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**INCREASING SUSTAINABLE CONSUMER BEHAVIOUR:
FOR REASONS OF DESIRABILITY AND FEASIBILITY?
THE CASE OF ORGANIC COTTON**

BY
EVA MEYER-SCHWICKERATH

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WAGENINGEN UNIVERSITY
MARKETING AND CONSUMER BEHAVIOUR GROUP
SUPERVISION BY
DRS. YNTE K VAN DAM, DR. JANNEKE DE JONGE

TECHNISCHE UNIVERSITÄT MÜNCHEN
MARKETING AND CONSUMER RESEARCH
SUPERVISION BY
PROF. DR. JUTTA ROOSEN

Executive summary

Research on sustainable consumer decisions reveals a gap between consumers' attitudes and behaviour. Whereas many consumers show positive attitudes towards sustainability, these attitudes are often not reflected in actual purchasing decisions. Construal-Level Theory and psychological distance contribute to explaining this attitude-behaviour gap.

According to basic assumptions of Construal-Level Theory, consumers' decision making depends on how consumers psychologically construe a decision at hand. In low-level construal mindsets, which are considered concrete mindsets, consumers base their decisions on concrete and observable features. Consumers in low-level construal mindsets are rather found to be in states characterised by self-interest. High-level construal mindsets imply that consumers adopt a distant perspective away from a self-interested and present self. This distant perspective is closely related to the personality traits cooperative social value orientation and consideration of future consequences. In high-level construal mindsets, which are considered abstract mindsets, consumers base their decisions on broad moral principles. Thus, they are more likely to be in cooperative states and to make sustainable decisions.

Therefore, the research hypothesises that high-level construal mindsets increase the importance of sustainable product attributes and low-level construal mindsets increase the importance of utilitarian product attributes. Furthermore, it is hypothesised that framing of product attributes –referring to a product's sustainable or utilitarian product attributes– also influences the importance of the respective product attributes.

In the experimental design of this research two manipulations are applied. Firstly, high-level construal mindsets and low-level construal mindsets are intended to be manipulated. As new approach in construal level research, pictorial means are applied for manipulation of construal mindsets. Secondly, the sustainable product presented to the participants is intended to be framed. Taking the case of organic cotton as sustainable product, participants' perceived importance of sustainable and utilitarian product attributes is assessed by a composed attribute choice task.

Results from the experimental design are limited as the effectiveness of construal level manipulations cannot sufficiently be monitored in this research. Thus, neither a failure nor a successful manipulation of construal mindsets can be assumed. Therefore, the research hypotheses are firstly tested on participants' social value orientations and

consideration of future consequences. Secondly, the research hypotheses are tested on the assigned construal mindset groups.

Results show that as hypothesised distant perspectives increase the importance of sustainable product attributes: Consumers with a cooperative social value orientation consider the sustainable product attributes *environmental friendliness* and *fair trade* more important than consumers with a self-interested social value orientation; participants assigned to the high-level construal mindset group consider the sustainable product attribute *local manufacturing* more important than participants assigned to the low-level construal mindset group. Moreover, results show that as expected near perspectives indicate the importance of utilitarian product attributes: Consumers with a self-interested social value orientation and participants assigned to the low-level construal mindset group consider the utilitarian product attribute *touch on skin* more important than consumers with a cooperative social value orientation and participants assigned to the high-level construal mindset group. Results do not support the assumption that framing of product attributes influences the perceived importance of utilitarian and sustainable product attributes.

As theoretical implication the research results indicate the need for distinct measures to check the effectiveness of construal level manipulations measuring participants' social and temporal state perspectives. Besides cooperative traits also cooperative states increase the importance of sustainable product attributes and thus the likeliness of consumers to purchase sustainable products. Therefore, research results indicate a need for effective means to evoke cooperative states of consumers in purchasing situations. As consumers are usually driven by self-interest in purchasing situations, the research results also underline the importance of utilitarian product attributes to consumers. Thus, as practical implication the research results suggest to not only emphasise sustainable but particularly also utilitarian product attributes of sustainable products to consumers. Further implications are discussed in the research aiming at increasing consumers' sustainable decision making.

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List of abbreviations

CFC	Consideration of future consequences
CLT	Construal-Level Theory
EJF	Environmental Justice Foundation
FAOSTAT	Food and Agriculture Organization of the United Nations
GOTS	Global Organic Textile Standard
ILO	International Labour Organisation
ITC	International Trade Center
IWG	International Working Group On Global Organic Textile Standard
SVO	Social value orientation
VBN	Value Belief Norm Theory
VZBV	Federation of German Consumer Organisations
WCED	World Commission on Environment and Development

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1 Introduction

1.1 Problem statement

As of November 2011, the human population is estimated to be 6.9 billion (U.S. Census Bureau, 2011). According to the European Commission (2011a), the demand of human population has an increasing influence on environmental conditions. A variety of environmental problems affect our whole world. The European Commission (2011b) describes the global climate change as „one of the greatest environmental, social and economic threats facing the planet”. Moreover, global poverty, decline of biodiversity and many other enormous global challenges indicate the urgency for sustainable development (European Commission, 2010c). In the Brundtland report of the World Commission on Environment and Development sustainable development is defined as „meeting the needs of the present without compromising the ability of future generations to meet their needs” (WCED, 1987: 54). Sustainability includes an economical but also explicitly an environmental and social dimension. According to the definition above, sustainability is a long-term matter of society.

The conventional cotton industry has an immense influence on global social, ecological, and economic conditions as cotton is the world’s most important nonfood crop (Perschau and Sanfilippo, 2008). Referring to poor labour rights and conditions, child labour, low wages and a disastrous life cycle assessment especially through pesticide and insecticide use, the industry is often characterised as non-sustainable (e.g., VZBV, 2003). As an example, solely the conventional cotton production accounts for 25 per cent of the worldwide insecticide use (Perschau and Sanfilippo, 2008). Legislative standards for organic cotton production especially aim at contributing to the protection of the environment, for example, by restriction of chemical pesticides and fertilisers (European Commission, 2007). Professionals of ethical trade underline that organic cotton and its sustainability contribution regarding environment, health and fairness is an alternative to the conventional cotton industry’s impact (Grassegger, 2010). The organic cotton industry’s goal to offer sustainable products is of special importance as sustainable products can be defined as „offerings that satisfy customer needs and significantly improve the social and environmental performance along the whole life cycle in comparison to conventional offers” (Belz and Peattie, 2009: 154).

However, the organic cotton industry currently faces profound difficulties. Due to strong promotion of organic cotton within the frame of development aid, organic cotton prices have decoupled from market. As a consequence, massive oversupply of organic cotton has developed, yet the actual consumer demand for organic cotton has remained low. In 2010 organic cotton only represented 0.5 per cent out of the total cotton production (Grassegger, 2010) and therefore still needs to be considered as niche market. The mass of textiles being produced, in which cotton is processed, shows the enormous potential for the organic cotton market (Federal Bureau of Statistics, 2008).

There is a strong need to understand sustainable consumer behaviour in order to meet global challenges. According to Van Lange and Joireman (2008: 130), sustainable consumer behaviour is embedded in socio-temporal dilemmas which „can be seen to involve two conflicts of interest, including a social conflict between individual and collective interests and a temporal conflict between short term and long term interests”. While it may be profitable for individuals to maximise their self-interest, collective interests such as sustainability issues may be neglected. Thereby everyone will be worse off in the long run (Sanna et al., 2010; Weber et al., 2004). From these characteristics it can be concluded that compared to rather conventional offers sustainable products are often characterised by a high proportion of temporarily or socially delayed rewards beyond short-term individual benefits. Moreover, sustainable products are *credence goods* which means that the main benefits such as environmental superiority cannot directly be experienced or observed by consumers, but in the long-term contribute to sustainable development as benefit for society as a whole (Belz and Peattie, 2009). Socio-temporal dilemmas require increased cooperation and therefore an understanding of when consumers are more likely to make cooperative instead of selfish choices.

According to a conclusive opinion in scientific literature, even though consumers express concern regarding sustainability issues and show positive attitudes towards them, these attitudes are often not reflected in consumers' actual purchasing behaviour. Rational choice theories seem weak in predicting sustainable consumer behaviour as they neglect ability to explain this attitude-behaviour gap (Weber et al., 2004; Van Trijp and Fischer, 2010; Vermeir and Verbeke, 2006).

Construal-Level Theory is promising to understand and predict sustainable consumer behaviour as it contributes to explaining the attitude-behaviour gap in regard to

sustainable consumer behaviour. Moreover, Construal-Level Theory can predict sustainable consumer behaviour in socio-temporal dilemmas (e.g., Sanna et al., 2010).

1.2 Objectives and structure

In order to understand and to identify important drivers for sustainable consumer behaviour to successfully promote sustainable consumer behaviour, the research at hand aims at answering the following research questions:

1. *In the light of Construal-Level Theory, what are important drivers for sustainable consumer behaviour?*
2. *How can sustainable products be presented in order to increase sustainable consumer behaviour?*
3. *Which implications can be derived in order to promote sustainable consumer behaviour?*

The structure of the research at hand is as follows: Chapter 2 describes organic cotton production's sustainability contribution as compared with the conventional cotton production's impact. Besides organic cotton's collective social and long-term temporal benefits, also personal benefits are described. Chapter 3 gives a theoretical background on Construal-Level Theory and on the socio-temporal dilemma inherent in sustainable consumer behaviour. Moreover, Chapter 3 analyses important drivers for sustainable consumer behaviour in the light of Construal-Level Theory. From this analysis the research hypotheses are derived. Chapter 4 describes the methodology of the research at hand. The experimental design chosen to test the research hypotheses is introduced. In Chapter 5 and 6 the research results are presented. These are discussed in Chapter 7. Furthermore, Chapter 7 presents conclusions and implications to increase sustainable consumer behaviour.

2 Organic cotton

According to its definition, cotton is „a soft white fibrous substance which surrounds the seeds of the cotton plant and is made into textile fibre and thread for sewing” (Oxford Dictionaries, 2011). Cotton is the world’s most important non-food crop (Perschau and Sanfilippo, 2008). The importance of cotton is based on its widespread and diverse use in products from personal care items such as sanitary products, make-up removal pads, cotton puffs, ear swabs and diapers to home furnishings such as towels, bathrobes, sheets and blankets to stationery supply such as writing paper and note cards. Moreover, cotton is the most important component of clothes of all kinds (OTA, 2010). In 2010 around 55 million tons of conventional cotton were produced globally. In descending order the seven world leaders of conventional cotton production are China, India, Pakistan, USA, Brazil, Uzbekistan and Turkey (FAOSTAT, 2010). The conventional cotton industry has an immense influence on worldwide ecological, economic and social conditions.

Regarding its ecological impact, the conventional cotton production is stated to have one of the most disastrous life cycle assessments (Grassegger, 2010; Chouinard and Brown, 1997). The conventional cotton production only accounts for 2.5 per cent of the global farmland, yet it contributes 25 per cent to worldwide fertiliser and 10 per cent to worldwide pesticide use. According to the Environmental Justice Foundation (EJF), these uses constitute expenses of US\$ 2 billion. Many of the applied pesticides are highly toxic organophosphate and persistent organochloride and classified as hazardous by the World Health Organization (ITC, 2008; Mancini et al., 2005; EJF, 2007). Negative consequences on water quality such as groundwater, wild life and biodiversity need to be associated with the release of these large quantities of toxic products in the environment (Mancini et al., 2005).

Cotton also has a huge economic impact. Solely in India cotton cultivation supports the livelihood of about ten million farmer households. The cotton chain including processing and textile industries provides employment to an even larger group of, for example, factory workers. However, as much of cotton’s cultivation and production takes place in developing countries, financial income is mainly characterised by low wages and poor working conditions. According to Eyhorn et al. (2007) millions of conventional cotton farmers are exposed to long-term problems such as a decline in soil

fertility and an increase in insect pests due to growing pesticide resistance. These problems indicate an economic threat to the livelihood of conventional cotton farmers.

In regard to conventional cotton's social impact, it needs to be stated that low wages, child labour, forced labour and poor working conditions often characterise the work for millions within the conventional cotton production chain (Grassegger, 2010; EJF, 2007; Mancini et al., 2005). Moreover, acute pesticide poisoning among conventional cotton farmers are estimated to befall annually 1.5 million people (Mancini, 2005). In India and Uzbekistan children are directly involved in cotton pesticide application. In Pakistan, Egypt, and Central Asia child labourers work in cotton fields either during or following the spraying season. In both cases children account to the victims of pesticide poisoning due to the proximity of their homes to cotton fields or because of the reuse of empty pesticide containers, for example, for drinking (EJF, 2007; Mancini et al., 2005). It needs to be concluded that the conventional cotton production is unsustainable in regard to its ecological, economic and social dimension to a great extent. The unsustainability of the system of conventional cotton production requires an alternative towards sustainability (Grassegger, 2010).

Organic cotton

Organic cotton is cotton which is descended from organic agriculture. Since 2007, organic cotton is protected by the European Council Regulation (EC) No 834/2007 on organic production and labelling of organic products (European Commission, 2007). Organic production is seen as an overall farm management system „that combines best environmental practices, a high level of biodiversity, the preservation of natural resources [...] and a production method in line with the preference of certain consumers for products produced using natural substances and processes” (European Commission, 2007: 1). Organic cotton production can be seen as the sustainable alternative to conventional cotton production as it will further be explained in the following.

