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Master Thesis

Assessing Implicit and Explicit Attitudes in Green Consumerism:
the Implicit Association Test, the Theory of Planned Behavior and
the influence of Socially Desirable Responding

Hand-in date:

03.09.2012

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BI Norwegian Business School

GRA 19003 Master Thesis

Master of Science in Strategic Marketing Management

The thesis is a part of the MSc programme at BI Norwegian Business School. The school takes no responsibility for the methods used, results found and conclusions drawn.

Acknowledgements

We wish first and foremost to thank our Professor Even J. Lanseng for his support, guidance and encouragement with our master thesis. Thank you for showing great interest in our work, and introducing us to relevant literature that has enhanced the quality of this study.

We would also like to thank Tarje Gaustad for guidance with the Implicit Association Test in Qualtrics.

Thank you to the faculty at the Department of Marketing at BI Norwegian Business School for providing us with the best academic tools and work ethics possible.

Family and friends - thank you for your invaluable support.

Finally, we would like to thank each other for the excellent teamwork during the Master of Science Program.

Oslo, 3.September, 2012

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Content

ACKNOWLEDGEMENTS	I
CONTENT.....	II
LIST OF FIGURES AND TABLES.....	IV
ABSTRACT.....	V
1.0 INTRODUCTION	1
1.1 INTRODUCTION	1
1.2 BACKGROUND.....	3
1.3 DEFINITION OF “GREEN”.....	4
1.4 OBJECTIVES AND RESEARCH QUESTIONS.....	4
2.0 CONCEPTUAL DEVELOPMENT	5
2.1 THEORETICAL FRAMEWORK	5
2.1.1 <i>Consumer or Corporate Social Responsibility?</i>	5
2.1.2 <i>Explicit Attitudes</i>	6
2.1.3 <i>The Theory of Planned Behavior</i>	7
2.1.4 <i>A Broken TPB-Premise: The Attitude/Intention-Behavior Gap</i>	9
2.1.5 <i>Socially Desirable Responding</i>	11
2.1.6 <i>Implicit Attitudes</i>	12
2.2 NEW CONCEPTUAL MODEL.....	14
2.3 HYPOTHESES	15
3.0 EMPIRICAL STUDIES	17
3.1 DESIGN.....	17
3.2 ELICITATION STUDY	18
3.2.1 <i>Methodology</i>	18
3.2.2 <i>Respondents</i>	18
3.2.3 <i>Focus groups and In-Depth Interview</i>	19
3.2.4 <i>Findings</i>	19
3.3 MAIN STUDY	19
3.3.1 <i>Methodology</i>	19
3.3.2 <i>Measurements: Explicit Attitudes</i>	20
3.3.3 <i>Measurements: Implicit Attitudes</i>	20
3.3.4 <i>Measurements: Socially Desirable Responding - BIDR</i>	22
3.3.5 <i>Validity IAT</i>	23
3.3.6 <i>Validity and Reliability BIDR</i>	24
3.3.7 <i>Respondents</i>	25

4.0 RESULTS	26
4.1 H1: EXPLICIT ATTITUDE MEASURES.....	26
4.2 H2: IMPLICIT ATTITUDES TOWARD GREEN AND CONVENTIONAL PRODUCTS.....	27
4.3 H3: EXPLICIT AND IMPLICIT ATTITUDES TOWARD GREEN PRODUCTS.....	28
4.4 H4: CORRELATIONS BETWEEN EXPLICIT AND IMPLICIT ATTITUDES.....	29
4.5 H5A: SDR’S EFFECT ON EXPLICIT ATTITUDES.....	29
4.6 H5B: SDR’S EFFECT ON CORRELATIONS BETWEEN EXPLICIT AND IMPLICIT ATTITUDES.....	31
4.7 SUMMARY OF HYPOTHESES.....	32
5.0 DISCUSSION	33
5.1 EMPIRICAL FINDINGS.....	33
5.2 IMPLICATIONS FOR PRACTITIONERS.....	37
5.3 LIMITATIONS AND SUGGESTIONS FOR FUTURE RESEARCH.....	38
REFERENCES.....	39
APPENDIX 1: STUDY GUIDE.....	45
APPENDIX 2: FINDINGS FOCUS GROUP AND INTERVIEW.....	47
APPENDIX 3: SURVEY MAIN STUDY.....	48
APPENDIX 4: BALANCED INVENTORY OF DESIRABLE RESPONDING.....	69
APPENDIX 5: PERMISSION FOR USE OF BIDR SCALE.....	73
APPENDIX 6: SPSS OUTPUTS.....	74
PRELIMINARY MASTER THESIS.....

List of Figures and Tables

Figure 1: The Theory of Planned Behavior	p.7
Figure 2: New Conceptual Model	p.14
Table 1: Blocks in IAT	p.21
Table 2: Target Category Stimuli	p.22
Table 3: Attribute Category Stimuli	p.22
Table 4: Descriptive Statistics of Explicit Attitudes	p.26
Table 5: Linear Regression with Intention as Dependent Variable	p.27
Table 6: Difference in Means: Explicit Attitudes	p.28
Table 7: Correlations between Explicit and Implicit Attitudes toward green products	p.29
Table 8: Compare Means of Explicit Attitudes with two Levels of SDR	p.30
Table 9: Correlations between Explicit and Implicit Attitudes with two levels of SDR	p.31
Table 10: Summary of Hypotheses	p.32

Abstract

The market for green products and services has expanded along with the increased public attention to environmental issues. Consumer research has relied mostly on direct measures of self-report. Despite the growth in consumers expressing positive attitudes and purchase intentions toward green products, the purchase rate for such products are still considerably low. Hence, there is a gap between what consumers say and what they do.

The purpose of this study was to explore the relationship between explicit and implicit attitudes toward green products, as well as the role of Socially Desirable Responding bias on the relationship between direct and indirect measures. The study was conducted within the theoretical framework of the Theory of Planned Behavior (TPB), the Implicit Association Test (IAT) and theories of Socially Desirable Responding (SDR).

A survey consisting of three parts was distributed to 257 participants through online panels. The first part consisted of a direct measure of explicit attitudes toward green products, grounded in the Theory of Planned Behavior. The second part was an indirect measure of implicit attitudes toward green and conventional products using the Implicit Association Test. The third part was a direct measure of Socially Desirable Responding measured by the Balanced Inventory of Desirable Responding scale.

The explicit attitudes were found to be relatively more positive than the implicit attitudes toward green products. No correlations between explicit and implicit attitudes were found, supporting the dual attitude process view. The implicit attitudes toward green products were stronger than the implicit attitudes toward conventional products. Tendencies and partial support of socially desirable responding were revealed. Respondents with high scores on SDR displayed lower correlations between explicit and implicit attitudes toward green products than respondents with low scores on SDR.

The study reveals that trusting direct measures of explicit attitudes in the context

of green consumerism is unviable due to socially desirable responding and incoherence with implicit attitudes. The perceived behavioral control was found to have no effect on behavioral intention. This is a substantial contribution to the consumer vs. corporate social responsibility discussion. The fact that consumers do not feel they can make a difference in a positive way by consuming green indicates that social responsibility should not be placed on the shoulders of individual consumers.

Practitioners need to acknowledge the complexity of green consumer behavior and need to consider alternatives to direct measures when assessing consumers' attitudes toward ethical consumption.

Key Words: green consumerism, theory of planned behavior, implicit attitudes, socially desirable responding, the implicit association test, direct measures, indirect measures, ethical consumption, consumer social responsibility, corporate social responsibility, dual attitude view.

1.0 Introduction

1.1 Introduction

This paper presents a study designed to assess the implicit and explicit attitudes with green consumerism as the attitude object. The Theory of Planned Behavior, the Implicit Association Test and theories of Socially Desirable Responding are used as the main theoretical framework. The study aims to uncover the relationship between explicit and implicit attitudes toward green products, as well as the role of Socially Desirable Responding bias on the relationship between direct and indirect measures.

The Theory of Planned Behavior has been widely used in consumer research to explain attitude formations and prediction of behavior (e.g. Kalafatis et al., 1999; Shaw and Shiu, 2003; Kim and Han, 2010; Lee et al., 2010). The premise that behavioral attitudes and intentions will lead to actual behavior has been proved to be weak in the setting of ethical consumption (Carrigan and Attalla, 2001; Devinney et al., 2006; Vermeir and Verbeke, 2006). Explicit attitudes fail to predict behavior because attitudes are not always analyzed consciously and deliberately (Greenwald and Banaji, 1995). The gap between attitudes and behavior indicate that explicit self-report measures are inadequate, leading researchers to explore implicit attitudes. Implicit attitudes are believed to be more accurate predictors of behavior as they rely on automatic evaluations of the attitude object beyond the respondents' conscious awareness. Vantomme et al. (2004; 2005) have studied the applicability of the Implicit Association Test to explore why the attitude-behavior relationship is often found to be weak in consumer behavior. They found a difference in explicit and implicit attitudes, but did not look at whether the explicit attitude measures were biased by social desirability.

As suggested by Vantomme et al. (2004), we include Socially Desirable Responding theory in order to uncover if direct measures are biased in the context of green consumerism. Social desirability has been included in studies of dark side variables such as shoplifting, gambling, smoking and prostitution (Mick, 1996), but is also interesting to study in settings where minor ethical breaches are

carried out - such as within green consumerism. A vast body of previous research has relied on direct measures of self-reports of socially sensitive issues where the respondent could potentially be unwilling to conceal their true attitudes and behavior. Consequently, socially desirable responding could have a concealed and deleterious effect on research conclusions. Being that there is an identified gap between what consumers say they are willing to do and what they actually do in terms of consuming green, socially desirable responding should be examined as a possible explanation for inconclusive measures.

Previous research has focused on the Theory of Planned Behavior and direct measures solely (Kim and Han, 2010; Lee et al., 2010; Kalafatis et al., 1999) or one single behavioral attitude construct with implicit attitudes (Vantomme et al., 2004; 2005). By incorporating implicit attitudes and socially desirable responding in the theory of planned behavior, this study presents a more complex and deeper understanding of ethical consumer behavior.

The result of this study will provide managers with useful information when developing marketing strategies as the results will indicate whether using consumers' explicit attitudes and purchase intentions as an indicator of the product or service's likelihood of success might be an inadequate measure. The study has methodological implications as it tests the applicability of the Implicit Association Test within the green consumer behavior field, simultaneously as it explores socially desirable responding in direct measures. The findings will have implications for the way marketing research is conducted as it questions the reliance on direct measures as a predictor for behavior.

The paper is structured as follows; firstly a background of the study will be presented, followed by objectives and research questions. Secondly, relevant theory will be discussed in the conceptual development framework before a new conceptual model and hypotheses are presented. Thirdly, the empirical studies are described followed by a discussion of results. The paper ends with implications for practitioners, limitations and suggestions for future research.

