such behavior an integrated approach is required and the consideration of different variables or measures respectively is necessary.³¹¹ With regard to the growing popularity of sustainability in people's everyday lives, as demonstrated by the Fridays for Future movement or the recent obligation for large businesses to disclose a sustainability report³¹², it can be assumed that the reasons why an individual consumes sustainably are exposed to changes in the future. While new reasons might emerge, others are omitted. It may be, for example, that the prevailing perception of consuming sustainably shifts from not normal and unfavorable³¹³ to trendy and worth aspiring for. Another reasonable presumption is that sustainable acts will be incentivized by governments or new sustainable business models will simply be the better alternative for consumers. This highlights that businesses can play a crucial role in the consumption patterns of individuals, which gives them the opportunity to change these. An essential step to influencing consumers is understanding them. The present thesis will hopefully make a small contribution to this end.

²⁹⁶Cf. Steg and Vlek (2009), p.313.

²⁹⁷Cf. Rahman (2018), p.411.

²⁹⁸Cf. Abrahamse et al. (2005), p.283.

²⁹⁹Cf. Lin and Chang (2012), p.133.

³⁰⁰Cf. Jansson et al. (2010), p.358; Prothero et al. (2011), p.33; Rahman (2018), p.400.

³⁰¹Cf. Trudel (2018), p.93.

³⁰²Cf. Tilikidou and Delistavrou (2008), p.61.

³⁰³Cf. Prothero et al. (2011), p.32.

³⁰⁴Cf. Barr (2007), p.470.

³⁰⁵Cf. Newholm and Shaw (2007), p.264; an exception is Bucic, Harris, and Arli (2012), p.113.

³⁰⁶Cf. Bucic et al. (2012), p.129.

³⁰⁷Cf. Carrington et al. (2010), p.155; Grimmer et al. (2016), p.1583.

³⁰⁸Cf. Janssen (2018), p.20; Govind et al. (2019), p.1198.

³⁰⁹Cf. Nair and Little (2016), p.181f.

³¹⁰Cf. Carrington et al. (2010), p.147.

³¹¹Cf. Ertz et al. (2016), p.3974.

³¹²Cf. European Commission (2014), p.4

³¹³Cf. Rettie et al. (2014), p.9; Johnstone and Tan (2015), p.319.

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