In regard to the ecological dimension, organic cotton is grown using methods and materials that have low impact on the environment (European Commission, 2007). Organic production systems replenish and maintain soil fertility by including crop rotation and by using animal manure and compost additions. The use of toxic and persistent pesticides and fertilisers is prohibited. These actions build biologically diverse agriculture (Cherrett et al., 2005). In addition, federal regulations prohibit the

use of genetically engineered seeds for organic farming (European Commission, 2007; OTA, 2010).

According to Eyhorn et al. (2007), the production of organic cotton is insofar economically more sustainable than the production of conventional cotton as input costs and overall production costs as well as the financial risks for the farmers are lower. Moreover, organic cotton production minimises the risk of long-term threats such as the decline in soil fertility and the increase in insect pests and thereby contributes to ensuring the livelihood of organic cotton farmers. Therefore, economic sustainability depends on a long-term, sustainable ecological development.

In regard to social aspects, especially international organisations set standards aiming at social sustainability within the organic cotton production. For example, established standards are the *Global Organic Textile Standard (GOTS)* and *Standard 100 (IWG)* (IWG, 2011; ILO, 2002). These standards set high social requirements from the production of organic cotton to its processing to textiles. According to the International Labour Organisation (ILO) (2002), the GOTS, for example, prohibits forced, slave and child labour. Moreover, it requires the right to free association, regular work contracts, safe and clean working conditions, respectful human treatment and sufficient wages.

Besides collective social and long-term environmental benefits, organic cotton can also be associated with direct personal benefits. For instance, certified products by GOTS or Standard 100 indicate strict requirements in all processing stages for chemical inputs which have toxic features or which may be associated with causing cancer (IWG, 2011; Oeko-Tex Institute, 2011). Therefore, some companies selling products containing organic cotton state these to be, for example, „pleasant to the skin because contaminant tested” (Otto GmbH & Co KG, 2011a). Moreover, the companies Patagonia and COOP stress organic cotton’s increased haptic quality and appearance by labelling its „softer touch” (Meyer, 2001). These personal benefits might come along with consumers’ perception that products containing organic cotton possess high quality (Chouinard and Brown, 1997).

3 Theoretical background

3.1 The socio-temporal dilemma and Construal-Level Theory

Sustainable products specifically seek to satisfy consumers' needs and wants by simultaneously respecting the revealed environmental and social impacts that are associated with the total consumption process. Therefore, sustainable products do not only focus on the benefits to the individual consumer, but they are also „balanced by concern for collective social and environmental costs” (Belz and Peattie, 2009: 74).

Following Lancaster's approach to look at products as bundle of benefits from which utility is derived (Lancaster, 1966), it can be concluded that sustainable products and conventional products do not differ with regards to the general benefits they provide, but might vary concerning the relative proportions they hold of these benefits. Whereas conventional products might show high proportions in benefits such as price, convenience and brand familiarity, sustainable products might keep high proportions of benefits in quality and health, as well as benefits in the environmental and social dimensions. In other words, it is assumed that conventional products rather hold strong immediate and personal benefits, while sustainable products show a more balanced structure of short-term individual and long-term collective benefits.

Michaud and Llerena (2008: 3) define sustainable products as „impure public goods” in a sense that they represent private goods affiliated with public characteristics holding both private benefits to the consumer and collective benefits such as environmental protection to society. Private versus collective benefits often conflict. For example, in common resource dilemmas like fishing the oceans or conserving water it may be profitable for individuals to maximise their self-interest, yet resources and supply may become exhausted and depleted and therefore unprofitable for the collective in the long-term (Sanna et al., 2010; Weber et al., 2004).

It can be concluded that sustainable consumer behaviour is embedded in socio-temporal dilemmas which reveal a social conflict between individual and collective interests and a temporal conflict between short-term and long-term interests (Van Lange and Joireman, 2008). Sustainable consumption as well as consumption in self-interest are illustrated in regard to these social and temporal dimensions in the following Figure 1.

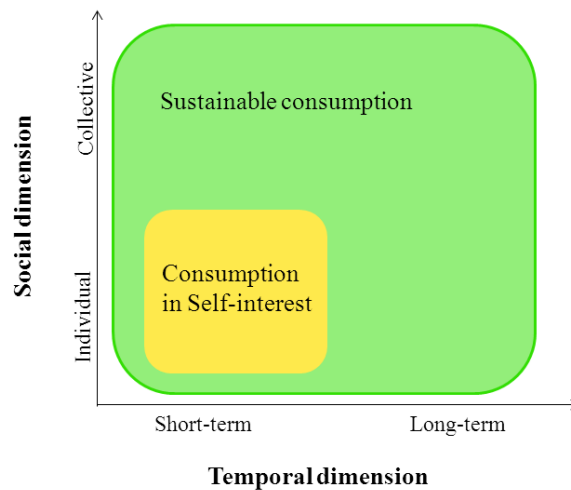


Figure 1. Socio-temporal dimensions of sustainable consumption

Socio-temporal dilemmas require increased sustainable consumer behaviour –which is measured by cooperative behaviour in socio-temporal dilemmas– and therefore an understanding of when people make cooperative instead of selfish choices. Construal-Level Theory (CLT) is a promising theory as it intends to explain cooperation in socio-temporal dilemmas.

CLT’s underlying assumption is that people mentally represent –or construe– objects and events at different levels of abstraction, in the so called construal mindsets. Thereby, construal level is a function of psychological distance and it is derived from temporal (proximal versus future) and social (near versus distant) perspectives.¹ For example, a temporal proximal perspective would be thinking of *tomorrow* whereas a temporal future perspective would be *an event next year*. A social near perspective would be a person *himself/ herself* and a social distant perspective thinking of *others*. Events and objects at greater distance are being subjected to high-level construal mindsets (abstract level) whereas events and objects at closer psychological distance are subjected to low-level construal mindsets (concrete level) (Liberman et al., 2007; Trope and Liberman, 2007).

In high-level construal mindsets consumers are likely to base their decisions on broad moral principles, the so-called *desirabilities*. Here, sustainability issues are located. In low-level construal mindsets consumers base their judgements on concrete, observable

¹ In CLT also a spatial perspective (nearby versus far away) and a hypothetical perspective (real versus hypothetical) are described functions of psychological distance. However, these distances will not be of focus within the research at hand.

or subordinate features, the *feasibilities*. A basic assumption of CLT is that decisions people make depend on the way how they psychologically construe (abstract versus concrete) a situation at hand.

Construal-level mindsets can be manipulated. For example, asking participants abstract questions (*why questions*) is found to set them in high-level construal mindsets. Asking participants concrete questions (*how questions*) is found to evoke low-level construal mindsets (Eyal et al., 2009; Van Trijp and Fischer, 2010).

Many studies applying CLT state that cooperative behaviour in socio-temporal dilemmas is more likely to occur when people are in a high-level construal mindset because in high-level construal mindsets people base their judgements on broad moral principles, the *desirabilities* (e.g., Eyal et al., 2009). Therewith, CLT has so far shown an implicit dilemma for sustainable consumer behaviour in purchasing situations. In purchasing situations consumers predominantly are in low-level construal mindsets. Therefore, consumers are not likely to base their decision on *desirabilities* but *feasibilities* (Trope and Liberman, 2010; Van Trijp and Fischer, 2010).

However, recent construal level research gives a new outlook to increase sustainable consumer behaviour in socio-temporal dilemmas, as it extends prior findings by predicting sustainable consumer behaviour for both, high-level construal mindsets and low-level construal mindsets. Sanna et al. (2010) framed motives to participants in a decision situation in an abstract or an concrete way. Results showed that cooperative behaviour is likely to occur among participants given abstract actions („being cooperative”) in high-level construal mindsets, and among participants given concrete actions („returning fish to lake”) in low-level construal mindsets (Sanna et al., 2010: 1126). These results indicate the influence of framing on sustainable consumer behaviour.

Based on the socio-temporal dilemma inherent in sustainable consumer behaviour, the following Chapter 3.2 will present important drivers for sustainable consumer behaviour in the light of CLT.

3.2 Drivers for sustainable consumer behaviour in the light of Construal-Level Theory

It is a key issue for social psychologists, policy makers and marketing managers to understand drivers for sustainable consumer behaviour. Steg and Vleg (2009: 311) especially emphasise the importance to understand drivers as „the effectiveness of behavioural interventions generally increases when they are aimed at important antecedents of the relevant behaviour and at removing barriers for change.”

In scientific literature (sustainable) consumer behaviour is studied within different categories which look at (sustainable) consumer behaviour from different perspectives. Drivers within three main categories are prominent. These can be summarised into: the category of individual drivers, the category of decision context and the category of contextual drivers. The classification into these three categories is made in the research at hand in order to show that CLT can be applied to all three categories and that CLT enables to draw interlinkages between them. A literature review on drivers for sustainable consumer behaviour in these three categories is given in the following. Based on the literature review, the research hypotheses are derived.

Category of individual drivers

Individual drivers for sustainable consumer behaviour have been studied intensively.² Rational choice theories and their basic assumption that attitudes would determine sustainable consumer decisions have gradually more been questioned. Attitudes and rational choice theories are both increasingly considered weak in predicting consumers' sustainable purchasing decisions. This opinion in scientific literature can convincingly be illustrated by the *attitude-behaviour gap* stating that even though consumers might have positive attitudes towards sustainability, these attitudes are often not reflected in actual purchasing decisions (e.g., Van Trijp and Fischer, 2010; Vermeir and Verbeke, 2006).

According to CLT, the role of social and temporal perspectives are main contributors to understanding this attitude-behaviour gap (e.g., Oyserman, 2009; Steg and Vlek, 2009; Menzel and Bögeholz, 2009; Van Lange and Joireman, 2008). Construal level research emphasises that sustainable consumer behaviour is more likely to occur when people are

² For a review of individual driver literature covering also motivational drivers such as identity-based drivers please see Giddens (1991); Belk (1988); Oyserman (2009); Weber et al. (2004), and for a review of moral drivers please see Stone and Fernandez (2008); Batson and Thomson (2001); Kunda and Schwartz (1983).

in a high-level construal mindset (Eyal et al., 2009). For instance, Giacomantonio et al. (2010) show that high psychological distance indicated by a temporal future perspective determines the likelihood of people to engage in cooperative behaviour. This finding includes an important viewpoint of individual driver literature. In contrast to a temporal proximal perspective, individual driver literature also finds a temporal future perspective to have influence on people's cooperativeness and engagement in pro-environmental behaviour. People high in *considerations of future consequences* or who show *awareness of consequences* (cf. Value Belief Norm Theory (VBN): Stern and Dietz, 1994) are more likely to engage in sustainable behaviour such as recycling, conserving natural resources and taking part in pro-environmental activism. The more salient the long-term consequences of a behavioural option the stronger the effect (Van Lange and Joireman, 2008; Menzel and Bögeholz, 2009).

The influence of different perspectives and conflicting interests through mindsets are also indicated by *Multiple Selves Approaches* (cf. Schelling, 1984; O'Connor et al., 2002; Bazerman et al., 1998). *Multiple Selves Approaches* state that consumers have a constant fighting *want* and *should self*. The *should self* is future oriented and favours options that take effect in the future such as sustainability issues. In contrast, the *want self* aims at immediate pleasure. In coherence with the assumption of CLT that different mindsets have different influence on consumers' decision making, research from Milkman et al. (2008) shows how this dilemma for sustainable purchases can partly be solved. The use of delivery systems, for example online shopping, requires people to make choices now that will take effect in the future. As in temporal future perspectives desirabilities are more likely to overcome feasibilities, the probability increases that consumers choose sustainable options.

Next to temporal perspectives also social perspectives have been found to be major influencing drivers within the category of individual drivers. Many studies reveal that the more people subscribe to values and social perspectives beyond their immediate own interest, the more likely they are to engage in pro-environmental or sustainable behaviour (e.g., Menzel and Bögeholz, 2009; Van Lange and Joireman, 2008; Stern and Dietz, 1994). Values and social orientations such as universalism, altruism, cooperation and egalitarianism are found to promote cooperative behaviour in socio-temporal dilemmas (Menzel and Bögeholz, 2009; Van Lange and Joireman, 2008). Construal level research also states the importance of these values and social orientations as

drivers for sustainable consumer behavioural intentions but in addition differentiates between consumers' intentions for future and proximal situations. Research of Eyal et al. (2008) shows that values are better predictors for intentions for future situations in contrast to proximal situations.

It needs to be noted that the values, such as a cooperative social value orientation, described to increase sustainable behaviour by individual driver literature are based on personality. Therefore, they can be considered *trait* variables. Cooperative behaviour induced by high-level construal mindsets on the other hand could be considered *state* variables. However, construal level research does not explicitly distinguish between trait and state variables (e.g., Sanna et al., 2009; Fujita et al., 2006).

Category of decision context

According to a basic assumption of construal level research, consumers predominantly are in low-level construal mindsets in decision contexts such as purchasing situations. This assumption is based on the fact that in a decision context temporal perspective of consumers is typically proximal and social perspective near (Trope and Liberman, 2010; Van Trijp and Fischer, 2010).