1.2 Background

Increased media coverage of environmental issues the last decades has led to a rise in public awareness around global warming and its detrimental effects (Lee et al., 2010). Consequently, environmental issues have not only been put on the political agenda, it has also reached the purchase behavior scene. The market for green products and services has expanded since the 1990s as the demand for environmentally friendly alternatives has increased.

Despite increasing research there is still a lack of understanding of ethics' role in consumer behavior (Chatzidakis et al., 2006). A key issue recognized by different researchers within the field encompasses the fact that people's ethical concerns are often not visible in their actions and behaviors. Carrigan and Attalla (2001) found that only 20% of self-reported socially responsible consumers had recently bought a product linked to social responsibility. Furthermore, the market share is less than 1% for the majority of low- involvement environmentally friendly products (Roozen, 1999 in Vantomme et al., 2005) indicating that consumers are not willing to switch from their traditional brands to environmentally friendly alternatives. Strutton et al. (1994) argue that there is a paradox when it comes to consumers' self-reported attitudes toward social issues and their actual behavior. The authors illustrate a "man-bites-dog" inversion by referring to the increasing consumer-based pressure on corporations to act socially responsible simultaneously as consumer-initiated shoplifting has increased. In conclusion, self-reported ethical concerns should be questioned critically because there is a gap between what consumers say and what they do.

The most common procedure to collect data on the issue is through direct measures that rely on self-report. Direct measures have the disadvantage of interference of socially desirable responding. According to Devinney et al. (2006), surveys reveal the extent to which consumers care about a given issue, but they do not reveal how much they are willing to pay to care in real life. The cost of lying in surveys is in most circumstances equal to zero; hence information collected from direct measures cannot always be fully trusted. A problem with traditional cause-related marketing models is that they assume consumers to be automatically involved and interested in the marketplace, as well as being fully informed. Additionally, most models build on the premise that as long as the marketing

program is aligned with consumer preferences, consumers are willing to pay for a combination of preferred attributes in such a way that it increases the total value of the brand (Devinney et al., 2006). Due to drawbacks regarding explicit attitudes derived from direct measures, researchers search for alternative ways to predict behavior. As a result, indirect measurements of automatic processes and implicit attitudes have become an increasing area of interest. (Karpinski, 2001; Vantomme et al., 2004, 2005).

1.3 Definition of “Green”

Researchers refer to the term “green” as alternatively “eco-friendly”; “environmentally responsible”; “environmentally friendly”; “environmentally oriented”; and “sustainable” (Han et al., 2010; Pizam, 2009). Hence, there is no exclusive definition or dominant logic of the term green. In this paper, green products refer to products that are marketed as environmentally friendly and ethical - and the terms are used interchangeably. Ethical consumer behavior can be defined as “the decision making, purchases and other consumption experiences that are affected by the consumer’s ethical concerns” (Cooper-Martin and Holbrook 1993, p.113).

1.4 Objectives and Research Questions

The objective of this study is to obtain a better understanding of consumers’ ethical decision-making process and green consumer behavior by incorporating implicit attitudes and socially desirable responding with the theory of planned behavior. The findings will have implications for marketing research as well as corporate and governmental pro-environmental strategies.

The main research questions for this study are;

What is the relationship between explicit and implicit attitudes in a green consumerism context?

Does Socially Desirable Responding occur when using direct measures to access explicit attitudes when green consumerism is the attitude object?

This study does not discuss whether green products are better than conventional products, but rather focus on available and obtained data on consumers' attitudes and behavior in the context of green consumerism.

2.0 Conceptual Development

2.1 Theoretical Framework

This study's theoretical framework is based on the Theory of Planned Behavior (Ajzen, 1991), Socially Desirable Responding (e.g. Mick, 1996; Steenkamp et al., 2010), implicit attitudes and the Implicit Association Test (e.g. Vantomme et al., 2005; Nosek et al., 2005). This section will start with a discussion of Consumer vs. Corporate Social Responsibility in order to obtain a better understanding of the context of green consumerism.

2.1.1 Consumer or Corporate Social Responsibility?

In regard to the evolving environmental challenges there is an ongoing discussion on who is responsible for the health of the planet. Social responsibility has emerged from a corporate- to a consumer-level. Consumer Social Responsibility (CnSR) is in its broadest form defined by Devinney et al. (2006) as "the conscious and deliberate choice to make certain consumption choices based on personal and moral beliefs". The definition includes two central components; an ethical component related to a business's products and processes, and a consumerism component related to the implication of the fact that consumer preferences are affecting the influence of social and ethical factors (Devinney et al., 2006). The willingness to take on social responsibility should be seen in connection with the individual's sense of ethical obligation (Shaw and Shiu, 2003). Consumers demonstrate social responsibility and sense of obligation to act ethically through activities related to specific causes such as boycotts, donations and protests, through purchasing/non-purchasing behavior and expressed opinions through market researches - surveys being one example (Devinney et al., 2006). In regard to this study, purchasing/non-purchasing behavior is interesting due to the duality surrounding consumer activism - as research has shown, there is an increasing gap in what consumers say and what they do (e.g. Ditlev-Simonsen, 2012; Strutton et al., 1994; Chatzidakis et al., 2007). The lack of ethical behavior in the

marketplace is visible through for example the increasing number of counterfeit goods offered (Devinney et al., 2006) and the low percentage of market share for ethical products (Ditlev-Simonsen, 2012). CnSR is most commonly measured through surveys, resulting in a very positive portrait of ethical consumerism and willingness to engage in such activities. This positive picture cracks when compared to purchasing/non-purchasing behavior, suggesting that CnSR is only one element of the complex consumer decision-making process.

Communicating and marketing green products do also represent a challenge in terms of choosing the most effective communication style. The two most basic approaches used in social marketing are the “baby is sick” and the “baby is well” appeals (Obermiller, 1995). The baby is sick appeal emphasizes the importance of the issue at hand, and stresses the immediate need for help. The communicative objective is to increase concern for the issue and create a sense of acuteness. The baby is well appeal emphasizes the need and significance of individual action and aims to increase the belief that the individual’s action can help solve the problem. If concern for the issue is already high, a sick baby appeal could reduce the feeling of perceived consumer effectiveness and consequently reduce the probability of engaging in a pro-social behavior. In such situations, the encouragement and affirmative nature of the baby is well appeal should be used (Obermiller, 1995). The level of concern for an issue is highly individual, something that complicates the choice of communication appeal when marketing green products.

To access the sense of consumer social responsibility, marketing research has traditionally consisted of direct measures of explicit attitudes. The next session will explain explicit attitudes in detail.

2.1.2 Explicit Attitudes

Explicit attitudes can be described as deliberate evaluative judgments demonstrated through controlled processes (Whitfield and Jordan, 2009). Direct measures that rely on self-report are typically used to access explicit attitudes. Respondents are required to report their attitudes on a given scale, with either single- or multiple items (Whitfield and Jordan, 2009; Payne et al., 2008). Hence,

explicit attitudes are self-reported favorable or non-favorable evaluations of an attitude object (Karpinski, 2001). The Theory of Planned Behavior (TPB) (Ajzen, 1991) has been the prominent approach to explain how behavior is influenced by attitudes - also in the context of ethical behavior (Chatzidakis et al., 2006). TPB is included in our study to access and measure explicit attitudes toward green products.

2.1.3 The Theory of Planned Behavior

The Theory of Planned Behavior (TPB) is an extended version of the Theory of Reasoned Action (TRA). The TPB-model is believed to give a precise prediction of why specific behavior occurs as it considers both volitional and non-volitional control factors (Fishbein and Ajzen 1975; Ajzen and Fishbein, 1980). The model considers behavior to be a function of behavioral intention, and the stronger the intention the more likely it is that the actual behavior will be carried out (Ajzen, 1991). Behavioral intention is a function of attitude, subjective norm and perceived behavioral control (Chatzidakis et al., 2007). Ethical obligation is added as a variable when the model is applied in studies concerning ethical consumer behavior (Shaw and Clarke, 1999; Shaw et al., 2000; Shaw and Shiu, 2002a, b, 2003).

Illustrated below is the TPB-model modified to concern ethical consumer behavior by including ethical obligation as a predictor for attitude:

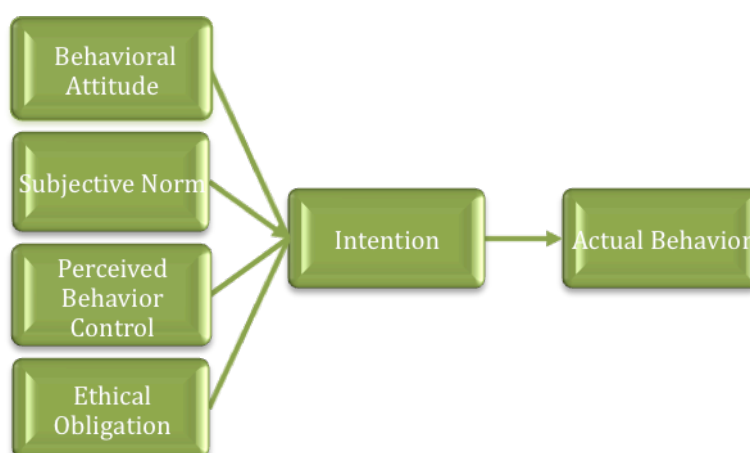


Figure 1: The Theory of Planned Behavior (Ajzen, 1991), modified to concern ethical issues (Shaw & Shiu 2003).

Behavioral Attitude

Attitude toward a specific behavior is described by Eagly and Chaiken (1993) as “a psychological tendency that is expressed by evaluating a particular object with some degree of favour or disfavour”. Attitude is believed to be a function of the individual’s salient beliefs about the consequences of engaging in a certain behavior, and an evaluation of the significance of those consequences (Eagly and Chaiken, 1993). A positive attitude toward a specific behavior will strengthen the behavioral intention and thus strengthen the likelihood that the behavior will be performed (Ajzen, 1991).

Subjective Norm

Subjective norm reflects how the individual considers what he or she perceives to be the prevailing opinions of society when deciding whether to engage in a certain behavior. The variable is internally controlled and is described by Ajzen (1991) as “the perceived social pressure to perform or not to perform the behavior”. The determinant to engage in a specific behavior will depend on what the significant references are believed to approve or disapprove of.

Perceived Behavioral Control

Vermeir and Verbeke (2006) refer to perceived behavioral control as “the extent to which the consumer believes that his personal efforts can contribute to the solution of a problem”. Perceived behavioral control is based upon control beliefs, which consist of the power of a certain factor to support the act and the perceived admission to that specific factor (Kalafatis et al., 1999). If he or she believes that the level of control is high, the behavioral intention is likely to be high as well (Baker et al., 2007 in Han et al., 2010). Opposite, if the individual perceives the problem to be of such character that his or her actions will not make any difference, the intention to engage in the specific behavior is likely to be lower.