Referring to consumers being in low-level construal mindsets in purchasing situations, Trope and Liberman (2010: 457) state that consumers are mainly influenced by products' „low-level features”.³ Low-level features are concrete and observable aspects of products. They indicate direct, personal and proximal benefits to consumers. In the research at hand these low-level features are referred to as *feasibility properties* of products. Examples of *feasibility properties* of products are products' appearance and haptic quality. In contrast to *feasibility properties* of products, *desirabilities* of products are non-concrete and non-directly observable aspects of products which indicate indirect, non-personal and distant benefits to consumers. Examples of *desirabilities* are the environmental and social performances of the products. In contrast to low-level construal mindsets, it can be assumed that consumers in high-level construal mindsets are more likely to base their decisions on *desirabilities* of products as then they base their decisions on broad moral principles.

³ For a review of further important drivers within the decision context covering the organisation of the consumer behaviour environment and the assortments please see Van Herpen et al. (2009); Van Herpen and Pieters (2007); Bitner (1992) and for the social surrounding please see Belk (1988).

Sustainable products carry both *feasibility properties* and *desirabilities*. A shirt containing organic cotton, for example, has a certain haptic quality and a certain environmental performance. *Feasibility properties* of products are mainly reflected by utilitarian product attributes such as softness, price or convenience. These are concrete product attributes. On the other hand, *desirabilities* of products are mainly reflected by sustainable product attributes which are non-concrete product attributes. Example are environmental friendliness, fair trade or local manufacturing.

As consumers are mainly influenced by *feasibility properties* in the decision context, it can be argued that the decision context could be adjusted in a way giving consumers stimuli pertaining to low-level construal mindsets. For the purpose intended these stimuli could let consumers give less weight to *desirabilities* and more to *feasibility properties* of sustainable products. For example, sustainable products could be sampled for touching to let consumers experience *feasibility properties*. Human senses such as the touching and tasting sense are associated with low-level construal mindsets by creating a zero-distance point: me, here and now (Trope and Liberman, 2010).

Category of contextual drivers

The category of contextual drivers includes the positioning of product attributes such as framing.⁴ Based on Kahneman and Tversky's (1979) *Prospect Theory*, research shows that the framing of products, for example of sales messages, influences choices consumers make (e.g., Monroe, 1987; Leving and Gaeth, 1988).

Based on the described findings of construal level research that consumers in low-level construal mindsets are mainly influenced by *feasibility properties* of products in a decision context, it could be assumed that stressing *feasibility properties* could increase the importance of utilitarian product attributes in contrast to a situation in which *desirabilities* are stressed. This assumption is exemplified by Meyer (2001) who states that sustainable products often fail and will remain niche phenomena for pure green consumers as long as not personal benefits but only their sustainable benefits are pointed out.⁵ In other words, it may be assumed that a consumer who is interested in *feasibility properties* when purchasing a product, will intuitively look which *feasibility properties* the utilitarian product attributes can offer. Thus, stressed desirabilities of a

⁴ For a review of further important drivers within the category of contextual drivers consisting of product supply and availability please see, e.g., Tanner and Kast (2003).

⁵ One example of companies mainly stressing sustainable products' environmental superiority is the internet store Greanz: (<http://www.greanz.nl/>).

product will rather not meet a consumer's interest in low-level construal mindset. Meyer (2001) allocates the organic cotton clothing collections' successes of the companies COOP and Patagonia to stressing sustainable products' *feasibility properties* to a great extent. On the other hand, it could be assumed that consumers in high-level construal mindsets are intuitively influenced by products' *desirabilities*. Therefore, stressing *desirabilities* could increase the importance of sustainable product attributes compared to the situation in which *feasibility properties* are stressed.

Research hypotheses

Hypothesis 1 reflects the assumed importance of stressing sustainable products' *feasibility properties* to consumers in a decision context, which is characterised by low-level construal mindsets. Therefore, it is hypothesised that:

H1. If consumers have a social near and temporal proximal perspective (low-level construal mindset) and the sustainable product's feasibility properties are stressed, utilitarian product attributes are more important to consumers compared to the situation in which desirabilities are stressed.

Hypotheses 2 and 3 are based on the main assumption of CLT that consumers in high-level construal mindsets base their judgements on broad moral principles. Therefore, it is hypothesised that:

H2. If consumers have a social distant perspective (high-level construal mindset) and the sustainable product's desirabilities are stressed, sustainable product attributes are more important compared to the situation in which feasibility properties are stressed.

H3. If consumers have a temporal future perspective (high-level construal mindset) and the sustainable product's desirabilities are stressed, sustainable product attributes are more important compared to the situation in which feasibility properties are stressed.

4 Methodology

4.1 Sample and procedure

The sample is aimed to consist of 150 participants.⁶ Participants are randomly picked at the main campus of Wageningen University, Netherlands. All participants are also randomly assigned to the three conditions, as it will be explained in the following.

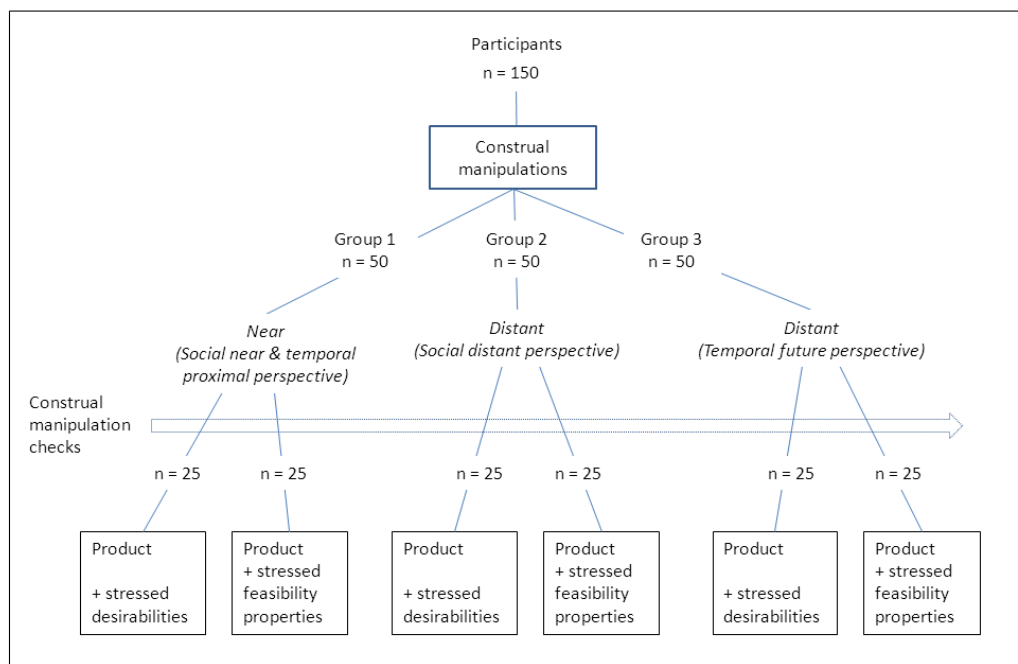


Figure 2. Experimental design

The first manipulation of the research at hand is the manipulation of construal levels. Construal manipulations are applied to all participants, as illustrated in Figure 2. In a three group design three conditions are formed: one low-level construal mindset group and two high-level construal mindset groups. Group 1 („Near”) is manipulated to a social near and temporal proximal perspective. The other two groups are manipulated to distant perspectives: Group 2 („Distant”) is manipulated to a social distant and Group 3 („Distant”) to a temporal future perspective. The forming of one near and two distant perspective groups allows testing two main effects: near (Group 1) versus social distant perspective (Group 2) and near (Group 1) versus temporal future perspective (Group 3).

⁶ The final sample will be explained in detail in Chapter 5 „Results“.

After construal manipulations construal manipulation checks are applied. These measure the participants' social and temporal perspectives in order to monitor the adequacy of the construal manipulations (for details please see Chapter 4.2.1 „First manipulation: manipulation of construal levels”).

The second manipulation of the research at hand is framing of the sustainable product. Therefore, the sustainable product presented to the participants is framed in two dependent conditions: half of all participants within each group is presented an advertisement of an organic cotton shirt while stressing the sustainable product's *desirabilities*. The other half of all participants within each group is shown the same advertisement while the sustainable product's *feasibility properties* are stressed. The two dependent conditions amount to six final groups of participants.

After being presented with the advertisements of the organic cotton shirt, the participants take part in a composed attribute choice task. Thereby, the participants' importance subjected to utilitarian product attributes as well as to sustainable product attributes is assessed (for details please see Chapter 4.2.2 „Second manipulation: framing of the sustainable product”).

4.2 Experimental design

4.2.1 First manipulation: manipulation of construal levels

Manipulation of low-level construal mindsets

The manipulation of low-level construal mindsets is applied to participants of Group 1, as illustrated in Figure 2. Group 1 is the „Near”-Group and thus its participants are manipulated to a social near and a temporal proximal perspective.

Procedure, tasks, and independent variables

Face pictures of the participants are chosen as pictorial mean of construal level manipulation. Therefore, upon arrival of each participant a picture of each participant's face is made via camera. The participant is seated in front of a computer and is instructed to look at his / her picture which is shown at the computer screen. The participant is asked to describe identifying details of his / her face in a first person perspective. For this manipulation a *zero-distance point* is expected because the picture shows the participant himself / herself and now (Trope and Liberman, 2010). The social

nearness is indicated by the picture showing the participant himself / herself. The temporal proximity is indicated by the current temporal perspective, the present in which the participant looks at his / her picture. Moreover, a first person perspective is stated to induce a low-level construal mindset (Trope and Liberman, 2010) and the description of details to lead to concrete focuses inherent in low-level construal mindsets (e.g., Sanna et al., 2010).

Dependent measures

The main dependent variable is the importance of utilitarian and sustainable product attributes to participants after the two manipulations.⁷ To check the adequacy of the construal level manipulation, participants are classified regarding their social and temporal perspectives. For the low-level construal manipulation the dependent measures are:

1st dependent measure: social near perspective as indicated by a non-cooperative social value orientation (SVO)

It is expected that participants in the low-level construal mindset group differ compared to participants in the high-level construal mindset group in regard to their social perspectives. Participants in the low-level construal mindset group are expected to be more self-interested and thus to be more non-cooperative compared to participants in the high-level construal mindset group (e.g., O'Connor et al., 2002; Bazerman et al., 1998; Eyal et al., 2009).

It needs to be noted that in construal level research there is a lack of construal manipulation checks measuring social effect of construal level manipulations based on social distance manipulation. Thus, in order to assess non-cooperative and cooperative SVO of participants, Messick and McClintock's (1968) *Decomposed Game Technique* is applied. The Decomposed Game Technique is a commonly used technique to assess SVO and found to be a reliable method with high construct validity (e.g., De Dreu and Van Lange, 1995; Kuhlman and Marshello, 1975; Van Lange et al., 1997; Joireman et al., 2004; Au and Kwong, 2004; Balliet et al., 2009).⁸

⁷ The main dependent variable will be presented in Chapter 4.2.2 „Second manipulation: framing of the sustainable product; Dependent variable: Importance of product attributes”.

⁸ As discussed in Chapter 3.2 „Drivers for sustainable consumer behaviour in the light of Construal-Level Theory”, construal level research does not clearly differentiate between cooperation as state and trait variables. It may be assumed that the Decomposed Game Technique assesses cooperation rather as trait variable. Possible consequences to the choice of this measure are elaborated in Chapter 5 „Results” and Chapter 6 „Additional analyses”, and discussed in Chapter 7 „Discussion and Conclusion”.

For the assessment of SVO each participant makes choices in nine decomposed games. These games require participants to choose from different distributions of outcomes to themselves and to another person. As illustrated in Figure 3, they assign valuable points to themselves and to another person by choosing option A, B or C.⁹

	Choice options		
	A	B	C
You get	500	500	550
Other gets	100	500	300

Figure 3. An example of a decomposed game

Participants are classified as making individualistic, competitive or cooperative choices depending on the amount of points the participants assign to themselves and to the other person. In the example of the decomposed game (Figure 3) choice A is the competitive option because it maximises the difference between oneself and the other person ($500 - 100 = 400$). Choice B is the cooperative option as it maximises equality and joint outcome ($500 + 500 = 1000$). Choice C is the individualistic option because it maximises the individual outcome (550). In order to be classifiable, participants need to make at least six consistent choices in the nine decomposed games (e.g., Van Lange et al., 1997; Joireman et al., 2004; De Dreu and Van Lange, 1995).

Based on Van Lange and Joireman (2008), who find individualistic and competitive orientations to undermine cooperation, individualistic and competitive choices are concluded as non-cooperative choices. Therefore, classifiable participants are grouped as making either cooperative or non-cooperative choices. The amount of non-cooperative and cooperative participants is determined by the sum of the participants' (non-cooperative versus cooperative) choices of the nine decomposed games. Finally, independent-samples t-test is conducted to compare the non-cooperative SVO mean of the low-level construal mindset group (Group 1) with the non-cooperative SVO mean of the high-level construal mindset group (Group 2).

⁹ For instructions and further details please see Appendix 1 „Measurement of Social Perspective“.

2nd dependent measure: temporal proximal perspective as indicated by consideration of future consequences (CFC) score

It is expected that participants in the low-level construal mindset group differ compared to participants in the high-level construal mindset group in regard to their temporal perspectives. Participants in the low-level construal mindset group are expected to have a temporal proximal perspective and thus to have a lower CFC score mean compared to participants in the high-level construal mindset group (e.g., Van Lange and Joireman, 2008; Menzel and Bögeholz, 2010).

Distinct construal manipulation checks determining temporal effect of temporal distance manipulation lack in construal level research. Therefore, in order to compare the temporal perspectives of the participants, Strathman et al.'s (1994) *Consideration of Future Consequences Scale* is applied. The *Consideration of Future Consequences Scale* assesses the participants' differences in the CFC of potential behaviours and is found a valid and reliable measure of CFC (Strathman et al., 1994; Joireman et al., 2001; Joireman et al., 2004).¹⁰

For the assessment of the participants' CFC the participants answer a 12-item CFC scale which contains general statements regarding an individual's tendency to take into account the future consequences of his / her behaviour. An example statement is „Often I engage in a particular behaviour in order to achieve outcomes that may not result for many years”.¹¹ Participants are asked to indicate the extent to which each statement is characteristic of them on a scale from 1 (extremely uncharacteristic) to 5 (extremely characteristic) (Strathman et al., 1994). Then, the CFC score mean of each participant of Group 1 is determined. For statements indicating high CFC 5 points are allocated to the participants. This is the case when participants choose statements to be extremely characteristic. If they find a statement somewhat characteristic, 4 points are allocated; if they are uncertain, 3 points are allocated; if they find a statement somewhat uncharacteristic, 2 points are allocated; and if they find a statement extremely uncharacteristic, 1 point is allocated. In turn, if statements indicate low CFC, the points

¹⁰ As discussed in Chapter 3.2 „Drivers for sustainable consumer behaviour in the light of Construal-Level Theory”, construal level research does not clearly differentiate between state and trait variables. It may be assumed that the *Consideration of Future Consequences Scale* assesses temporal perspectives as trait variable. Possible consequences to the choice of this measure are elaborated in Chapter 5 „Results” and Chapter 6 „Additional analyses”, and discussed in Chapter 7 „Discussion and Conclusion”.

¹¹ For instructions and further details please see Appendix 2 „Measurement of Temporal Perspective”.

are allocated vice versa. Finally, independent-samples t-test are conducted to compare the CFC score means of Group 1 and Group 3.

Manipulation of high-level construal mindsets

Social distant perspective

The manipulation of high-level construal mindsets is applied to participants of Group 2 and Group 3, as illustrated in Figure 2. Group 2 is one of the two „distant“-Groups and manipulated to a social distant perspective.

Procedure, tasks, and independent variables

For the manipulation of the social distant perspective participants are shown a picture displaying a sports team gathered as a group on a sports field. Moreover, the picture shows a single sportsman of another team who wears a differently coloured jersey and stands on the same sports field. The male participants are shown a picture of male sportsmen and the female participants are shown a picture of female sportsmen. Each participant is told that he / she would be the single sportsman in the picture and that he / she would look at the other sports team, the opponents. The participants are then asked to think and state from a third person perspective why the opponents are gathered in a group. It is assumed that the opponents are perceived as strangers who are socially distant to the participants (Bar-Anan, Liberman and Trope, 2006). Therefore, the social perspective of the participants is intended to be manipulated from a me / myself-perspective towards a me-interacting-with-others-perspective. The third person perspective is also supposed to induce a high-level construal mindset (Trope and Liberman, 2010) and the answering of *why questions* is intended to lead to abstract focuses inherent in high-level construal mindsets (e.g., Sanna et al., 2010).

Dependent measures

The main dependent variable is the importance of utilitarian and sustainable product attributes to participants after the two manipulations. To check the adequacy of the construal level manipulation, participants are classified regarding their social and temporal perspectives. For the high-level construal manipulation the dependent measures are:

1st dependent measure: social distant perspective as indicated by a cooperative SVO

It is expected that participants in the high-level construal mindset group differ compared to participants in the low-level construal mindset group in regard to their

social perspectives. Participants in the high-level construal mindset group are expected to be more cooperative compared to participants in the low-level construal mindset group (e.g., O'Connor et al., 2002; Bazerman et al., 1998; Eyal et al., 2009).

For the assessment of cooperation Messick and McClintock's (1968) *Decomposed Game Technique* is applied as explained for the assessment of non-cooperative SVO. After determining SVO, independent-samples t-test is conducted to compare the cooperative SVO mean of the high-level construal mindset group with the low-level construal mindset group.

Temporal future perspective

The manipulation of high-level construal mindsets is also applied to Group 3, as illustrated in Figure 2. Group 3 is the other "distant" Group and thus manipulated to a temporal future perspective.

Procedure, tasks, and independent variables

For the manipulation of the temporal future perspective participants take part in a face aging process. A picture of each participant's face is made via camera. The pictures are uploaded to a computer. Each participant is placed in front of the computer screen. The participants are asked to follow some instructions given by a face aging software. The picture is automatically changed by the face aging software, which turns face pictures from young adult faces to older adult faces. As a consequence, the participants see themselves as older adults. The aged person indicates the temporal future perspective.

2nd dependent measure: temporal future perspective as indicated by CFC score

It is expected that participants in the high-level construal mindset group differ compared to participants in the low-level construal mindset group in regard to their temporal perspectives. Participants in the high-level construal mindset group are expected to have a higher CFC score mean compared to participants in the low-level construal mindset group (e.g., Van Lange and Joireman, 2008; Menzel and Bögeholz, 2010; Stern and Dietz, 1994).

To assess the temporal perspective of participants, Strathman et al.'s (1994) *Consideration of Future Consequences Scale* is applied, as introduced to check the adequacy of the low-level construal manipulation. Finally, independent-samples t-test is conducted to compare the CFC score means of the high-level construal mindset group and the low-level construal mindset group.

The following Figure 4 gives an overview of the pictorial construal manipulations as applied to the respective groups.




Group	Pictorial construal manipulation
<p>Group 1: near</p> <p>(Social near & temporal proximal perspective)</p>	
<p>Group 2: distant</p> <p>(Social distant perspective)</p>	 <p style="text-align: center;">male version female version</p>
<p>Group 3: distant</p> <p>(Temporal future perspective)</p>	

Figure 4. Pictorial construal manipulations

4.2.2 Second manipulation: framing of the sustainable product

The research at hand hypothesises that in low-level construal mindsets utilitarian product attributes are more important to consumers if the sustainable product's feasibility properties are stressed compared to the situation in which desirabilities are stressed. In reverse, it is hypothesised that in high-level construal mindsets sustainable product attributes are more important to consumers if the sustainable product's desirabilities are stressed compared to the situation in which feasibility properties are stressed.

Procedure and independent variables

After construal level manipulations, half of the participants of Group 1, Group 2 and Group 3 are presented an advertisement of a sustainable product while the sustainable

product's desirabilities are stressed: „Made out of organic cotton. Produced according to high social and environmental standards”, as illustrated in Figure 5.

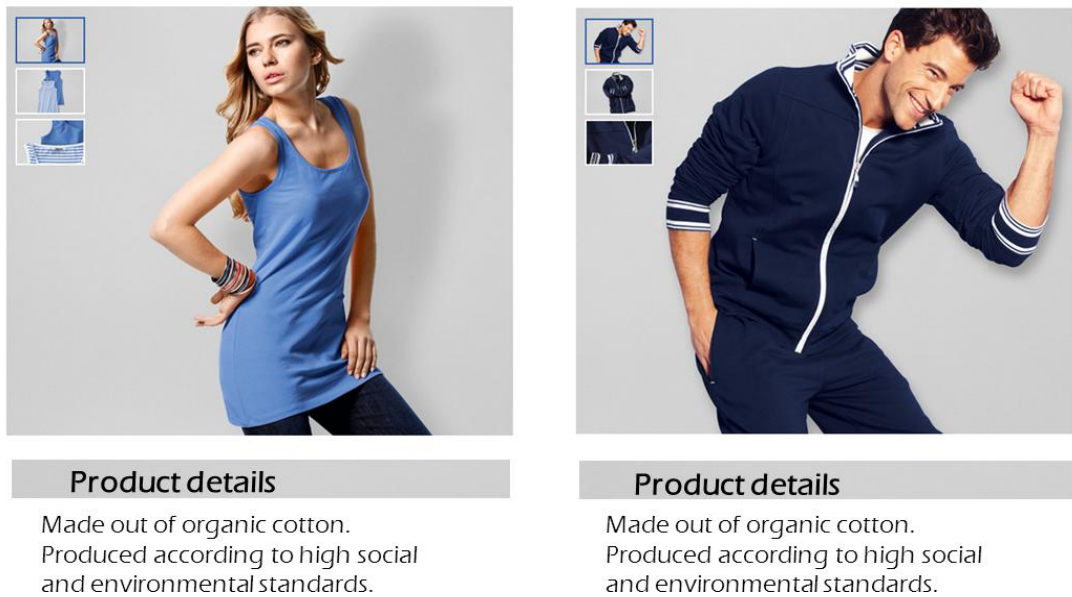


Figure 5. Stressing the sustainable product's desirabilities

The other half of the participants of Group 1, Group 2 and Group 3 are presented an advertisement of a sustainable product while the sustainable product's feasibility properties are stressed: „Only skin friendly colourants and softer touch through organic cotton”, as illustrated in Figure 6.

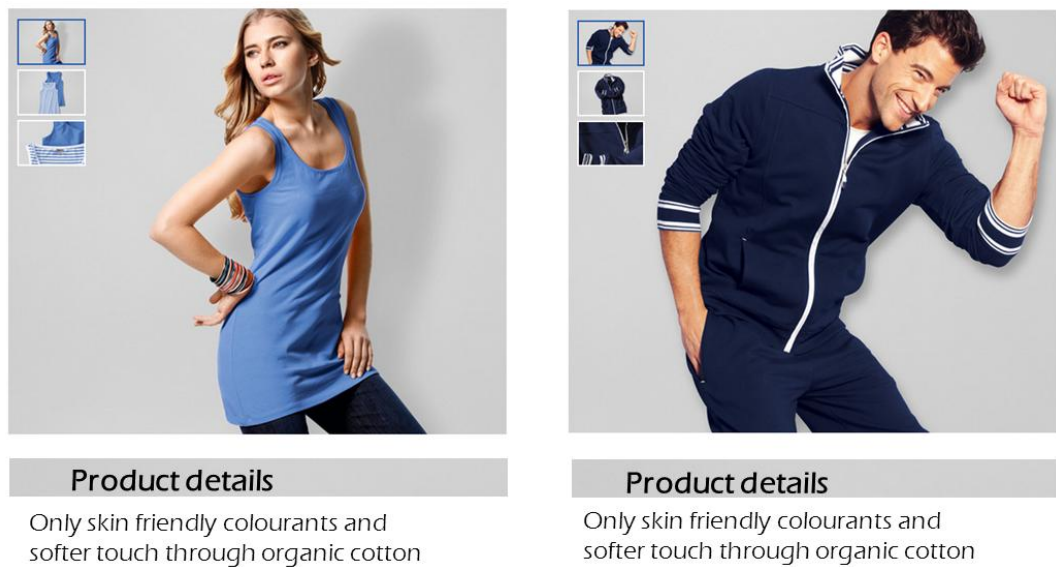


Figure 6. Stressing the sustainable product's feasibility properties

It needs to be emphasised that in all cases the same sustainable product is presented to the participants and that the product details state organic cotton as ingredient; only the sustainable product's benefits are framed differently. Female participants are shown an advertisement of a women's shirt and male participants are shown an advertisement of a men's shirt. The participants are asked to look at the assigned advertisement and to read the product details in order to ascertain that the framing effect takes place. The participants are told that the presentation of the advertisement serves as a basis for the next task in which they will imagine to buy a shirt.

Dependent variable: Importance of product attributes as indicated by attribute determinance scores

The research hypotheses require to assess the importance of utilitarian and sustainable product attributes to participants in purchasing situations. Therefore, a measurement is required which assesses those product attributes determining the purchase of a product. A composed attribute choice task is applied to identify determining product attributes of sustainable purchases (Van Dam and Van Trijp, submitted). It defines attribute determinance as „a reflection of importance as manifest in a specific choice context” (Van Dam and Van Trijp, submitted). In practical terms, this means that participants are shown four product attributes of an organic cotton shirt at the same time and they are only allowed to choose the one they consider most important. Choosing the most important product attribute can only be achieved by balancing the four attributes against each other. By choosing the perceived most important product attribute the participants need to drop three other product attributes. Therefore, the importance of different product attributes relative to each other, given by the situation of forced-choices between product attributes, can be measured (Van Dam and Van Trijp, submitted; Van Ittersum et al., 2007).

The composed attribute choice task requires participants to make choices in 15 forced-choice scenarios in total. Every forced-choice scenario contains four product attributes which are presented in a two by two matrix, as illustrated in Table 1.

Table 1. An example of a forced-choice scenario

waste	touch on skin
environmental friendliness	health

In the 15 forced-choice scenarios each product attribute appears six times and all possible pairs of product attributes appear two times.¹²

As applied to the field of sustainable food by Van Dam and Van Trijp (submitted) two *importance measures* of sustainable product attributes are used in this research: sustainability related product attributes and utilitarian related product attributes. The following Table 2 shows six product attributes which are considered sustainability related, three which are considered utilitarian related and a tenth product attribute which is considered to hold aspects of both measures.