Ethical Obligation

As stated by Chatzidakis et al. (2007), the ethical consumer decision-making process still remains partly unexplained despite the TPB-model’s contribution. In order to adjust the model to consider the ethical consumerism field, the variable “ethical obligation” has been added (Shaw and Clarke, 1999; Shaw et al., 2000;

Shaw & Shiu, 2002a, b, 2003). Kurland (1995) describes ethical obligation as “an individual’s internalized ethical rules, which reflect their personal beliefs about right and wrong”. Shaw and Shiu (2003) found that the ethical obligation variable is an applicable predictor for behavioral intention.

Behavioral Intention

Intention is defined as “a psychological construct distinct from attitude and it represents a person’s motivation to carry out a behaviour” (Eagly and Chaiken, 1993).

2.1.4 A Broken TPB-Premise: The Attitude/Intention-Behavior Gap

The underlying premise that an expressed intention to engage in a certain behavior evidently will lead to actual behavior does not always hold. This is reflected in the findings of Ditlev-Simonsen (2012). A discrepancy between consumers’ stated concerns for the environment and their actual behavior was identified on five environmental-related issues; recycling, energy saving, use of public transportation, use of water-saving showerheads, and purchase of ecological food. Researchers have depicted the ethical decision-making process as more complex than in the case of “conventional” consumption due to the inclusion of the consumer’s sense of social responsibility (Meulenberg, 2003 in Vermeir and Verbeke, 2006). Several studies have suggested possible explanation for the gap using different theories as basis. Vermeir and Verbeke (2006) found in their study of consumers’ willingness to buy sustainable food perceived consumer effectiveness, certainty and level of involvement to impact the attitude-formation. The attitude-formation correlated positively with purchase intention. Yet, if sustainable food were unavailable, the intention-to-buy would be low regardless of the consumer’s attitude. Hence, external factors strongly influence purchase intentions and thus simply measuring explicit attitudes toward sustainable food products is inadequate to predict purchase.

Moisander (2007) argues for motivational complexity as an explanation for the discrepancy between expressed attitudes/intentions and actual behavior. The author suggests that behavior is determined by motivation and ability. Motivation is made up of the strength or intensity of the motivation in addition to direction.

Direction explains why a specific behavior is chosen amongst several alternatives. Ability refers to the consumer's personal resources required to perform the behavior and the opportunity to carry out the behavior. The immediate external environment determines opportunity. Motivation and ability is believed to influence each other in such a way that a strong motivation will enhance the feeling of ability. Contrary, a lack of ability could decrease the initial motivation - similar to Vermeir and Verebeke's (2006) findings.

Sachdeva et al. (2009) suggest the state of self-worth as a measure that indicates when moral action is needed. Self-worth is described as the individual's perception of how moral he or she is (Dunning, 2007). The authors introduce the following concepts to explain how self-worth is regulated; moral cleansing refers to actions you engage in when your moral self-worth has been threatened. After a period of time, you feel you have accrued a surplus of moral currency and thus have a license to refrain from engaging in moral behavior. The regulation is a dynamic process that explains why consumers act differently without a change in explicit attitude.

According to Chatzidakis et al. (2007), the TPB-model fails to include psychological factors that explain why some consumers refrain from acting upon their stated intentions. The authors suggest neutralization theory as a possible explanation for the discrepancy between attitudes/intentions and actual behavior. Neutralization theory has been widely cited in sociology of deviance, but has recently been applied within the consumer behavior field as well. Neutralization refers to "a mechanism that facilitates behaviour that is either norm violating or in a contravention of expressed attitudes" (Chatzidakis et al., 2007). Sykes (1957) identified five categories of neutralization techniques that people use to rationalize their behavior; denial of responsibility; denial of injury; denial of victim; condemning the condemners and appeal to higher loyalties. Chatzidakis et al. (2007) found neutralization techniques to be applicable to the consumer behavior field where minor ethical breaches have been conducted. It is not known when neutralization techniques are activated whether it precedes an act or occur post-behavior. People use neutralization techniques to temporarily neutralize behavior they perceive as incorrect - for instance by refraining from carrying out a behavior, such as choosing environmentally friendly products over conventional

products. The need to present oneself favorably and neutralization of incorrect behavior interferes with actual self-report. A theory that encompasses response bias is Socially Desirable Responding (SDR).

2.1.5 Socially Desirable Responding

Response bias is defined by Paulhus (2002) as “any systematic tendency to answer questionnaire items on some basis that interferes with accurate self-reports”. Social norms guide ethical behavior crucially (Chatzidakis et al., 2007). Given that consumers’ evaluation of subjective norm influences their attitudes and intentions, researchers within the ethical consumer behavior field need to take this into account. If the consumer assumes that society expects him or her to act in a certain way, this could bias the attitude formation and consequently bias the responses. Several researchers (La Trobe and Acott, 2000; Roozen and De Pelsmacker, 1998) agree that people hide their actual attitudes and purchase patterns because they either want to impress the researcher or hide undesirable behavior. This could also be the case with green consumerism - Socially Desirable Responding is typically defined as “the tendency to give overly positive self-descriptions (Paulhus, 2002). SDR is seen as a response style with an underlying psychological construct. Steenkamp et al. (2010) defines socially desirable responses, as “answers that make the respondent look good, based on cultural norms about the desirability of certain values, traits, attitudes, interests, opinions and behaviors”. There are two dimensions of SDR; Self-Deceptive Enhancement (SDE) and Impression Management (IM) (Paulhus, 1984).

Self-deceptive enhancement (SDE) is defined as “an unconscious inclination to perceive oneself in a favorable light, manifested in positively biased, but honestly believed self-descriptions” (Mick, 1996). Self-deception represents the incorrectness of self-knowledge and is typically found in well-adjusted individuals who are prone to ignore minor criticism, discount failures, and hold high expectations of success in new projects (Paulhus, 1986). The individual will argue for positive attributes and denial of negative ones related to his or her own person.

Impression management as originated in social psychology is defined as “studying how individuals present themselves to others to be perceived favourably by others” (Hooghiemstra, 2000). Paulhus (1984) identifies impression management as “a respondent’s attempt to shape their answers purposefully to reflect the most positive social image”. Edwards (1957) argues that the tendency to express socially desirable responses is a relatively stable personality trait. This will occur independently of the researcher’s ability to identify the subjects’ individual responses. Additionally, observation has shown that subjects present favorable social expressions even when others nearby are completely strangers. Thus, impression management is likely to occur even in an anonymous research context and anonymity in itself is therefore not sufficient to control for bias. Impression management is a conscious and deliberate attempt to assess a favorable self-image (Steenkamp et al., 2010).

The implication of SDR is that data obtained from direct measures could be biased due to the respondents’ conscious or unconscious need to present themselves favorably. Hence, the data could potentially be exaggerated. To avoid SDR bias, it is necessary to use indirect measures to tap implicit attitudes. Implicit attitudes are not influenced by social norms and thus perceived to be more accurate.

2.1.6 Implicit Attitudes

Social behavior has traditionally been viewed as a conscious act controlled by the individual. Evidence depicts that this is not always the case - social behavior is rather often an act of unconscious and implicit fashion (Greenwald and Banaji, 1995). An implicit attitude is defined as “evaluations whose origin is unknown to the individual and that affect implicit responses” (Greenwald and Banaji, 1995). Hence, implicit attitudes reside outside of awareness and conscious control (Karpinski, 2001). Whereas explicit attitudes are the building blocks for intentional behavior and are a consequence of deliberative (cognitive) processing, implicit attitudes are “introspectively unidentified (or inaccurately identified) traces of past experience that mediate favorable or unfavorable feeling, thought, or action toward social objects” (Greenwald and Banaji, 1995). Hence, implicit attitudes are expected to lead spontaneous or automatic behavior, and are an

outcome of spontaneous processing. Thus, implicit attitudes are believed to be more accurate in the sense that such attitudes are not influenced by social desirability. The origin of implicit attitudes is unknown to the individual, and reside outside his or her voluntarily control (Bohner and Wänke, 2002).

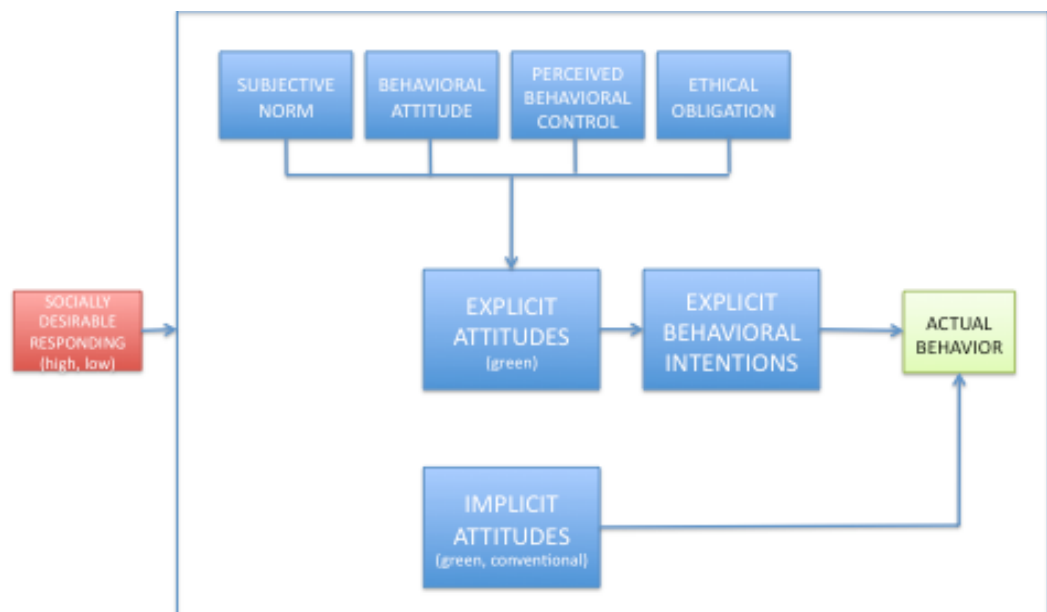
Among social psychologists there is an ongoing debate on the relationship between implicit and explicit attitudes; the unitary process view and the dual process view. The unitary process view proposes that implicit and explicit attitudes reflect a single attitudinal construct (Karpinski, 2001). The explicit attitudes reside beyond conscious awareness, while the implicit attitudes reside below conscious awareness. As a result of the unitary process view one should find a positive correlation between implicit and explicit attitudes as both measures reflect the same attitudinal construct. Thus, the two types of attitude measures should predict similar aspects of behavior, as one is able to report both attitudes through direct measures. The second view, the dual attitude view asserts that implicit and explicit attitudes are independent from each other. Wilson et al. (2000) describe the dual attitude process view as different evaluations of the same attitude object - one implicit and one explicit attitude. Consumers are often unaware of their implicit attitudes, for example in the case of prejudice toward an out-group. Despite explicitly expressing no such prejudice, indirect measures often reveal negative feelings toward the same attitude object (Bohner and Wänke, 2002). Thus, explicit and implicit attitudes toward the same object do not necessarily correlate. This statement is supported by findings by Karpinski (2001) who found empirical evidence that implicit and explicit attitudes should be seen in a dual attitude view. Which one of the attitudes that is endorsed, depends on the individual's cognitive capacity to retrieve the explicit attitude and whether it is overridden by the implicit attitude (Wilson et al., 2000). Due to the independence of constructs, little or no correlation between explicit and implicit is expected, and will predict different elements of behavior (Karpinski, 2001). Whether you take on a unitary process view or dual process view has methodological implications. Being that several studies have found low or no correlation between implicit and explicit attitudes (Karpinski, 2001; Vantomme et al., 2004), this study is designed in a dual process view.