Table 2. Sustainability and utilitarian related product attributes

Importance measures	product attributes	
I) Sustainability related	environmental friendliness	social responsibility
	local manufacturing	naturalness
	fair trade	waste
II) Utilitarian related	price	touch on skin
	variety	
III) Further	health*	

The ten product attributes chosen to be important to an organic cotton shirt are derived from literature review.¹³ The final attribute determinance score is derived from the

¹² For an overview of all forced-choice scenarios and the instructions to the participants, please see Appendix 3 „Measurement of Consumer Choice”.

¹³ For *environmental friendliness*, *social responsibility*, and *naturalness* please see Chapter 2 „Organic Cotton”. The attributes *local manufacturing*, *waste* and *fair trade* are added as they imply important universal sustainability issues for sustainable products in general (Van Dam and Van Trijp, submitted). *Price*, *variety*, and *touch on skin* are important personal benefits and imply buying criteria to consumers in regard to clothes (Meyer, 2001). According to Van Dam and Van Trijp (submitted), the product attribute *health* is often considered to be sustainability related, yet it is stated to contain strong utilitarian related aspects as well.

quantity each attribute is chosen. The attribute determinance score ranges from 0 to 6. As minimum score, if an attribute is never chosen, the attribute determinance score is 0. As maximum score, if an attribute is chosen at each occurrence, the attribute determinance score is 6 (Van Dam and Van Trijp, submitted). Finally, the attribute determinance score for each product attribute and each participant is determined.

The main effect is tested regarding SVO and CFC. Regarding SVO, analysis of variance is conducted. The importance of product attributes measured by the attribute determinance scores of the different product attributes are dependent variables and SVO is factor. Regarding CFC, bivariate correlation for CFC and all product attributes' determinance scores is conducted.

To test the interaction effect, multivariate analyses of variance are conducted. Regarding SVO, the product attributes' determinance scores are dependent variables, SVO and the conditions „desirabilities stressed versus feasibility properties stressed” (D_F) are factors. Regarding CFC, the product attributes' determinance scores are dependent variables, D_F is factor and CFC covariate.

5 Results

Description of the sample

Data were collected from a sample of 150 participants. Due to insufficient filling in of questionnaires, 14 participants were excluded from further analysis. Therefore, the final sample consisted of 136 participants. The final sample contained 53 men and 83 women aged from 18 to 33 years. Male participants were older (Mean age = 23.9) than female participants (Mean age = 22.1) ($t = -2.686$; $p = .01$). The participants were randomly assigned to the three experimental groups. Group 1 („Near”) consisted of 43 participants, Group 2 („Social distant”) of 49 participants and Group 3 („Temporal future”) of 44 participants.

Construal manipulation checks

Construal manipulation checks were conducted in order to measure the participants' social and temporal perspectives after construal level manipulations.¹⁴ Thereby, the adequacy of the construal level manipulations was intended to be monitored. It was expected that the three groups differ significantly from each other in regard to the participants' social and temporal perspectives depending on the assigned groups of the participants.

Regarding SVO, 92 participants of Group 1 and Group 2 were intended to be classified either cooperative or non-cooperative. Because of non-consistent choice making in the SVO measure, 33 (36%) participants were excluded from classification. The amount of excluded participants is higher than described in previous research excluding about 15% of participants from classification (De Dreu and Nijstad, 2008; Giacomantonio et al., 2010). Out of the remaining 59 participants, 24 (26%) participants were classified cooperative and 35 (38%) participants were classified non-cooperative. Cooperative participants were coded 1 and non-cooperative participants were coded 0. Excluded participants were coded 5. Independent-samples t-test was conducted to compare SVO of Group 1 and Group 2. Results indicated that there was no significant difference in SVO of Group 1 ($M = 0.52$, $SD = 0.51$) and Group 2 ($M = 0.33$, $SD = 0.48$) ($t = -1.438$; $p = .16$). As it was expected that participants of Group 2 would significantly be more

¹⁴ It may be assumed that the chosen construal manipulation checks measured social and temporal perspectives rather as trait and not as state variables. Consequences for the research results will be elaborated at a later point in this chapter and discussed in Chapter 7 „Discussion and Conclusion”.

cooperative than participants of Group 1, it could be assumed that pictorial means did not sufficiently manipulate construal mindsets.

Regarding CFC, the CFC scores of 87 participants of Group 1 and Group 3 were determined. For the temporal manipulation check independent-samples t-test was conducted to compare the CFC score of Group 1 with Group 3. Results showed that there was no significant difference in the CFC scores of Group 1 ($M = 3.41$, $SD = 0.57$) and Group 3 ($M = 3.47$, $SD = 0.36$) ($t = .558$; $p = .58$). Levene's test indicated unequal variances ($F = 5.751$, $p = .02$), so degrees of freedom were adjusted from 85 to 71. As it was expected that participants of Group 3 would show a significantly higher CFC score than participants of Group 1, it could be assumed that pictorial means did not sufficiently manipulate construal mindsets.¹⁵

Assignment of conditions „desirabilities stressed” and „feasibility properties stressed”

The presentation of sustainable product benefits –stressing desirabilities versus stressing feasibility properties– was assumed to have impact on the perceived importance of sustainable and utilitarian product attributes. Therefore, half of the participants of Group 1, Group 2 and Group 3 were presented an advertisement of a sustainable product while the sustainable product's desirabilities were stressed. The other half of the participants of Group 1, Group 2 and Group 3 were presented the same advertisement, yet the sustainable product's feasibility properties were stressed.

Being presented with the respective advertisement, each group was split for the two conditions after the measurement of the participants' SVO and CFC. Therefore, it was assumed that the conditions „desirabilities stressed versus feasibility properties stressed” (D_F) were randomly assigned and unrelated to the sample. Thus, Pearson Chi-Square test was conducted. Results showed that besides random assignment there was a systematic relationship between SVO and D_F, $\chi^2(1, N = 59) = 4.489$, $p = .03$. The following Table 3 shows the distribution of D_F between non-cooperative, cooperative and unclassified participants.

¹⁵ However, it may be assumed that Messick and McClintock's (1968) *Decomposed Game Technique* and Strathman et al.'s (1994) *Consideration of Future Consequences Scale* measured social and temporal perspectives rather as trait and not as state variables. As construal level manipulations can be assumed to influence a certain state of mindset, it could be assumed that only distinct state measures might be appropriate for checking the adequacy of construal level manipulations. As no distinct state measure were applied in the research at hand, neither a failure nor a successful manipulation of construal mindsets can be assumed. Thus, results based on the construal mindset groups (low-level and high-level construal mindset groups) are presented as additional analyses (cf. Chapter 6).

Table 3. Distribution of stressed desirabilities and feasibility properties

	Desirabilities	Feasibility properties	Total
Non-cooperative SVO	15	20	35
Cooperative SVO	17	7	24
Unclassified participants	13	20	33
Total	45	47	92

Results of independent-samples t-test showed that there was no relation between CFC and the condition *feasibility properties stressed* ($M = 3.46$, $SD = 0.44$) or the condition *desirabilities stressed* ($M = 3.43$, $SD = 0.51$) ($t = .296$; $p = .77$).

Testing the hypotheses based on SVO and CFC

It was hypothesised that (1) if consumers have a social near and temporal proximal perspective [low-level construal mindset] and the sustainable product's feasibility properties are stressed, utilitarian product attributes are more important to consumers compared to the situation in which desirabilities are stressed. Moreover, it was hypothesised that (2) if consumers have a social distant perspective or that (3) if consumers have a temporal future perspective [high-level construal mindsets] and the sustainable product's desirabilities are stressed, sustainable product attributes are more important compared to the situation in which feasibility properties are stressed.

Strategy of analysis

Firstly, social near perspective was compared with social distant perspective. Thereby, the main effect in H1 and interaction effect of stressed desirabilities compared to stressed feasibility properties were tested in H2. Secondly, temporal perspectives were compared. Thereby, the main effect in H1 and interaction effect of stressed desirabilities compared to stressed feasibility properties with temporal perspective as covariate were tested in H3.

Testing the influence of social value orientations

The first conditions of Hypothesis 1 and Hypothesis 2 required to analyse the assumed influence of social perspectives on the importance of sustainable and utilitarian product attributes. A social near perspective is indicated by non-cooperative SVO and a social

distant perspective is indicated by a cooperative SVO. Therefore, analyses of variance with SVO as factor and the attribute determinance scores of the different product attributes as dependent variables were conducted.

In a first analysis of variance the importance of all product attributes except for *health* were tested. In a second analysis of variance respectively the importance of the product attribute *health* was tested. Results from the first analysis of variance with the attribute determinance scores of the different product attributes as dependent variables and SVO as factor concluded that the utilitarian product attribute *touch on skin* was significantly more important to non-cooperative participants ($M = 3.17$, $SD = 1.62$) compared to cooperative participants ($M = 1.96$, $SD = 1.55$), $F(1, 57) = 8.297$, $p = .01$. The sustainable product attribute *fair trade* was significantly more important to cooperative participants ($M = 2.08$, $SD = 1.41$) compared to non-cooperative participants ($M = 1.31$, $SD = 1.51$), $F(1, 57) = 3.890$, $p = .05$. Moreover, the sustainable product attribute *environmental friendliness* was also significantly more important to cooperative participants ($M = 1.63$, $SD = 1.74$) compared to non-cooperative participants ($M = 0.54$, $SD = 0.70$), $F(1, 57) = 11.010$, $p = .01$. None of the other product attributes were significantly related to SVO.

Results from the second analysis of variance with the attribute determinance score of *health* as dependent variable and SVO as factor showed that there was no significant relation between SVO and *health*, $F(1, 57) = 0.251$, $p = .62$.

To test the interaction effect, multivariate analysis of variance was conducted with the attribute determinance scores of the different product attributes as dependent variables and SVO and D_F as factors. Multivariate analysis of variance indicated no interaction effect between D_F and SVO on product attribute importance, $Wilks' \Lambda(9, 47) = 0.806$, $p = .61$, $\eta^2 = .134$. Moreover, multivariate analysis of variance indicated no effect of D_F on product attribute importance, $Wilks' \Lambda(9, 47) = 0.666$, $p = .74$, $\eta^2 = .113$.

Regarding the product attribute *health*, univariate analysis of variance with the attribute determinance score of *health* as dependent variable and SVO and D_F as factors also showed no interaction effect between D_F and SVO on the product attribute importance of *health*, $F(1, 55) = 0.009$, $p = .92$, $\eta^2 = .000$. Moreover, univariate analysis of variance with the attribute determinance score of *health* as dependent and D_F as factor

concluded that there was no effect of D_F on the product attribute importance of *health*, $F(1, 55) = 0.084$, $p = .77$, $\eta^2 = .002$.

In regard to Hypothesis 1, it can be concluded that a social near perspective increases the importance of the utilitarian product attribute *touch on skin*. In regard to Hypothesis 2, it can be concluded that a social distant perspective increases the importance of the sustainable product attributes *environmental friendliness* and *fair trade*. The assumption that stressing desirabilities or feasibility properties would increase the importance of sustainable or respectively utilitarian product attributes could not be supported.

Regarding the unclassified participants, results from analysis of variance with the attribute determinance scores of the different product attributes as dependent variables and SVO as factor concluded that the utilitarian product attribute *touch on skin* was significantly more important to excluded participants ($M = 3.35$, $SD = 2.06$) compared to non-cooperative participants ($M = 3.17$, $SD = 1.62$) and compared to cooperative participants ($M = 1.96$, $SD = 1.55$), $F(2, 90) = 4.882$, $p = .01$. Moreover, results from analysis of variance concluded that the sustainable product attribute *environmental friendliness* was significantly more important to unclassified participants ($M = 1.06$, $SD = 1.48$) compared to non-cooperative participants ($M = 0.54$, $SD = 0.70$), but less important compared to cooperative participants ($M = 1.63$, $SD = 1.74$), $F(2, 90) = 4.778$, $p = .01$.

Testing the influence of temporal perspectives

The first conditions of Hypothesis 1 and Hypothesis 3 required to analyse the assumed influence of temporal perspective on the importance of sustainable and utilitarian product attributes. Temporal perspective is indicated by CFC. Therefore, bivariate correlations for CFC and all product attributes were conducted. In a first bivariate correlation the attribute determinance scores of all product attributes were chosen. In a second bivariate correlation the attribute determinance score of the product attribute *health* was chosen. Results of the first bivariate correlation concluded that CFC did not correlate with any of the product attributes ($p > .25$). Results from the second bivariate correlation showed that CFC and *health* were positively correlated, Pearson's $r(87) = .244$, $p = .02$.

To test the interaction effect, multivariate analysis of variance was conducted with the attribute determinance scores of the different product attributes as dependent variables, D_F as factor and CFC as covariate. Results indicated no interaction effect between

D_F and CFC on product attribute importance, Wilks' Lambda(9, 75) = 0.296, $p = .97$, $\eta^2 = .034$. Moreover, multivariate analysis of variance also showed no main effect of D_F on product attribute importance, Wilks' Lambda(9, 75) = 0.374, $p = .94$, $\eta^2 = .043$.

Regarding the product attribute *health*, results from univariate analysis of variance with the attribute determinance score of *health* as dependent variable, CFC as covariate and D_F as factor indicated no interaction effect between D_F and CFC on the product attribute importance of *health*, $F(1, 83) = 0.012$, $p = .91$, $\eta^2 = .000$. Moreover, the analysis of variance showed no main effect of D_F on the product attribute importance of *health*, $F(1, 83) = 0.042$, $p = .84$, $\eta^2 = .001$.

It can be concluded that a temporal future perspective increases the importance of the product attribute *health*. The assumptions that stressing desirabilities or feasibility properties would increase the importance of sustainable or respectively utilitarian product attributes could not be supported.

6 Additional analyses

The additional analyses are based on the assumption that Messick and McClintock's (1968) *Decomposed Game Technique* and Strathman et al.'s (1994) *Consideration of Future Consequences Scale* rather measured trait and not state variables and thus might not be suitable for construal level manipulation checks. As construal manipulation checks explicitly measuring rather state variables were not applied in this research, neither a failure nor a successful manipulation of construal mindsets can be assumed. Therefore, the following research results based on the classification of low- and high-level construal mindset groups are tested as additional analyses.

Testing the hypotheses based on construal mindset groups

The total sample is separated into one low-level construal mindset group („Near”; N = 43) and one high-level construal mindset group („Distant”; N = 93). The low-level construal mindset group contains participants of Group 1 and the high-level construal mindset group contains participants of Group 2 and Group 3.

Based on the distinction between low-level versus high-level construal mindsets, the research hypothesised that:

H1. If consumers have a low-level construal mindset [social near and temporal proximal perspective] and the sustainable product's feasibility properties are stressed, utilitarian product attributes are more important to consumers compared to the situation in which desirabilities are stressed.

As the hypotheses do not make a distinction between temporal and social perspectives, Hypothesis 2 and 3 are concluded to high-level construal mindsets.¹⁶ Thus, the research hypothesised that:

H2 / H3. If consumers have a high-level construal mindset [social distant and temporal future perspective] and the sustainable product's desirabilities are stressed, sustainable product attributes are more important compared to the situation in which feasibility properties are stressed.

¹⁶ Cf. Chapter 3.2 „Drivers for sustainable consumer behaviour in the light of Construal-Level Theory; research hypotheses”.

Strategy of analysis

The first conditions of the hypotheses required to analyse the assumed influence of construal mindsets on the importance of sustainable and utilitarian product attributes. Therefore, analyses of variance with construal mindsets as factor and the attribute determinance scores of the different product attributes as dependent variables were conducted.

In a first analysis of variance the importance of all product attributes except for *health* were tested. In a second analysis of variance respectively the importance of the product attribute *health* was tested. Results from the first analysis of variance with the attribute determinance scores of the different product attributes as dependent variables and construal mindsets as factor concluded that the utilitarian product attribute *touch on skin* was significantly more important to participants in low-level construal mindsets ($M = 3.36$, $SD = 1.99$) compared to participants in high-level construal mindsets ($M = 2.60$, $SD = 1.92$), $F(1, 133) = 4.344$, $p = .04$. The sustainable product attribute *local manufacturing* was significantly more important to participants in high-level construal mindsets ($M = 0.93$, $SD = 1.39$) compared to participants in low-level construal mindsets ($M = 0.30$, $SD = 0.70$), $F(1, 133) = 7.700$, $p = .01$. None of the other product attributes were significantly related to construal mindsets.

Results from the second analysis of variance with the attribute determinance score of *health* as dependent variable and construal mindsets as factor showed that *health* was significantly more important to participants in high-level construal mindsets ($M = 1.59$, $SD = 1.64$) compared to participants in low-level construal mindsets ($M = 0.91$, $SD = 1.51$), $F(1, 133) = 5.176$, $p = .02$.

To test the interaction effect, multivariate analysis of variance was conducted with the attribute determinance scores of the different product attributes as dependent variables and construal mindsets and D_F as factors. Multivariate analysis of variance indicated no interaction effect between construal mindsets and D_F on product attribute importance, Wilks' Lambda(9, 125) = 1.118, $p = .36$, $\eta^2 = .075$. Moreover, multivariate analysis of variance indicated no effect of D_F on product attribute importance, Wilks' Lambda(9, 125) = 0.769, $p = .65$, $\eta^2 = .052$.

Regarding the product attribute *health*, univariate analysis of variance with the attribute determinance score of *health* as dependent variable and construal mindsets and D_F as factors also showed no interaction effect between D_F and construal mindsets on the

product attribute importance of *health*, $F(1, 133) = 1.885$, $p = .18$, $\eta^2 = .014$. Moreover, univariate analysis of variance with the attribute determinance score of *health* as dependent variable and D_F as factor concluded that there was no effect of D_F on the product attribute importance of *health*, $F(1, 133) = 1.206$, $p = .27$, $\eta^2 = .009$.

In regard to Hypothesis 1, it can be concluded that a low-level construal mindset increases the importance of the utilitarian product attribute *touch on skin*. In regard to Hypothesis 2 / 3, it can be concluded that a high-level construal mindset increases the importance of the sustainable product attribute *local manufacturing*. The assumptions of the hypotheses that stressing desirabilities or feasibility properties would increase the importance of sustainable or respectively utilitarian product attributes could not be supported.

7 Discussion and Conclusion

For the interpretation of the research results some limitations need to be considered. These limitations are discussed in the following before implications of the main research results are concluded.

A common way to manipulate construal levels in construal level research is the use of *why questions* and *how questions*. Thus, a common way to check the effectiveness of construal level manipulations is the use of judges coding answers to the *why* and *how questions*. Answers are classified to be superordinate or subordinate to preceding questions. If statements of participants answered *why questions* reflect higher-level construal mindsets than participants answered *how questions*, and vice versa, effectiveness of construal level manipulations is assumed (e.g., Sanna et al., 2010; Fujita et al., 2006).

It needs to be noted that this kind of construal manipulation check was not suitable for the research at hand intending to differentiate between social and temporal distance manipulations. The construal manipulation checks applied in this research were aimed at assessing if the temporal pictorial construal manipulation effect was based on a temporal effect and the social pictorial construal manipulation effect was based on a social effect. Thus, a measurement technique was required to differentiate between social and temporal perspectives of participants. These requirements were found in Messick and McClintock's (1968) *Decomposed Game Technique* to assess social value orientations and Strathman et al.'s (1994) *Consideration of Future Consequences Scale* to assess consideration of future consequences. However, it may be assumed that these measurements rather measure trait and not state variables. As the manipulation of construal level mindsets is able to induce different states, for example cooperation, the applied construal level manipulation checks in this research measuring rather trait variables might not be appropriate means to check effectiveness of construal level manipulations.

However, there is no clear distinction between state and trait variables in construal level research. As an example, a computerised fishing analogue game is a commonly used technique in construal level research to assess cooperation. The number of fish a participant returns to a lake, in order to restock it, is used to determine cooperative behaviour. Participants in high-level construal mindsets are found to be more cooperative and thus to return more fish than participants in low-level construal mindsets (e.g., Fujita et al., 2006; Sanna et al., 2009). Therefore, there are reasons to

assume that cooperation as measured by the fishing analogue game could also serve to check the effectiveness of construal level manipulations.

Similar to the fishing analogue game, Messick and McClintock's (1968) *Decomposed Game Technique* assesses cooperative behaviour by the amount of valuable points a participant distributes between himself / herself and another person. However, in contrast to the fishing analogue game, the *Decomposed Game Technique* is applied to rather measure cooperative behaviour as trait variable (e.g., Giacomantonio et al., 2010). It needs to be concluded that a clear distinction between state and trait variables and distinct state measures in construal level research lack and thus are recommendable for further research.

Manipulating construal level mindsets –especially based on temporal effect– by pictorial means is a new approach in construal level research. In previous research social distance is only shown to be successfully manipulated by pictorial means using domestic and foreign objects such as domestic and foreign currencies (Trope and Liberman, 2010). The researchers argue that social distance is manipulated by cultural difference. However, geographical distance is also manipulated. Therefore, the effect of social distance manipulation might be more a geographical effect than a social effect. In this study, geographical distance was excluded and thus irrelevant. The research at hand used pictures of two opposing sport teams as pictorial mean for social distance manipulation.

According to construal level research, it was expected that in the social distant perspective participants would be more cooperative. However, the highest amount of competitive participants was classified in the social distant group. It may be assumed that the selection of pictorial subject, two opposing sport teams, might have increased competitiveness instead of cooperation even though rather a trait measure was applied. Based on social identity theory, Ashforth and Mael (1989) stress that in-group belonging often results in competitiveness towards out-groups.

In construal level research pictorial temporal distance manipulation is applied by Amit et al. (2009). However, in that study temporal distance is manipulated regarding a temporal past and proximal perspective. As the benefits of organic production are future benefits, temporal distance manipulation should focus on a temporal future perspective. Therefore, manipulating a temporal future perspective by pictorial mean is new to construal level research. The use of face aging to manipulate a temporal future perspective

seemed promising as it could create a realistic future self of the participants. However, it could be assumed that in the research at hand an alienation effect took place when participants looked at their future self outcome. This might explain why some participants found similarities with older family members. Hence, a gradually aging change might be recommendable for future research to keep the participants involved in the aging process.

As neither a failure nor a successful manipulation of construal mindsets could be assumed, the research hypotheses were firstly tested on social and temporal perspectives, as stated in the research hypotheses. Therefore, participants were classified regarding cooperative and non-cooperative social value orientations and regarding their ability to consider the future consequences of their actions.

A limitation through this classification for the research at hand is that social value orientations and temporal perspectives were determined only regarding the original groups the participants were assigned to. This means that after the experiments social value orientations were determined in the social distant group and temporal perspectives were measured in the temporal future group. In the near group both social value orientations and temporal perspectives were determined. Therefore, the research results are based on the amount of participants classified in the respective groups and not on the total sample. Compared to the total sample a reduced amount of participants remained to test the research hypotheses.

It needs to be noted that the social value orientation measure additionally excluded a considerable amount of 33 participants who did not make at least six consistent choices in the nine decomposed games and therefore could neither be classified cooperative nor non-cooperative. The excluded group of participants is equally big as the two groups consisting of 24 cooperative and 35 non-cooperative participants. As stated in Chapter 5 „Results”, the amount of excluded participants is higher than described in previous research. It may be assumed that construal manipulations influenced the choices participants made in the decomposed games –even though rather a trait measure was applied to assess social value orientations.

The choice patterns of the group of unclassified participants showed that on the one hand, the utilitarian product attribute *touch on skin* was significantly more important to the unclassified participants compared to non-cooperative and compared to cooperative participants. On the other hand, the sustainable product attribute *environmental friendli-*

ness was significantly more important to unclassified participants than to non-cooperative participants, but less important than to cooperative participants. In the attached importance to *environmental friendliness* the excluded participants clearly distance themselves from non-cooperative participants and therefore from consumers solely being in self-interest. The group could be considered “strategic players” being torn between self-interest and cooperation. As a typical consumer can neither be solely classified cooperative nor non-cooperative, the group of strategic players seems attractive for further investigation for future research.

The research results concluded that stressing desirabilities and feasibility properties did not influence the participants’ choices. It could be questioned if the informational way of presenting the stated „product details” containing either statements referring to desirabilities or feasibility properties might account for these findings. According to Peter and Olson (2008), a cognitive type of marketing strategy, as applied in the research at hand, follows a strategic focusing on consumers’ knowledge. Cognitive types of marketing strategies are found successful in giving consumers extensive product information as decision help. However, Peter and Olson (2008) also point out that many advertisements successful in influencing overt consumer behaviour are based on affective types of marketing strategies focusing on consumers’ emotions, moods and feelings.

Moreover, according to Van Dam and Van Trijp (2011), it might be beneficial to stress a product to be sustainable while it may not be beneficial to stress its complex contributions to sustainable development. Van Dam and Van Trijp (2011: 446) describe the cognitive and motivational structure inherent in consumers with regards to sustainability and emphasise that „the more the cognitive structure and the motivational structure differ from each other, the more the cognitive understanding may become irrelevant for the motivation”. Therefore, stressing high social and environmental standards of the sustainable product, as applied in the research at hand, might have led to cognitive complexity of sustainability. A different way of stressing desirabilities and feasibility properties and their possible impact on the importance of different product attributes would be recommended for future research.

Another limitation for the research at hand, which needs to be considered, is that besides random assignment there was a systematic relationship between social value orientations and the assignment of stressed desirabilities and feasibility properties.

Therefore, non-cooperative participants were assigned to the condition feasibility properties stressed more often than cooperative participants.

Results of the research at hand indicated that in this study a temporal future perspective and a cooperative social value orientation show limitations in predicting product oriented sustainable consumer behaviour. However, in social dilemma research a cooperative social value orientation and a temporal future perspective are found to increase the likelihood that people engage in sustainable behaviour (e.g., Menzel and Bögeholz, 2009; Van Lange and Joireman, 2008; Ebreo and Vining, 2001; Joireman et al., 2001).

Hence, the questions may arise why a cooperative social value orientation and a temporal future perspective might be good predictors for certain sustainable consumer behaviours but are limited as determinants of sustainable product attributes. In the following possible reasons will be elaborated, which emphasise the importance of measurement and the importance of costs of sustainable consumer behaviour.

Research findings referring to sustainable behaviour, for example in terms of willingness to cooperate, are often based on à priori measures with self-reported importance of the respective sustainable behaviour. According to Van Dam and Van Trijp (submitted), à priori measures typically measure attribute relevance and are only determinant for sustainable behaviour „when personal and situational goals coincide”. In this context Batson and Thompson (2011) describe two phenomena which emphasise the role of costs along with sustainable behaviour. The first phenomenon is *moral hypocrisy* stating that people want to appear moral, but if possible, want to avoid the costs of being moral. Studies show that only if people are pressured to reduce discrepancy between the moral standard of fairness and their standard violating behaviour those who wish to appear moral must be moral. The other phenomenon is described as *overpowered integrity*: people initially intend to be moral but surrender when costs of being moral become clear. It can be assumed that both phenomena might bias results of self-reported importance measures of sustainable behaviour.