Implicit attitudes need to be measured differently from explicit attitudes for both theoretical and methodological reasons (Bohner and Wänke, 2002). Traditionally, direct measures have been used to measure explicit attitudes. A disadvantage of direct measures is their reliance on self-report and possible interference caused by social desirability, social norms or self-deception (Karpinski, 2001). In order to avoid such interferences and find the consumers' "true attitudes", indirect measures have to be considered. The automatic activation measure (Fazio et al., 1995), attributional measure (von Hippel et al., 1997), semantic priming task (Wittenbrink et al., 1997) and the implicit association test (IAT) (Greenwald et al., 1998) are the four most widely used measures for implicit attitudes. The most recent measure, IAT, has received increasing attention both within the general public and the scientific scene due to its applicability and ease of use (Karpinski, 2001). The implicit association test will be carefully described in the methodology section of the Main Study.

2.2 New Conceptual Model

Based on the discussion of previous literature on the theory of planned behavior, attitude theory and socially desirable responding, we propose the following new conceptual model;

Figure 2: New Conceptual Model



The model suggests the belief constructs from Ajzen's Theory of Planned Behavior (subjective norm, behavioral attitude, perceived behavioral control and ethical obligation) to effect the formation of explicit attitudes. As grounded in the theory of planned behavior, explicit attitudes lead to behavioral intention. The explicit attitudes are measured with green as the attitude object. The study is conducted in a dual process view and regard explicit and implicit attitudes as being individual constructs. As defined by Greenwald and Banji (1995), implicit attitudes are "introspectively unidentified (or inaccurately identified) traces of past experience that mediate favorable or unfavorable feeling, thought or action towards social objects". Hence, specific predictors of implicit attitudes are not identified in the model. Implicit attitudes are measured toward green products relative to conventional products.

Socially desirable responding is believed to bias the explicit attitude and intention formation. The levels of socially desirable responding (high, low), will be examined on explicit attitudes (green) and implicit attitudes (green) as well as on the relationship between the two attitude constructs (green).

Actual behavior is suggested to be a consequence of both implicit and explicit attitudes. This construct will not be a part of this study.

Explicit attitudes, behavioral intention and socially desirable responding are subject to direct measures whereas implicit attitudes are measured through indirect measures using the implicit association test.

2.3 Hypotheses

To access explicit attitudes, direct measures that rely on self-report are used in this study. According to the TPB model adjusted to concern ethical issues (Shaw and Shiu, 2003), behavioral attitude, subjective norm, perceived behavioral control and ethical obligation predict intention. Being that previous research (e.g. Kalafatis et al., 1999; Carrigan and Attalla, 2001; Chatzidakis et al., 2007; Ditlev-Simonsen, 2012) has reported positive attitudes in the context of green consumerism, it is hypothesized that the behavioral intention to buy green products will be positive in this study:

H1: *The behavioral intention to buy green products expressed explicitly will be significantly positive.*

Due to measurement bias related to direct measures of self-report, it is possible that the explicit attitudes toward green products are overly positive. Based on theory of implicit attitudes, we suggest that the nature of the implicit association test will provide less positive attitudes toward green products relative to conventional products. The following is hypothesized;

H2: *Implicit attitudes toward conventional products will be at least as positive as the implicit attitudes toward green products.*

Direct measures that rely on self-report are subject to socially desirable responding. When participating in a survey research, the respondents have the opportunity to hide undesirable behavior and portray themselves positively. Indirect measures - such as the Implicit Association Test - are not interfered by socially desirable responding and are believed to tap more true attitudes. Being that the explicit attitudes measured through a survey might produce overly positive data, we hypothesize;

H3: *Explicit attitudes toward green products will be relatively more positive than implicit attitudes toward green products.*

As discussed, the dual attitude view states that explicit and implicit attitudes are independent from each other due do different underlying processes (Karpinski, 2001). Thus, as implicit and explicit attitudes measures tap implicit and explicit attitudes respectively, we expect to find a non-existing correlation between implicit and explicit attitudes and hypothesize:

H4: *There will be no correlation between implicit and explicit attitudes toward green products.*

Socially desirable responding is believed to affect direct measures, and will occur in spite of anonymity. Impression management and self-deceptive enhancement are believed to occur in favor of green products. The more receptive the respondent is to SDR, the higher the likelihood of responding positively on the attitudes toward green products scale.

H5a: *The higher the score on the socially desirable responding scale, the higher positive explicit attitudes toward green products.*

Respondents will most be affected by SDR on different levels, depending on the extent to which they intentionally or unintentionally feel the need to hide undesirable behavior (Vantomme et al., 2004). Based on theory of SDR and implicit attitudes, we suggest that if a respondent's tendency to give overly positive self-descriptions is high, there will be a larger gap between the respondents implicit and explicit attitudes due to the likelihood of exaggerating positively when answering the explicit part of the survey than if the respondent has a lower SDR score. Therefore;

H5b: *Respondents with higher SDR scores will have a lower correlation between IAT scores and explicit attitude score toward green products than respondents with lower SDR scores.*

3.0 Empirical Studies

3.1 Design

The study was conducted in a within-subject design and the model for hypotheses testing is:

$$((\text{explicit attitudes}_{\text{green}}) * (\text{implicit attitudes}_{\text{green}}) * (\text{SDR}_{\text{high, low}}))$$

Additionally,

$$\text{implicit}_{\text{green}} * \text{implicit}_{\text{conventional}}$$

was tested.

The explicit attitudes are comprised of subjective norm, behavioral attitude, perceived behavioral control, ethical obligation and behavioral intention. The hypotheses were tested using a three-part online survey. The first part included direct explicit attitude measures based on Ajzen's Theory of Planned Behavior. The second part was an indirect measure of implicit attitudes using the experimental computer-based Implicit Association Test. The third part was a

direct measure of Socially Desirable Responding measured through the Balanced Inventory of Desirable Responding (BIDR) scale (Paulhus, 1988). Additionally, demographics were collected as the last part.

Before constructing the main study, an elicitation study was conducted to ensure valid stimuli.

3.2 Elicitation Study

3.2.1 Methodology

The purpose of the elicitation study was to collect primary data and find key attributes that could be used when constructing the explicit questionnaire and create the Implicit Association Test. Ajzen and Fishbein (1980) recommend using an elicitation study as a mean to uncover information of the cognitive basis of behavior when developing a questionnaire based on the TPB-model. An elicitation study provides valuable information concerning people's thoughts and feelings related to a behavior - in this case green consumerism (Downs and Hausenblas, 2003). Two focus groups and one in-depth interview were conducted to collect primary data on people's thoughts, feelings and opinions about environmentally friendly/green products and social status. The focus groups consisted of a sample from the population in the main study to ensure that the beliefs emerging from the elicitation study represent those of the main study and thus increase the validity of the study (Ajzen and Fishbein, 1975). Additionally, the IAT effect will be enhanced if the stimuli are well known (Greenwald et al., 2005) - hence stimuli collected from the population should increase the validity of the main study.

3.2.2 Respondents

The respondents consisted of 80% female. All respondents were students who participated in the focus group voluntarily. Both focus groups consisted of Master of Science students from the departments of finance, organizational psychology and marketing. The respondent with whom we conducted the in-depth interview is a fair-trade ambassador and is very engaged in environmental issues and thus well informed on the matter.

3.2.3 Focus groups and In-Depth Interview

The main topics discussed during the focus group sessions were the state of the planet, associations with the term “green ” and green products as well as to which extent they actually purchased green products (Appendix 1). Positive and negative aspects around green products as compared to conventional products were also debated. Another discussion topic was the participants’ perceived prevailing opinion of society and the importance of social status. The same topics were discussed during the in-depth interview to compare data and obtain a deeper understanding of consumers’ opinions.

These topics were deliberately chosen to explore the subjects’ perception, associations and feelings toward environmentally friendly products. In addition, product categories and particular brands the participants associated with the green aspect were discussed.

3.2.4 Findings

Sustainability, recycling, healthy and “*less pollution*” were the most common attributes expressed when discussing green products and positive features with green products. Additionally, the negative attributes to environmentally friendly products compared to conventional products were also discussed. Findings indicated that green products were more *expensive* and “*less convenient*” compared to conventional products. Both positive and negative attributes were used as stimuli in the IAT- test. (Appendix 2)

3.3 Main Study

3.3.1 Methodology

The purpose of the main study was to examine respondents’ explicit and implicit attitudes toward green products relative to conventional products and the role of socially desirable responding. Findings from the elicitation study were used to construct the main study. The main study consisted of an online survey, designed in Qualtrics (Appendix 3). The survey was made up of three parts; the first one containing explicit attitude measures toward green products; the second part was

an implicit association test measuring implicit attitudes toward green products relative to conventional products; the third part conveyed a measure of socially desirable responding using the BIDR scale. The following sections will explain each part in detail.

3.3.2 Measurements: Explicit Attitudes

Chatzidakis et al. (2006) state that the two most prominent theoretical approaches to explain ethical behavior have been Hunt and Vitell's general theory of marketing ethics from 1986 and Ajzen's attitude models (Ajzen 1985, 1991) supporting the use of the TPB scale in this study. The TPB model presented by Ajzen was used to measure the different variables that form people's attitude and behavioral intentions towards buying a green/environmentally friendly product. On Ajzen's homepage there are a few examples on how to measure each construct in the TPB model. These questions were used as a starting point when constructing the TPB-scale. Several other researchers have also used the TPB model when investigating people's attitudes toward environmentally friendly consumption (Han et al., 2010; Chatzidakis et al., 2006).

3.3.3 Measurements: Implicit Attitudes

As part of the main study, the computer-based experimental measurement method Implicit Association Test (IAT) was used. IAT was used to measure implicit attitudes to study whether a discrepancy between implicit and explicit attitudes toward green consumerism exists. The nature of implicit attitudes counteracts a possible SDR bias. IAT is designed to measure the strength of a subject's automatic associations between concepts in memory. The subject is required to rapidly and accurately categorize given stimuli that represent the concepts. Two target categories and two attribute categories are given (Vantomme et al., 2004). The idea behind IAT is that it is easier to make a behavioral response when the association between two concepts is strong than it if the association is weak. When a target concept is paired with one of the attributes, one of these combinations will be perceived as more congruent than the other. The way IAT measures behavioral response is through response time on key presses. Each test has at least five blocks, whereas two of the blocks provide the critical data.