Independently of whether or not participants initially intended to be moral or wanted to appear moral, the costs of choosing sustainable product attributes are visible to the participants in the research at hand. Being presented with sustainable and utilitarian product attributes and having to choose one attribute over three others, the forced-choices in the composed attribute choice task indicate sustainable consumer behaviour as manifests in consumer choice.

Implications

In the following implications from the main research results are drawn. These aim at increasing sustainable consumer behaviour such as sustainable purchases.

Firstly, research results concluded that consumers with a cooperative social value orientation consider the sustainable product attributes *environmental friendliness* and *fair trade* more important than consumers with a self-interested social value orientation. Moreover, participants assigned to the high-level construal mindset group consider the sustainable product attribute *local manufacturing* more important than participants assigned to the low-level construal mindset group.

Considering a cooperative social value orientation as trait variable, a direct implication of these results is that in order to increase the importance of the mentioned sustainable product attributes, a cooperative social value orientation among consumers needs to be increased. As human values develop early and are difficult to change (e.g., Rokeach, 1973), early educational programs could address children in kindergarten or primary school in order to strengthen favourable positive values at a young age. Menzel and Bögeholz (2009) suggest programmes aiming at drawing children's attention to the beauty of nature. Forest kindergarten, for example, is a concept that uses the closeness to nature to create ecological and responsible behaviour at early age. Even though the concept of forest kindergarten is limited in its implementation, the basic idea of the concept could be transferred to regular kindergartens or primary schools.

In order to increase cooperation in purchasing situations, marketing strategies could trigger emotions of universalism, feelings of group identity (Van Lange and Joireman, 2008) and justice and solidarity (Menzel and Bögeholz, 2009). Evoking a cooperative state of consumers by manipulating high-level construal mindsets in purchasing situations seems promising for increasing sustainable purchases. Future research is suggested to identify means to induce high-level construal mindsets which are applicable at the moment of purchase. This idea may profit from cross-functional cooperation with marketing.

Secondly, research results concluded that consumers with a self-interested social value orientation consider the utilitarian product attribute *touch on skin* more important than consumers with a cooperative social value orientation. This is concomitant with results of participants assigned to the low-level construal mindset group who also

consider the utilitarian product attribute *touch on skin* more important than participants assigned to the high-level construal mindset group.

In purchasing situations consumers are predominantly stated to be in low-level construal mindsets and are therefore led by self-interest (Tenbrunsel et al., 2010; Bazerman et al., 1998; O'Connor et al., 2002). The research result shows that the utilitarian product attribute holding strong proportions of personal benefits is important to self-interested consumers. Therefore, the research result indicates that sustainable products could benefit if their utilitarian product attributes are pointed out. For the importance of *touch on skin* haptic qualities of sustainable products could be stressed. In the case of organic cotton, for example, softness or high quality could be emphasised.

Moreover, in order to meet the need of consumers to become convinced by a product's touch on skin, the research result demands sustainable products not to be packaged in a way that consumers cannot touch or test them. For sustainable products requiring packaging touching or testing samples could serve the purpose intended.

Linking utilitarian product attributes to sustainability can additionally be beneficial to increase sustainable consumer behaviour as consumers who choose a product for utilitarian reasons „report feeling emotionally better” if the product is also sustainable (Meyer, 2001: 323). Feeling emotionally good about a product might also contribute to customer loyalty (Belz and Peattie, 2009).

Moreover, research results concluded that unclassified participants of the social value orientation measure build an own group. A theoretical implication is that the unclassified participants of the social value orientation measure should not be excluded from research. Also research on the unclassified participants may improve the understanding of purchases made for utilitarian and sustainable reasons.

As theoretical implication research results especially emphasise the need for distinct construal mindsets' state measures to check the effectiveness of manipulations of social and temporal perspectives.

These research results and implications may contribute to a better understanding of predicting sustainable consumer behaviour and thus may contribute to increase sustainable consumer decisions such as sustainable purchases.

References

- Ashforth, B. E., and Mael, F. (1989). Social Identity Theory and the Organization. *Academy of Management Review*, 14(1), 20-39.
- Au, W.T., and Kwong, J.Y.Y. (2004). In: Ramzi, S., Budesco, D.V., Fischer, I., and Messick, D.M. (eds.), *Contemporary Psychological Research on Social Dilemmas*. Chapter 4; 71-99. Cambridge: Cambridge University Press.
- Balliet, D., Parks, C., and Joireman, J. (2009). Social Value Orientation and Cooperation in Social Dilemmas: A Meta-Analysis. *Group Processes & Intergroup Relations*, 12(4), 533-547.
- Bar-Anan, Y., Liberman, N., and Trope, Y. (2006). The association between psychological distance and construal level: evidence from an implicit association test. *Journal of Experimental Psychology: General*, 135(4), 602-622.
- Batson, C. D., and Thompson, E. R. (2001). Why don't moral people act morally? Motivational considerations. *Current Directions in Psychological Science*, 10(2), 54-57.
- Belk, R. W. (1975). Situational variables and consumer behavior. *Journal of consumer Research*, 2, 157-164.
- Belz, F., and Peattie, K. (2009). *Sustainability Marketing. A global perspective*. West Sussex: John Wiley & Sons, Ltd.
- Bitner, M. J. (1992). Servicescapes: The impact of physical surroundings on customers and employees. *Journal of Marketing*, 56, 57-71.
- Cherrett, N., Barrett, J., Clemett, A., Chadwick, M., and Chadwick, M. J. (2005). *Ecological footprint and water analysis of cotton, hemp and polyester*. Stockholm Environment Institute, Stockholm.
- Chouinard, Y., and Brown, S. M. (1997). Going organic. Converting Patagonia's cotton product line. *Journal of Industrial Ecology*, 1(1), 117-129.
- De Dreu, C. K. W., and Van Lange, P. A. M. (1995). The impact of social value orientations on negotiator cognition and behavior. *Personality and Social Psychology Bulletin*, 21(11), 1178-1188.
- De Dreu, C. K. W., and Nijstad, B. A. (2008). Conflict and creativity: Threat-rigidity or motivated focus? *Journal of Personality and Social Psychology*, 95, 648-661.
- Environmental Justice Foundation (EJF) (2007). *The deadly chemicals in cotton*. Internet: http://www.ejfoundation.org/pdf/the_deadly_chemicals_in_cotton.pdf. Found on 25.05.2011.
- European Commission (1997). Council Regulation (EEC) No 834/2007 of 28 June 2007 on organic production and labelling of organic products and repealing Regulation (EEC) No 2092/91. Internet: <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2007:189:0001:0023:EN:PDF>. Found on 31.05.2011.
- European Commission (2007). Council Regulation (EEC) No 834/2007 of 28 June 2007 on organic production and labelling of organic products and repealing Regulation (EEC) No 2092/91. Internet: <http://eur->

- lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2007:189:0001:0023:EN:PDF. Found on 31.05.2011.
- European Commission (2011a). Climate change. Internet: http://ec.europa.eu/environment/climat/home_en.html. Found on 25.01.2011.
- European Commission (2011b). Global biodiversity. Internet: http://ec.europa.eu/environment/biodiversity/international/index_en.htm. Found on 25.01.2011.
- Eyal, T., Sagristano, M. D., Trope, Y., Liberman, N., and Chaiken, S. (2008). When values matter: Expressing values in behavioral intentions for the near vs. distant future. *Journal of Experimental Social Psychology*, 45, 35–43.
- Eyhorn, F. (2007). Organic farming for sustainable livelihoods in developing countries? The case of cotton in India. Vdf Hochschulverlag AG, Zurich.
- Eyhorn, F., Ramakrishnan, M., and Mäder, P. (2007). The viability of cotton-based organic farming systems in India. *International Journal of Agricultural Sustainability*, 5(1), 25-38.
- Food and Agriculture Organization of the United Nations (FAOSTAT) (2010). Statistics about the cotton sector in Ghana and its neighbors. Internet: http://www.3adi.org/tl_files/3ADIDocuments/Country%20information/Ghana/Statistics%20about%20the%20cotton%20sector%20in%20Ghana%20and%20its%20neighbors.pdf. Found on 25.05.2011.
- Freitas, A. L., Gollwitzer, P. M., and Trope, Y. (2004). The influence of abstract and concrete mindsets on anticipating and guiding others' self-regulatory efforts. *Journal of Experimental Social Psychology*, 40, 739–752.
- Fujita, K., Trope, Y., Liberman, N., and Levin-Sagi, M. (2006). Construal Levels and Self-Control. *Journal of Personality and Social Psychology*, 90 (3), 351–367.
- Giacomantonio, M., De Dreu, C. K. W., Shalvi, S., Sligte, D., and Leder, S. (2010). Psychological distance boosts value-behavior correspondence in ultimatum bargaining and integrative negotiation. *Journal of Experimental Social Psychology*, 46, 824-829.
- Giddens, A. (1991). *Modernity and self-identity*. Stanford, California: Stanford University Press.
- Goworek, H. (2011). Social and environmental sustainability in the clothing industry: a case study of a fair trade retailer. *Social Responsibility Journal*, 7(1), 74-86.
- Grassegger, H. (2010). Der weiße Berg. In: Brand eins Verlag GmbH & Co. oHG, 2, 29-33.
- International Labour Organization (ILO) (2002). International labour standards. Internet: http://www.ilo.org/wcmsp5/groups/public/@ed_norm/@normes/documents/publication/wcms_087692.pdf. Found on 1.06.2011.
- International Trade Center (ITC) (2008). Organic cotton. Internet: http://www.tradeforum.org/news/fullstory.php/aid/1314/Organic_Cotton.html. Found on 20.05.2011.

- International Working Group On Global Organic Textile Standard (IWG) (2010). Global Organic Textile Standard. Internet: <http://www.global-standard.org/about-us/organization.html>. Found on 31.05.2010.
- International Working Group On Global Organic Textile Standard (IWG) (2011). Global Organic Textile Standard. Version 3.0. Internet: http://www.global-standard.org/images/stories/gots-version3_01march2011.pdf. Found on 30.05.2010.
- Joireman, J. A., Lasane, T. P., Bennett, J., Richards, E., and Solaimani, S. (2001). Integrating social value orientation and the consideration of future consequences within the extended norm activation model of proenvironmental behaviour. *British Journal of Social Psychology*, 40, 133-155.
- Joireman, J. A., Van Lange, P. A. M., and Van Vugt, M. (2004). Who cares about the environmental impact of cars?: Those with an eye toward the future. *Environment and Behavior*, 36(2), 187-206.
- Joireman, J., Strathman, A., and Balliet, D. (2006). Considering future consequences: An integrative model. In L. Sanna & E. Chang (Eds.), *Judgments over time: The interplay of thoughts, feelings, and behaviors*. Oxford: Oxford University Press.
- Kahneman, D., and Tversky, A. (1979). Prospect Theory: An analysis of decision under risk. *Econometrica*, 47(2), 263-292.
- Kortenkamp, K. V., and Moore, C. F. (2006). Time, uncertainty, and individual differences in decisions to cooperate in resource dilemmas. *Personality and Social Psychology Bulletin*, 32, 603-615.
- Kuhlman, D. M., and Marshello, A. F. J. (1975). Individual differences in game motivation as moderators of preprogrammed strategic effects in prisoner's dilemma. *Journal of Personality and Social Psychology*, 32, 922-931.
- Kunda, Z., and Schwartz, S. H. (1983). Undermining intrinsic moral motivation: External reward and self-presentation. *Journal of Personality and Social Psychology*, 45(4), 763-771.
- Lancaster, K. J. (1966). A new approach to consumer theory. *Journal of Political Economy*, 74(2), 132-157.
- Levin, I. P., and Gaeth, G. J. (1988). How consumers are affected by the framing of attribute information before and after consuming the product. *Journal of Consumer Research*, 15, 374-379.
- Liberman, N., Trope, Y., and Wakslak, C. (2007). Construal level theory and consumer behavior. *Journal of Consumer Psychology*, 17(2), 113-117.
- Mancini, F., Van Bruggen, A. H. C., Jiggins, J.L.S., Ambatipudi, A., Murphy, H. (2005). Incidence of acute pesticide poisoning among female and male cotton growers in India. *International Journal of Occupational and Environmental Health*, 11, 221-232.
- Messick, D. M., and McClintock, C. G. (1968). Motivational Bases of Choice in Experimental Games. *Journal of Experimental Social Psychology*, 4, 1-25.
- Meyer, A. (2001). What's in for the customers? Successfully marketing green clothes. *Business Strategy and the Environment*, 10, 317-330.