The blocks consisted of the following steps as recommended by Nosek et al. (2005):

Table 1: Blocks in IAT

Block 1	Learning the concept dimension (target categories)
Block 2	Learning the attribute dimension (attribute categories)
Block 3	Concept-attribute pairing
Block 4	Learning to switch the spatial location of the concepts
Block 5	Concept-attribute pairing

Table 1: Blocks in IAT

Practice blocks were included before block 3 and 5 to ensure that the subjects' response latencies were not interfered by difficulties due to the switching of spatial location.

Each respondent's IAT score is calculated using latency data from the pairing blocks (Nosek et al., 2005). The difference in performance speed between the initial pairing task and the reversed pairing task makes the basis for the IAT measure. Greenwald et al. (2003) have established a scoring algorithm that computes the D measure. The D measure is computed by dividing the difference between the congruent and incongruent blocks by the standard deviation of the aggregated test block latencies. The D measure is interpreted as an effect size, and is found to be a superior measure to the conventional scoring system as it increases the IAT scores' validity on behavioral dependent variables (Perugini, 2004). The D measure is evolved from Cohen's d and the effects are interpreted as 0.2 (small), 0.5 (medium) and 0.8 (large) (Greenwald et al., 2005). Cohen's d is used to standardize the degree of difference between means.

Target Category Stimuli

Two target stimuli were chosen for the IAT - a green product and a conventional product. IAT effects are strong even with only two target stimuli (Nosek et al., 2005). According to Nosek et al. (2005), each category should have at least four stimulus items in order for the IAT to be sufficient.

Table 2: Target Category Stimuli

TARGET CATEGORIES	ITEM STIMULI
GREEN	Sustainability, recycling, environmentally friendly, fresh, expensive, less pollution
CONVENTIONAL	Convenient, cheaper, heavy packaging, traditional, pollution, waste

Attribute Category Stimuli

The attribute categories are good/positive and bad/negative. The items for the attribute categories are shown below;

Table 3: Attribute Category Stimuli

ATTRIBUTE CATEGORIES	ITEM STIMULI
POSITIVE	Honest, joy, love, peace, glorious, happy, pleasure
NEGATIVE	Agony, grief, terrible, evil, nasty, awful, horrible

The item stimuli were chosen based on previously established tests from Project Implicit Website.

3.3.4 Measurements: Socially Desirable Responding - BIDR

Paulhus' Balanced Inventory of Desirable Responding Scale (BIDR) version 6.1 (Appendix 4 and 5) was used to assess SDR-measures. The scale, developed by Paulhus (1984; 1991; 2002) to detect socially desirable responding related to the two subscales impression management and self-deceptive enhancement (Li and Bagger, 2007). Both subscales consist of 20 items. Respondents indicate to which degree they agree on the 40 items on a 7 or 5-points scale, 1 indicating "not true" and 7 indicating "very true". SDR-tendencies are given one point, and the maximum score is 40.

As a mean to keep the respondents' attention throughout the whole survey, the scale was reduced from 40 to 20 items to keep it short; 10 items from each subscale. Hence, the maximum score for this study is 20.

3.3.5 Validity IAT

Below follows a discussion concerning the most important validity issues related to the Implicit Association Test and how the study is designed to increase the level of validity.

Internal Validity

One issue related to internal validity is the category familiarity; whether using well-known or artificial stimuli. A common critique against using well-known stimuli during the IAT is that familiarity might enhance the participants' liking or disliking of the products depending on earlier experience and perception.

Consequently, using familiar stimuli might be a source of artifact and thus reduce the validity of the test. However, studies have shown that familiarity does not necessarily result in artificial results. Rather, completely unfamiliar stimuli such as using non-words to represent a pseudo-category are more likely to produce artificial results (Greenwald and Nosek, 2001) due to increased response time as a result of lack of associations. To increase the validity of this study, stimuli that fall into already existing categories were used to enhance the IAT-effect, were used. To ensure this, stimuli were collected from an elicitation study consisting of respondents from the population. Clearly distinguished familiar categories - green and conventional products - will not lead to reduced response time and consequently artificial results.

Another threat to internal validity is the order of the combined tasks given. Studies have found the IAT effect to be stronger in the first blocks of the test, and slowed down response time in the latter blocks (Greenwald et al., 1998). A cause for this is most likely the counterbalancing of the categorization tasks and the corresponding key switch. Messner and Vosgerau (2010) found that the IAT effect increases when the compatible block precedes the incompatible block. They did not find any IAT effect when the blocks were reversed. The authors suggest cognitive inertia as an explanation for this, caused by the switching of

categorization rules. To reduce this, practice rounds were introduced in the third and fifth block, as suggested by Nosek et al. (2005).

Some studies have found that it is possible to fake the IAT scores, but only to a certain extent (Steffens, 2004). The most efficient way of faking the scores is to respond slowly on the combined task block that the respondent finds to be the easiest one. However, the likelihood of faking is believed to be minimal and thus do not consider fake-ability to be a major threat to the internal validity in this case.

Construct Validity

The Implicit Association Test raises important questions pertaining to construct validity and there is an ongoing debate on whether the test actually measures what it is intended to measure.

Rothermund and Wentura (2004) claim that subjects' ability to group categories depend on perceptual salience, and not necessarily mere associations. According to the authors, highly salient categories are easily grouped together, and will consequently affect the IAT measures. On the other hand, Greenwald et al., (2005) state that salience is unlikely to have a stronger influence on IAT measures than association strengths. Hence, even though IAT is believed to be a valid measurement method of implicit attitudes, there is still some uncertainty related to the measures - whether they are based on associations or other inferences. Several researchers have argued that the IAT does not measure the subject's individual associations, but rather associations that reside in the culture in which the subject belongs (e.g. Karpinski and Hilton, 2001; Olson and Fazio, 2004). However, predictive validity studies have found that the test is sensitive to individual differences and thus measures the subjects' individual associations (Greenwald et al., 2002; Hoffmann et al., 2005).

3.3.6 Validity and Reliability BIDR

Criterion Validity

Criterion validity refers to the degree to which a scale performs as expected in relation to variables that are identified as meaningful criteria (Malhotra, 2010).

Concurrent validity is as form of criterion validity and is present when a scale correlates satisfactory with one or more measures that have been validated previously (Malhotra, 2010). The BIDR scale demonstrates concurrent validity as a measure of SDR. The scale correlates with the Marlow-Crowne SDS ($r = .71$) and the Multidimensional Social Desirable Inventory ($r = .80$) (Paulhus, 1988).

Construct Validity

Construct validity refers to whether a scale measures the theorized construct (Malhotra, 2010). Kroner and Weekes (1996) found in their study that BIDR measured SDR and no other response styles. Nomological validity is defined as the extent to which a scale correlates in ways that are predicted theoretically with measures of related -but different - constructs (Malhotra 2010). This applies to BIDR in that the scale consists of two related, but different measures - SDR and IM. A study performed by Steenkamp et al. (2010) supports the nomological validity of BIDR.

Reliability

The internal consistency alphas for the BIDR scale typically lie between 0.67-0.77 for SDE, and 0.77-0.85 for IM respectively (Paulhus, 1988). Test-retest correlations are reported as being 0.69 for SDE and 0.67 for IM (Paulhus, 1988). Li and Bagger (2007) found BIDR to produce satisfactory reliable scores. After the scale was divided, the reported alphas were 0.656 for SDE and 0.726 for IM. The alpha for the whole scale when divided was 0.773. This implies that the internal consistency reliability holds even if the scale is reduced from 40 to 20 items. Despite reporting lower alphas than Paulhus (1988), the alphas are still satisfactory as $0.656, 0.726, 0.773 > 0.6$ (Malhotra, 2010).

3.3.7 Respondents

The respondents were recruited from online panels. 275 respondents from Facebook and Mturk participated in the survey. Respondents who did not complete the entire survey were eliminated. Second, an instructional manipulation check adapted from Oppenheimer et al. (2009) was used to cleanse out the respondents who did not read the instructions satisfactory, and hence would not contribute to reliable results. After cleansing the data, 156 respondents remained -

59% female. 72.5% of the respondents were between 20- 30 years old, while the remaining respondents were 31 years or older. The income level for 77.5% of the respondents were between 0- 100 000 NOK, while the remaining respondents had an income of 100 000 NOK or more.

4.0 Results

4.1 H1: *Explicit Attitude Measures*

Table 4: Descriptive Statistics of Explicit Attitudes

Variable	Mean
Behavioral Attitude	
Q1 Green products appeal to me	5.53
Q2 I think green products is a good idea	5.95
Subjective Norm	
Q3 People who are important to me expect me to consume green products	3.65
Q4 Most people (like me) consume green products	4.32
Q5 Society expects me to consume green products	4.44
Perceived Behavioral Control	
Q6 I can make a difference (in a positive way by consuming green products as compared to conventional products	5.42
Q7 I feel that consuming green products contribute to a better planet	5.57
Ethical Obligation	
Q8 It is my duty to consume responsibly	5.57
Behavioral Intention	
Q9 The next time I am in the grocery store, I intend to buy green products	4.66

As the descriptive statistics show (Table 4), both items measuring behavioral attitude are positive (mean=5.53, 5.95). Hence, the respondents find green products appealing and think they are a good idea. In terms of the subjective norm however, people are less positive (mean=3.65, 4.32, 4.44). The findings show that the respondents do not feel that society and important reference persons expect them to consume ethically. Additionally, they do not think people like themselves consume green products. The perceived behavioral control is also strong (mean=5.42), hence the respondents think they can make a positive difference by consuming green. This is also reflected in the ethical obligation item (mean = 5.57). The respondents feel obligated to consume green and thus contribute to a better planet. Despite the positive attitude, perceived behavioral control and

ethical obligation, the behavioral intention to buy green the next time they are in a grocery store is lower (mean=4.66).

Table 5: Linear Regression with Intention as Dependent Variable

Variable		Sig.
Behavioral Attitude		
Q1	Green products appeal to me	.000
Q2	I think green products is a good idea	.012
Subjective Norm		
Q3	People who are important to me expect me to consume green products	.007
Q4	Most people (like me) consume green products	.000
Q5	Society expects me to consume green products	.274
Perceived Behavioral Control		
Q6	I can make a difference (in a positive way by consuming green products as compared to conventional products	.389
Q7	I feel that consuming green products contribute to a better planet	.015
Ethical Obligation		
Q8	It is my duty to consume responsibly	.000

To test H1 (the behavioral intention to buy green products expressed explicitly will be significantly positive) a linear regression with intention (Q9) as the dependent variable and the different belief constructs (Q1-Q8) of Ajzen's theory of planned behavior as independent variables were conducted. The adjusted R Square is .709, indicating that the model is strong. The overall model is significant at .05-level ($.000 < .05$). The only independent variables that are not significant are Q5 and Q6. This implies that all the other six variables (Q1-Q4, Q7 and Q8) significantly explain the dependent variable intention to buy green products. H1 is supported.

4.2 H2: Implicit Attitudes toward Green and Conventional Products

In order to test H2 (the implicit attitudes for conventional products will be at least as positive as the implicit attitudes toward green products) a paired sample T-test was conducted after computing the D-scores for the implicit attitudes toward green and conventional respectively. The results showed that respondents had a significantly higher preference for green products than conventional. The paired samples statistics shows that the D-score for green products is 0.696, which is considered as a moderately strong implicit association (Greenwald et al., 2005). The D-score for conventional products is -0.538, indicating no preferable implicit attitudes toward conventional products. As a guideline for the interpretation of the

IAT-effects Nosek et al. (2005) suggest that all D measures below .10 should not be analyzed and discussed, as one cannot say anything about attitudes of such low D measures. H2 is not supported.

4.3 H3: Explicit and Implicit Attitudes toward Green Products

Table 6: Difference in Means: Explicit Attitudes

Variable	Sig.
Q1 Green products appeal to me	.000
Q2 I think green products is a good idea	.000
Q3 People who are important to me expect me to consume green products	.246
Q4 Most people (like me) consume green products	.000
Q5 Society expects me to consume green products	.000
Q6 I can make a difference (in a positive way by consuming green products as compared to conventional products)	.000
Q7 I feel that consuming green products contribute to a better planet	.000
Q8 It is my duty to consume responsibly	.000
Q9 The next time I am in the grocery store, I intend to buy green products	.000

In order to test if the explicit attitudes toward green products will be relatively more positive than the implicit attitudes toward green products, a comparison of the two different measurements scales were conducted. The Likert scale constructing the measurement of explicit attitudes were compared relatively to the D-score measuring implicit attitudes. As previously mentioned, the D measure is interpreted as small (0.2), moderate (0.5) and large (0.8) respectively. The D measure for the implicit attitudes toward green products is 0.696 indicating only moderate positive attitudes. The median for the explicit attitude Likert scale is 3.5, indicating that a moderately positive attitude will be presented by a response of 3.5. To analyze if the explicit attitudes were more positive than the implicit attitudes, means for the explicit attitude measures needed to significantly differ from 3.5. The table shows that all variables except for Q3 are significantly different from 3.5, revealing that the positive explicit attitudes are strong. This indicates that the explicit attitudes toward green products are relatively more positive (strong) than the implicit attitudes toward green products (moderate), supporting the hypothesis. H3 is supported.

4.4 H4: Correlations between Explicit and Implicit Attitudes

Table 7: Correlations between Explicit and Implicit Attitudes toward Green Products

Variable	N	Pearson Corr.	Sig.
Q1 Green products appeal to me	136	.083	.336
Q2 I think green products is a good idea	135	.115	.186
Q3 People who are important to me expect me to consume green products	135	.048	.584
Q4 Most people (like me) consume green products	135	.010	.905
Q5 Society expects me to consume green products	136	.063	.468
Q6 I can make a difference (in a positive way by consuming green products as compared to conventional products	134	.178	.040
Q7 I feel that consuming green products contribute to a better planet	135	.208	.016
Q8 It is my duty to consume responsibly	134	.073	.401
Q9 The next time I am in the grocery store, I intend to buy green products	135	.037	.668

Only two of the variables that tap explicit attitudes were found to correlate with implicit attitudes; “I can make a difference in a positive way by consuming green products compared to conventional” ($.04 < .05$) and “I feel that consuming green products contributes to a better planet” ($.016 < .05$). These two variables were the only variables not significant in the explicit part of the analysis. In terms of correlation, the product moment correlation Pearson’s R is used to establish the strength of association between two variables (Malhotra, 2010). Q6 ($r = .178$) and Q7 ($r = .208$) have small correlations between explicit and implicit attitudes, while there is found no correlation for the other variables. H4 is supported.

4.5 H5a: SDR’s Effect on Explicit Attitudes

In order to answer H5a (the higher the score on the socially desirable responding scale, the higher positive explicit attitudes toward green products) the responses from the SDR scale were divided into two different groups. A median split of the range 0-20 was used to create one group with a low score of SDR and one group with a high score of SDR. Respondents with a score below 5 obtained a low score on SDR, while respondents with a score of 5 or higher obtained a high score on SDR. Further, cases where respondents had an SDR score of 5 or higher were selected to check their responses on the explicit measures. .

Table 8: Compare Means of Explicit Attitudes with 2 levels of SDR

Variable		SDR-level 1=low 2=high	N	Mean	Sig.
Q1	Green products appeal to me	1.00	83	5.40	.125
		2.00	73	5.67	.125
Q2	I think green products is a good idea	1.00	83	5.92	.614
		2.00	72	6.00	.617
Q3	People who are important to me expect me to consume green products	1.00	82	3.61	.765
		2.00	73	3.68	.767
Q4	Most people (like me) consume green products	1.00	82	4.21	.274
		2.00	73	4.44	.275
Q5	Society expects me to consume green products	1.00	83	4.34	.315
		2.00	73	4.55	.317
Q6	I can make a difference (in a positive way) by consuming green products as compared to conventional products	1.00	81	5.32	.276
		2.00	73	5.53	.276
Q7	I feel that consuming green products contributes to a better planet	1.00	82	5.51	.507
		2.00	73	5.64	.507
Q8	It is my duty to consume responsibly	1.00	81	5.42	.106
		2.00	73	5.74	.109
Q9	The next time I am in the grocery store, I intend to buy green products	1.00	82	4.46	.061
		2.00	73	4.89	.060

To compare the respondents with a low and high SDR score to their responses on the explicit measures, a compared means test with dummy variables of 1 and 2 was conducted; 1 referring to respondents with a low SDR score and 2 referring to respondents with a high SDR score. As illustrated in the model the mean score of respondents with a high level of SDR is higher than the mean score of respondents with a low SDR score on all explicit measures. This indicates that there is a tendency for people with a high level of SDR to express higher scores on explicit measures than people with a low level of SDR. An independent sample t-test was

conducted to test if the tendency of the higher mean scores were significant. No statistical significance was found. H5a is not supported.

4.6 H5b: SDR's Effect on Correlations between Explicit and Implicit Attitudes

Table 9: Correlations between Explicit and Implicit Attitudes with two levels of SDR

Variable		SDR-level 1=low 2=high	N	Pearsons Corr.	Sig.
Q1	Green products appeal to me	1.00	71	.175	.143
		2.00	65	-.054	.667
Q2	I think green products is a good idea	1.00	71	.302	.011
		2.00	64	-.099	.436
Q3	People who are important to me expect me to consume green products	1.00	70	.067	.581
		2.00	65	.034	.785
Q4	Most people (like me) consume green products	1.00	70	.051	.678
		2.00	65	-.081	.521
Q5	Society expects me to consume green products	1.00	71	.090	.457
		2.00	65	.006	.964
Q6	I can make a difference (in a positive way) by consuming green products as compared to conventional products	1.00	69	.272	.024
		2.00	65	.019	.880
Q7	I feel that consuming green products contributes to a better planet	1.00	70	.304	.011
		2.00	65	.060	.636
Q8	It is my duty to consume responsibly	1.00	69	.203	.094
		2.00	65	-.115	.360
Q9	The next time I am in the grocery store, I intend to buy green products	1.00	70	.048	.695
		2.00	65	-.060	.634

To test H5b (respondents with higher SDR scores will have a lower correlation between IAT scores and explicit attitude score toward green products than

respondents with lower SDR scores) a correlation analysis with selected cases of high and low SDR scores was conducted. Despite the findings in H4 that explicit and implicit attitudes do not correlate, three variables (Q2, Q6 and Q7) were found to be significantly correlated for respondents with a low SDR score. No correlations were found for respondents with high SDR scores. Additionally, Q1, Q3, Q5 and Q8 are closer to being significantly correlated for respondents with a low level of SDR than for respondents with a high level on SDR. This supports the claim that people with a low score on SDR obtain higher correlations between explicit and implicit attitudes than for respondents with a high score on SDR. On the other hand, variable Q4 and Q9 are closer to correlate for respondents with a high level of SDR than for respondents with a low level of SDR. H5b is partly supported.

4.7 Summary of Hypotheses

Below follows a summary of the result of the hypotheses;

Table 10: Summary of Hypotheses

H1	The behavioral intention to buy green products expressed explicitly will be significantly positive	<i>Supported</i>
H2	Implicit attitudes toward conventional products will be at least as positive as the implicit attitudes toward green products	<i>Not supported</i>
H3	Explicit attitudes toward green products will be relatively more positive than implicit attitudes toward green products	<i>Supported</i>
H4	There will be no correlation between implicit and explicit attitudes toward green products	<i>Supported</i>
H5a	The higher the score on the socially desirable responding scale, the higher positive explicit attitudes toward green products	<i>Not supported (tendency only)</i>
H5b	Respondents with higher SDR scores will have a lower correlation between IAT scores and explicit attitude score toward green products than respondents with lower SDR scores	<i>Partly supported</i>

5.0 Discussion

5.1 Empirical Findings

The purpose of this study was to uncover the relationship between explicit and implicit attitudes toward green products, and additionally look at the role of socially desirable responding in a green consumption context. Green consumer behavior has been of great research interest the last decades. The focus has been on direct measures of consumers' attitudes toward green aspects, based on the premise of attitudes toward an object as a conscious and deliberate process that results in behavior. Direct measure of attitudes is an essential predictor for behavior, but has proven to fall short in the context of green consumerism, as it does not portray the full picture of consumers' underlying cognitions. Social psychology suggests behavior to be influenced by non-conscious and uncontrolled processes, something that has been neglected in consumer research (Perkins et al., forthcoming chapter). Hence, consumer researchers need to use indirect measures to address the discrepancy between explicit and implicit attitudes found in green consumerism. Additionally, response bias related to socially desirable responding in direct measures has been of concern yet paid little attention to in consumer research. This study has incorporated direct and indirect measures of attitudes in addition to socially desirable responding to obtain a more holistic view of the underlying evaluations influencing the ethical consumer decision-making process.