- Mezel, S., and Bögeholz, S. (2009). Values, beliefs and norms that foster Chilean and German pupils' commitment to protect biodiversity. *International Journal of Environmental & Science Education*, 5(1), 31-49.
- Michau, C., and Llerena, D. (2008). Sustainable consumption and preferences: An experimental analysis. Working paper: DIME International Conference Innovation, Sustainability and Policy, Bordeaux.
- Monroe, K. B. (1987). The framing of consumer choice. *Advances in Consumer Research*, 14, 182.
- Muckle, R. (2008). Public understanding of sustainable clothing. Internet: <http://archive.defra.gov.uk/environment/business/products/roadmaps/documents/sustainable-clothing-public-understanding.pdf>. Found on 2.06.2011.
- Nicholson, M., Clarke, I., and Blakemore, M. (2002). One brand, three ways to shop: situational variables and multichannel consumer behaviour. *International Review of Retail, Distribution and Consumer Research*, 12(2), 131-148.
- Oeko-Tex Institute (2011). OEKO-TEX Zertifikate und REACH-Konformität [Oeko-Tex certificates and Reach-conformity]. Internet: http://www.oeko-tex.com/OekoTex100_PUBLIC/content.asp?area=nebenmenue&site=presseinformationen&cls=01&id=797. Found on 2.06.2011.
- Organic Trade Association (OTA) (2010). Organic cotton facts. Internet: http://www.ota.com/organic/mt/organic_cotton.html. Found on 30.05.2011.
- Otto GmbH & Co. KG (2011a). Unsere ECO-Zeichen [Our Eco-labels]. Internet: <http://www.otto.com/Meilensteine.244.0.html>. Found on 2.06.2011.
- Otto GmbH & Co. KG (2011b). Von Natur aus Trend [Natural trend] . Internet: <http://www.otto.com/PURE-WEAR.261.0.html>.
- Oxford Dictionaries (2011). Cotton. Internet: <http://oxforddictionaries.com/definition/cotton>. Found on 30.05.2011.
- O'Connor, K. M., De Dreu, C. K. W., Schroth, H., Barry, B., Lituchy, T. R., and Bazerman, M. H. (2002). What we want to do versus what we think we should do: an empirical investigation of intrapersonal conflict. *Journal of Behavioral Decision Making*, 15, 403-418.
- Perschau, A., and Sanfilippo, D. (2008). Social and Environmental Impacts of Pesticide Use in Cotton production. Internet: http://www.ifoam.org/events/ifoam_conferences/owc/modules/abstracts_pdfs/Perschau_proc_TEX.pdf. Found on 28.04.2011.
- Peter, J. P., and Olson, J. C. (2008). *Consumer Behavior and Marketing Strategy*. McGraw-Hill Irwin.
- Puto, C. P. (1987). The framing of buying decisions. *Journal of Consumer Research*, 14, 301-315.
- Rokeach, M. (1973). *The nature of human values*. New York: Free Press.
- Sanna, L. J., Chang, E. C., Parks, C. D., and Kennedy, L. A. (2009). Construing collective concerns: Increasing cooperation by broadening construals in social dilemmas. *Psychological Science*, 20(11), 1319-1321.
- Sanna, L. J., Lundberg, K. B., Parks, C. D., and Chang, E. C. (2010). Think and act globally, think and act locally: Cooperation depends on matching construal to action

- levels in social dilemmas. *Journal of Experimental Social Psychology*, 46, 1126-1129.
- Statistisches Bundesamt [Federal Bureau of Statistics] (2008). Statistisches Jahrbuch 2010 [Statistical Yearbook 2010]. Internet: <http://www.destatis.de/jetspeed/portal/cms/Sites/destatis/SharedContent/Oeffentlich/B3/Publikation/Jahrbuch/StatistischesJahrbuch,property=file.pdf>. Found on 20.03.2011.
- Steg, L., and Vlek, C. (2009). Encouraging pro-environmental behaviour: An integrative review and research agenda. *Journal of Environmental Psychology*, 29, 309-317.
- Stern, P. C., and Dietz, T. (1994). The value basis of environmental concern. *Journal of Social Issues*, 50, 65-84.
- Stiftung Deutscher Nachhaltigkeitspreis e.V. [Registered association of German sustainability award] (2010). Deutschlands nachhaltigstes Produkt 2010 [Germany's most sustainable product 2010]. Internet: http://www.deutscher-nachhaltigkeitspreis.de/files/kurzbegrueundung_ca.pdf. Found on 15.03.2011.
- Stone, J., and Fernandez, N. C. (2008). To Practice What We Preach: The Use of Hypocrisy and Cognitive Dissonance to Motivate Behavior Change. *Social and Personality Psychology Compass*, 2(2), 1024-1051.
- Strathman, A., Gleicher, F., Boninger, D. S., and Edwards, C. S. (1994). The consideration of future consequences: weighing immediate and distant outcomes of behavior. *Journal of personality and social psychology*, 66(4), 742-752.
- Talbot, L. (2008). Introduction: the quest for environmental sustainability. In L. Rockford, R. Stewart and T. Dietz (eds). *Foundations of environmental sustainability*, Oxford University Press, New York.
- Tanner, C., and Kast, S. W. (2003). Promoting sustainable consumption: determinants of green purchases by Swiss consumers. *Psychology & Marketing*, 20(10), 883-902.
- Tenbrunsel, A. E., Diekmann, K. A., Wade-Benzoni, K. A., and Bazerman, M. H. (2010). The ethical mirage: A temporal explanation as to why we are not as ethical as we think we are. *Research in Organizational Behavior*, 30, 153-173.
- Trope, Y., and Liberman, N. (2010). Construal-Level Theory of Psychological Distance. *Psychological Review*, 117(2), 440-463.
- Trope, Y., Liberman, N., and Wakslak, C. (2007). Construal levels and psychological distance: Effects on representation, prediction, evaluation, and behavior. *Journal of Consumer Psychology*, 17(2), 83-95.
- U.S. Census Bureau (2011). U.S. & World Population Clocks. Internet: <http://www.census.gov/main/www/popclock.html>. Found on 08.11.2011.
- Van Dam, Y. K., and Van Trijp, H. C. M. (2010). Cognitive and motivational structure of sustainability. *Journal of Economic Psychology*, 32(5), 726-741.
- Van Dam, Y. K., and Van Trijp, H. C. M. (submitted). Relevance or Determinance: Importance in sustainable food consumption. *Journal of Economic Psychology*.
- Van Herpen, E., Pieters, R., and Zeelenberg, M. (2009). When demand accelerates demand: Trailing the bandwagon. *Journal of Consumer Psychology*, 19, 302-312.

- Van Herpern, E., and Pieters, R. (2007). Anticipated identification costs: Improving assortment evaluation by diagnostic attributes. *International Journal of Research in Marketing*, 24, 77-88.
- Van Lange, P. A. M., and Joireman, J. A. (2008). How we can promote behavior that serves all of us in the future. *Social Issues and Policy Review*, 2(1), 127-157.
- Van Lange, P. A. M., Joireman, J. A., Otten, W., and De Bruin, E. M. N. (1997). Development of prosocial, individualistic, and competitive orientations: Theory of preliminary evidence. *Journal of Personality and Social Psychology*, 73(4), 733-746.
- Van Trijp, J. C. M., and Fischer, A. R. (2010). Mobilizing consumer demand for sustainable development. In: Van Latesteijn, H. & K. Andeweg (eds), *The Transforum Model: Transforming Agro-Innovation toward sustainable development*. Chapter 5; 73-96. Dordrecht: Springer.
- Verbraucherzentrale Bundesverband (VZBV) [Federation of German Consumer Organisations] (2003). *Nachhaltigkeit und Globalisierung am Beispiel Textilien* [Sustainability and globalisation taking the example of textiles]. Internet: http://www.verbraucherbildung.de/projekt01/media/pdf/FB_Textil_Schmidt_1003.pdf. Found on 15.03.2011.
- Vermeir, I., and Verbeke, W. (2006). Sustainable food consumption: exploring the consumer attitude-behavioural intention gap. *Journal of Agricultural and Environmental Ethics*, 19, 169-194.
- WCED (1987). *Our Common Future (The Brundtland Report)*. World Commission on Environment and Development, Oxford: Oxford University Press.
- Weber, J. M., Kopelman, S., and Messick, D. M. (2004). A conceptual review of decision making in social dilemmas: Applying a logic of appropriateness. *Personality and Social Psychology Review*, 8(3), 281-307.

Declaration in Lieu of Oath

I certify that the work presented here is original and the result of my own investigations, except as acknowledged and has not been submitted, either in part or whole, for a degree at this or any other university.

Eva Meyer-Schwickerath

Appendix 1: Measurement of Social Perspective

Instructions:

You have been randomly paired with another person. You do not know this person and you will not knowingly meet him/her in the future. In this task, the other person is referred to as the „other”. Both of you will make choices by marking with a circle option A, B, or C. Each option you choose will provide points to you and the „other”. Likewise, the option the „other” chooses will provide points to him/her and to you. Every point has value: the more points you receive, the better for you. Likewise, the more points the „other” receives, the better for him/her.

This is one example of how the task works:

	<u>Choice options</u>		
	A	B	C
You get	500	500	550
Other gets	100	500	300

If you chose option A, you would receive 500 points and the „other” would receive 100 points.

If you chose option B, you would receive 500 points and the „other” would receive 500 points.

If you chose option C, you would receive 550 points and the „other” would receive 300 points.

You can see that the choice you make influences both, the points you receive and the points the „other” receives.

Please consider that there are no right or wrong choices. Choose the option you prefer most, for whatever reason. Also, remember that the points have value: The more you accumulate, the better for you. Likewise, from the „other’s” point of view, the more points he / she accumulates, the better for him/her.

In the task, there are nine choice situations. Please mark with a circle A, B, or C, depending on which column you prefer most:

		A	B	C			A	B	C
1)	You get	480	540	480	6)	You get	500	500	570
	Other gets	80	280	480		Other gets	500	100	300

		A	B	C			A	B	C
2)	You get	560	500	500	7)	You get	510	560	510
	Other gets	300	500	100		Other gets	510	300	110

		A	B	C			A	B	C
3)	You get	520	520	580	8)	You get	550	500	500
	Other gets	520	120	320		Other gets	300	100	500

		A	B	C			A	B	C
4)	You get	500	560	490	9)	You get	480	490	540
	Other gets	100	300	490		Other gets	100	490	300

		A	B	C
5)	You get	560	500	490
	Other gets	300	500	90

Note. Choices of self-interest are 1b, 1a, 2a, 2c, 3b, 3c, 4a, 4b, 5a, 5c, 6b, 6c, 7b, 7c, 8a, 8b, 9a, 9c; and cooperative choices are 1c, 2b, 3a, 4c, 5b, 6a, 7a, 8c, 9b.

Appendix 2: Measurement of Temporal Perspective

Instructions:

For each of the statements below, please indicate whether or not the statement is characteristic for you. If the statement is extremely uncharacteristic of you (not at all like you) please write a „1” to the left of the question. If the statement is extremely characteristic of you (very much like you) please write a „5” next to the question. For options in between, please use a number indicating your choice best. Please keep the following scale in mind as you rate each of the statements below.

1	2	3	4	5
extremely uncharacteristic	somewhat uncharacteristic	uncertain	somewhat characteristic	extremely characteristic

- ___ 1. I consider how things might be in the future, and try to influence those things with my day to day behaviour.
- ___ 2. Often I engage in a particular behaviour in order to achieve outcomes that may not result for many years.
- ___ 3. I only act to satisfy immediate concerns, figuring the future will take care of itself.
- ___ 4. My behaviour is only influenced by the immediate (i.e., a matter of days or weeks) outcomes of my actions.
- ___ 5. My convenience is a big factor in the decisions I make or the actions I take.
- ___ 6. I am willing to sacrifice my immediate happiness or well-being in order to achieve future outcomes.
- ___ 7. I think it is important to take warnings about negative outcomes seriously even if the negative outcome will not occur for many years.
- ___ 8. I think it is more important to perform a behaviour with important distant consequences than a behaviour with less important immediate consequences.
- ___ 9. I generally ignore warnings about possible future problems because I think the problems will be resolved before they reach crisis level.
- ___ 10. I think that sacrificing now is usually unnecessary since future outcomes can be dealt with at a later time.
- ___ 11. I only act to satisfy immediate concerns, figuring that I will take care of future problems that may occur at a later date.
- ___ 12. Since my day to day work has specific outcomes, it is more important to me than behaviour that has distant outcomes.

Note. Statements 1., 2., 6., 7., and 8. indicate high CFC if scored characteristic whereas statements 3., 4., 5., 9., 10., 11., and 12 indicate lowly CFC if scored characteristic.

Appendix 3: Measurement of Consumer Choice

Instructions:

Can you please state which box out of the four boxes is most important to you when you buy a shirt? An example of how the task works follows: please highlight the box which is most important to you.

Example)

box 1	box 2
box 3	box 4

1)

waste	touch on skin
environmental friendliness	health

2)

social responsibility	local manufacturing
touch on skin	naturalness

3)

naturalness	fair trade
variety	waste

4)

variety	environmental friendliness
price	social responsibility

5)

health	local manufacturing
fair trade	price

6)

price	naturalness
waste	touch on skin

7)

naturalness	health
social responsibility	variety

8)

fair trade	price
touch on skin	variety

9)

Environmental friendliness	naturalness
health	price

10)

touch on skin	variety
local manufacturing	health

11)

environmental friendliness	touch on skin
fair trade	social responsibility

12)

naturalness	environmental friendliness
local manufacturing	fair trade

13)

waste	local manufacturing
variety	environmental friendliness

14)

price	social responsibility
local manufacturing	waste

15)

health	fair trade
social responsibility	waste