The findings in hypothesis 1 confirm previous research as the direct measures showed strong positive attitudes toward green products and consumption. The descriptive picture of the explicit attitude measures depicts positive attitudes toward green products. Worth noticing is the fact that the intention to purchase green products is lower than the behavioral attitude, perceived behavioral control and ethical obligation measures. This finding is similar to Vermeir and Verbeke (2006) in that noise could influence intention to buy environmentally friendly products despite holding strong positive attitudes toward such products. Another explanation could be lack of motivation to carry out the attitudes, as suggested by Moisander (2007). The prediction of positive purchase intention was well supported, confirming the relationship between positive attitudes and intentions as stated in the theory of planned behavior (Ajzen, 1991). However, we found no

significant support for the statement “I can make a make a difference (in a positive way) by consuming green products as compared to conventional products” (Q6). This is interesting because we find significant support for the statements “I feel that consuming green products contributes to a better planet” (Q7) and “It is my duty to consume responsibly” (Q8). This finding could indicate that communicators of environmental issues should be aware of using the baby is sick appeal. The respondents are aware of the positive aspects of consuming responsibly and find green products appealing, but the perceived effectiveness of consuming responsibly is reduced (Obermiller, 1995). Despite feeling ethically obligated to consume responsibly, the perceived behavioral control might not be strong enough to actually achieve the behavior and purchase green products. This should be a central element in the consumer vs. corporate social responsibility discussion. Given that the goal is to reduce stress on the environment, the question is how much responsibility should be laid on the individual. Our findings indicate that placing the responsibility on the individual is an unviable strategy, as the individual consumer does not believe that he or she can make a significant difference by choosing green. Despite holding strong attitudes toward green consumerism, the perceived effectiveness of actually being green might be too low to act in accordance with the attitudes. Hence, using behavioral attitudes as a predictor for behavior might be inadequate in the context of green consumerism. For a consumer social responsibility approach to be effective, it is essential to convince consumers of the effectiveness of his or her pro-environmental actions.

According to the findings, the prevailing opinion is that society does not expect the individual to consume green products (Q5). This is interesting when compared to the findings of Ditlev-Simonsen (2012). The study found that despite the individual’s acknowledgment that consuming responsibly is everyone’s domain, we use neutralization techniques to justify why we do not act upon our attitudes. Especially denial of responsibility (Chatzidakis et al., 2007) is relevant in that “I would recycle if everyone else did it” (Ditlev-Simonsen, 2012). Seen together with previous research on neutralization techniques, Ditlev-Simonsen’s (2012) suggestion of placing the responsibility on a governmental level to exercise laws and regulations to reach environmental objectives seems reasonable.

However, findings based on direct measures need to be seen in light of the methodological drawbacks of such measures. The self-report measures could be influenced by social desirability and consequently be exaggerated (Karpinski, 2001).

The findings revealed stronger positive implicit attitudes toward green products than conventional products, contradictory to what was suggested in hypothesis 2. This result supports the findings of Vantomme et al., (2004). The d measure for the implicit attitudes is considered to be moderate, while the d measure for the implicit attitudes toward conventional products indicates no preferable direction. One explanation for the differences in attitudes could be due to the stimuli used in this study. Stimuli of strong-well-known brands could enhance the IAT-effect differently than the use of generic attributes. Being that brands evoke associations beyond conscious awareness, past experiences with specific brands could potentially be in favor of the individual's preferred brand regardless of green or conventional attributes. The fact that the implicit attitudes are stronger toward green than conventional products is an interesting contribution to the understanding of the ethical decision-making process. Being that implicit attitudes originate in past experiences, it could be that consumers are attaining experience with green products in such a way that it is reflected in the implicit attitudes. However, it is not known which attitude is endorsed when actually engaging in the purchase of green products.

The explicit attitudes were found to be relatively stronger than the implicit attitudes toward green products, as suggested in hypothesis 3. The implicit attitudes toward green products is only found to be moderate, while the explicit attitudes towards green products are exceptionally strong. The explicit attitudes might be exaggerated due to response bias related to socially desirable responding in direct measures. This finding is similar to Karpinski (2001) in that people tend to present themselves favorably in the explicit attitude measures when it comes to ethical consumerism. The need to present oneself in a favorable manner does not impact the implicit attitudes, and might be the reason for lower implicit attitudes as compared to explicit attitudes. This might indicate that even though people express a significantly higher implicit attitude for green products compared to conventional products, the implicit attitudes for green products are not as strong

as the stated explicit attitudes toward green products. Hence, there is incoherence between implicit and explicit attitudes that could contribute to an explanation of the low attitude-behavior consistency in green consumerism.

No correlation between implicit and explicit attitudes toward green products was found, supporting hypothesis 4. This finding supports the dual process view in that implicit and explicit attitudes originates in independent attitudinal constructs and thus non-correlated. By simply comparing the means of implicit and explicit, one could potentially assume a correlation incorrectly as both measures are directionally similar. Hence, a correlational analysis is necessary in order to assess the relationship between explicit and implicit measures. One contribution to the lack of correlation relationship could be that the explicit attitudes are exaggerated due to response bias when surveying socially sensitive issues. Hence, small to non-existing correlations could imply that ethical concerns are socially sensitive enough for respondents to report in a socially desirable manner.

However, the statements measuring perceived behavioral control explicitly (Q6, Q7) correlates with the implicit attitudes. Being that perceived behavioral control is of non-volitional nature, this finding is theoretically sound. The fact that people do not feel that they can make a difference in a positive way by consuming green is hereby confirmed. This finding is highly relevant when discussing how much social and environmental responsibility should be placed on the shoulders of consumers as opposed to corporations and governments. If the belief in behavioral control is absent, the incentive to act pro-environmentally is difficult to identify.

Even though we found no significant support for our claim that the higher the score on the socially desirable scale, the more positive the explicit attitudes, there is a strong tendency if you compare the means solely. The reason for the lack of support could be the use of median split, as a score of five on the BIDR scale is relatively low. Consequently, the differences between high and low might not be clear enough to provide a significant outcome. Being that the tendency toward support for the hypothesis is clear, the test should be replicated using a sample with stronger differences between high and low SDR.

We found partly support for the claim that respondents with lower SDR-scores will have a stronger correlation between explicit and implicit attitudes. This supports the theory of socially desirable responding in direct measures.

Respondents holding low SDR scores and thus do not exaggerate their attitudes to present themselves favorably have a stronger correlation between explicit and implicit attitudes. Being that implicit attitudes are seen as being more accurate, and the lack of SDR interference leads to a higher correlation, the occurrence of SDR actually do overstate explicit attitudes. A sample with more distinct scores on SDR would probably provide stronger statistical support.

In conclusions, this study highlights the relationship between explicit and implicit attitudes towards green consumerism. Strong explicit attitudes toward green products were found, while the implicit attitudes toward green products were moderate only. Low or non-existing correlations between implicit and explicit attitudes were found, supporting the dual process view. We found partial support and tendencies of socially desirable responding in direct measures.

5.2 Implications for Practitioners

This study has managerial, methodological and societal implications. The use of direct measures of self-report in green consumer behavior research should be critically assessed as long as there is no connection to indirect measures or actual behavior. Simply trusting explicitly reported attitudes is not viable due to socially desirable responding bias and incoherence with implicit attitudes. This is a substantial contribution to the consumer vs. corporate social responsibility discussion. Trusting consumers to consume green as a mean to reduce stress on the environment is inadequate, as they do not believe they can make a difference in a positive way by doing so. Society as a whole might be better off if the social responsibility is placed on a corporate or even governmental level through for instance regulations on emissions and operational practices.

Practitioners within the green consumer behavior field need to acknowledge the complexity of green consumer behavior and look beyond direct measures to gain further insight and knowledge.

5.3 Limitations and Suggestions for Future Research

Our study shed light on several unresolved issues, but more research is required. One limitation to this study is related to the sample; by using online panels we do not have fully control of the diversity of the sample but sex, age and income level. It could be interesting to have information on the respondents' opportunity and accessibility to green products in order to obtain a deeper understanding of these factors. The use of online panels represents a limitation in that we were not able to control their level of attention throughout the test.

Future research should focus on actual behavior as a variable, preferably by observations. Real life purchase situations will provide a more reliable result as automatic processes are likely to be evoked in a real-life situations to a greater extent than in an experimental setting (Vantomme et al., 2004).

The nature and analytical challenges related to the implicit association implies a few limitations related to validity and reliability issues. Further research needs to be conducted to demonstrate the applicability of the IAT within the consumer behavior field, and further research is required to fully account for the discussion of explicit and implicit attitudes in a green consumerism context. One possible limitation to our study is that we do not know if the stimuli used were strong and distinct enough to ensure a strong IAT-effect (Karpinski, 2001). For instance, the use of well-known brands as stimuli could have enhanced the IAT-effect as well as provided greater managerial directions for marketing and brand managers. Brands often operate on an unconscious level that direct measures do not tap, and for this reason an IAT would present valuable results.

Another area that should be of further interest is the occurrence of socially desirable responding in a green or ethical consumerism context. This study found partly support and tendencies only, but it would be interesting to see if one could find more significant results if the stimuli had represented stronger ethical breaches or statements. Studies on SDR and ethical consumption will provide marketing researchers with valuable insight on the use of direct measures in consumer research.

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Appendix 1: Study Guide

STUDY GUIDE FOCUS GROUP

Warm-up (max.10 minutes)

- Short introduction to focus groups
- We would like the session to be a conversation, and not an interview. However, we might ask each one of you directly sometimes, as we are interested in everyone's opinion
- If the conversation gets out of hand, we will direct you back on the right track
- We are not interested in testing your knowledge about the topic, we are interested in your opinions
- There are no correct answers!
- We will record the session in order to ensure that we do not miss out on anything important
- Only one talks at the time
- You are free to ask each other questions or follow up on each other's comments, but do not ask us any questions unless you do not understand what we are asking for. Our opinions are not relevant in this setting
- Do not be afraid to have a different opinion than the rest of the group
- Everything that is said during the session is anonymous and will be kept confidential. It is for research purposes only.
- Any questions?

Introduction (max. 10 minutes)

- The participants introduce themselves by first name, occupation and interests.
- Introduction of topic: Today we will talk about environmentally friendly - green - products. We will start to discuss the topic in general and then discuss specific matters later on.

Main discussion (60-90 minutes)

Discussion of the term green/environmentally friendly

- What does it mean?
- Is it important?

Environmentally friendly products

- General feelings toward such products
- Usage - when, where and why?
- Positive/negative sides

Product categories and brands

- Any specific product categories that comes to mind
- Any specific brands that comes to mind

The state of the planet

- How severe is the threat?

- Are you concerned?
- What should we do?
- What do you do (or think that you should do) to improve the situation?

Opinions of society on the matter

- Whose opinion matters?
- Is it ok to have a different opinion?

Status

- How important is social status to you?
- What forms your status?
- How important is other people's opinion about you?

Conclusion

- Any last comments?
- Anything that we have not talked about that we should have?
- Thank you for your participation!

Appendix 2: Findings Focus Group and Interview

Focusgroup and In-depth interview Findings

The term green/environmentalism: sustainability, recycling, nature, good for the environment, fresh produce.

Green product categories: Clothing, food (milk, eggs, fruits, meat), appliances, bread, car, electricity.

Positive attributes with green products: healthy, good for me and the environment, “contribute with something”, less pollution, sustainability.

Negative attributes with green products: expensive (cost is perceived higher than value), less convenient, the motive behind might not be as good, depends on a lot of resources, production not so sufficient.

Typical green products: “svanemerket”, Gogreen, Fairtrade, Oikos, Tine, Friele, Eco, Organic Cotton, Benetton, Bodyshop, Think, Tesla, Ica, Prius, Ruter, Ecocert, Prius.

Non-green: Statoil, McDonalds, Elkjøp, Expert, Ikea, Toro, Fjordland, Coca Cola, Burger King

Appendix 3: Survey Main Study

SURVEY

Note from authors: This is a pen and pencil version of the survey. The survey was distributed online, and appeared visually different to the respondents. The Implicit Association Test is computer-based and difficult to display in pen and pencil form. Examples of how the survey looks online is given for each block included in the Implicit Association Test. Practice blocks were included before each paired categorization task. These blocks were not included in the analysis.

Intro to Survey

Thank you for taking the time to participate in our survey. Your response is important for us in completing our master thesis. Your response is absolutely anonymous. The survey will consist of several tasks. Please read the instructions carefully before starting each new task. Make sure to limit disturbing elements (such as TV, music, other websites) before starting the survey, as some of the tasks are based on response time and therefore require your full attention.

Thank you!

Ina and Jenny

EXPLICIT ATTITUDE MEASURES

In this task we are interested in your opinion on green products vs. conventional products. Green products refer to products that are typically marketed as being environmentally friendly. Conventional products refer to all other products. Please indicate on the scale to which degree you agree with the given statements.

Q1 Green products appeal to me

- Strongly Disagree (1)
- Disagree (2)
- Somewhat Disagree (3)
- Neither Agree nor Disagree (4)
- Somewhat Agree (5)
- Agree (6)
- Strongly Agree (7)

Q2 I think green products is a good idea

- Strongly Disagree (1)
- Disagree (2)
- Somewhat Disagree (3)
- Neither Agree nor Disagree (4)
- Somewhat Agree (5)
- Agree (6)
- Strongly Agree (7)

Q3 People who are important to me expect me to consume green products

- Strongly Disagree (1)
- Disagree (2)
- Somewhat Disagree (3)
- Neither Agree nor Disagree (4)
- Somewhat Agree (5)
- Agree (6)
- Strongly Agree (7)

Q4 Most people (like me) consume green products

- Strongly Disagree (1)
- Disagree (2)
- Somewhat Disagree (3)
- Neither Agree nor Disagree (4)
- Somewhat Agree (5)
- Agree (6)
- Strongly Agree (7)

Q5 Society expects me to consume green products

- Strongly Disagree (1)
- Disagree (2)
- Somewhat Disagree (3)
- Neither Agree nor Disagree (4)
- Somewhat Agree (5)
- Agree (6)
- Strongly Agree (7)

Q6 I can make a difference (in a positive way) by consuming green products as compared to conventional products

- Strongly Disagree (1)
- Disagree (2)
- Somewhat Disagree (3)
- Neither Agree nor Disagree (4)
- Somewhat Agree (5)
- Agree (6)
- Strongly Agree (7)

Q7 I feel that consuming green products contributes to a better planet

- Strongly Disagree (1)
- Disagree (2)
- Somewhat Disagree (3)
- Neither Agree nor Disagree (4)
- Somewhat Agree (5)
- Agree (6)
- Strongly Agree (7)

Q8 It is my duty to consume responsibly

- Strongly Disagree (1)
- Disagree (2)
- Somewhat Disagree (3)
- Neither Agree nor Disagree (4)
- Somewhat Agree (5)
- Agree (6)
- Strongly Agree (7)

Q9 The next time I am in the grocery store, I intend to buy green products

- Strongly Disagree (1)
- Disagree (2)
- Somewhat Disagree (3)
- Neither Agree nor Disagree (4)
- Somewhat Agree (5)
- Agree (6)
- Strongly Agree (7)

IMPLICIT ASSOCIATION TEST

BLOCK 1: GREEN AND CONVENTIONAL STIMULI CATEGORIZATION

The next section is a speed and accuracy of classification task. We will display different words on the screen (one at the time). Your task is to press "D" if it is a green word and press "K" if it is a conventional word.

Please answer as fast and accurately as possible. If you do not answer within 5 seconds, the survey continues automatically. Put one finger on "D" and one finger on "K" and then continue. Be aware that some words may appear twice.

D = Green

K = Conventional

Green words: *Sustainability, recycling, environmentally friendly, fresh, expensive, less pollution*

Conventional words: *Convenient, cheaper, heavy packaging, traditional, pollution, waste*

The following picture will appear for each stimuli. The stimuli listed in this block will all have the same spatial location of category/attribute stimuli.



Stimuli listed (at random) in this block:

Q9 Recycling

- D = Green (1)
- K = Conventional (2)

Q11 Environmentally friendly

- D = Green (1)
- K = Conventional (2)

Q2 Sustainability

- D = Green (1)
- K = Conventional (2)

Q13 Fresh

- D = Green (1)
- K = Conventional (2)

Q15 Expensive

- D = Green (1)
- K = Conventional (2)

Q17 Less pollution

- D = Green (1)
- K = Conventional (2)

Q19 Convenient

- D = Green (1)
- K = Conventional (2)

Q21 Cheaper

- D = Green (1)
- K = Conventional (2)

Q23 Heavy packaging

- D = Green (1)
- K = Conventional (2)

Q25 Traditional

- D = Green (1)
- K = Conventional (2)

Q27 Pollution

- D = Green (1)
- K = Conventional (2)

Q29 Waste

- D = Green (1)
- K = Conventional (2)

BLOCK 2: NEGATIVE AND POSITIVE STIMULI CATEGORIZATION

The next section is also a speed and accuracy of classification task. We will display different words on the screen (one at the time). Your task is to press "D" if it is a negative word and press "K" if it is a positive word.

Please answer as fast and accurately as possible. If you do not answer within 5 seconds, the survey continues automatically. Put one finger on "D" and one finger on "K" and then continue. Be aware that some words may appear twice.

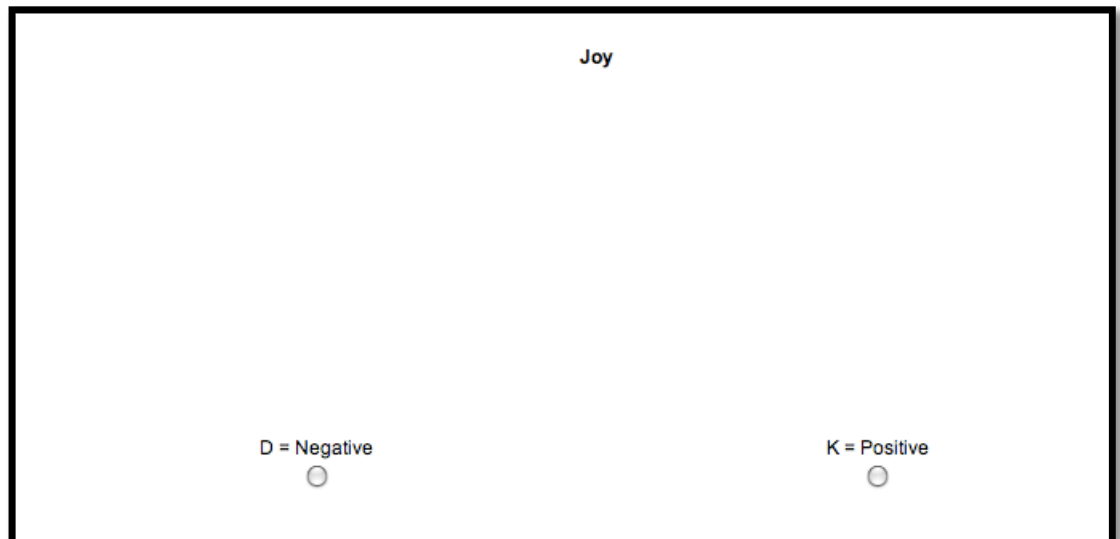
D = Negative

K = Positive

Negative words: *Agony, grief, terrible, evil, nasty, awful, horrible*

Positive words: *Honest, joy, love, peace, glorious, happy, pleasure*

The following picture will appear for each stimuli. The stimuli listed in this block will all have the same spatial location of category/attribute stimuli:



Stimuli listed (at random) in this block:

Q35 **Joy**

- D = Negative (1)
- K = Positive (2)

Q33 **Honest**

- D = Negative (1)
- K = Positive (2)

Q37 **Love**

- D = Negative (1)
- K = Positive (2)

Q39 **Peace**

- D = Negative (1)
- K = Positive (2)

Q41 **Glorious**

- D = Negative (1)
- K = Positive (2)

Q43 **Happy**

- D = Negative (1)
- K = Positive (2)

Q45 **Pleasure**

- D = Negative (1)
- K = Positive (2)

Q47 **Agony**

- D = Negative (1)
- K = Positive (2)

Q49 **Grief**

- D = Negative (1)
- K = Positive (2)

Q51 **Terrible**

- D = Negative (1)
- K = Positive (2)

Q53 **Evil**

- D = Negative (1)
- K = Positive (2)

Q55 **Nasty**

- D = Negative (1)
- K = Positive (2)

Q57 **Awful**

- D = Negative (1)
- K = Positive (2)

Q59 **Horrible**

- D = Negative (1)
- K = Positive (2)

**BLOCK 3: NEGATIVE/GREEN AND POSITIVE/CONVENTIONAL STIMULI
CATEGORIZATION**

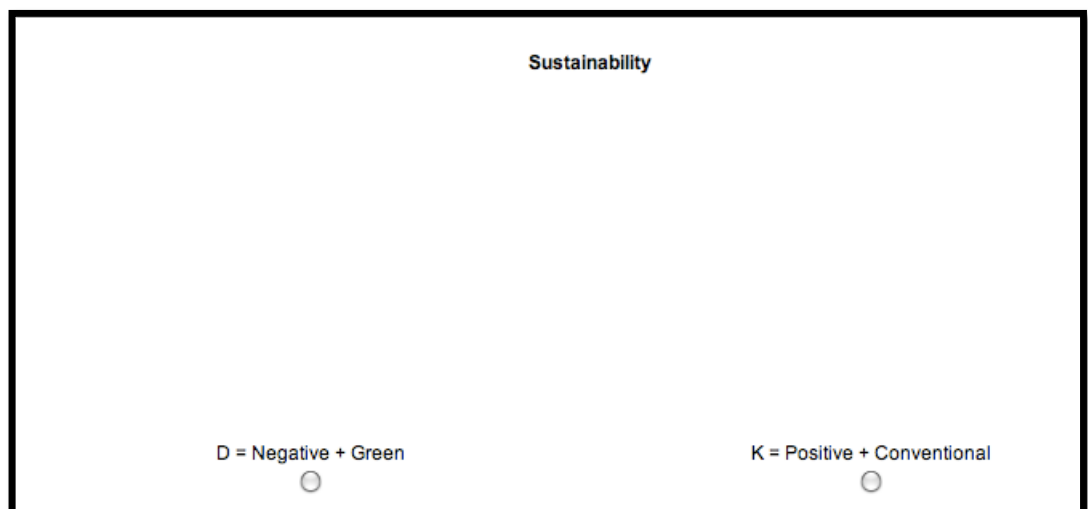
The next section is a speed and accuracy of classification task. We will display different words on the screen (one at the time). The four categories you saw separately now appear together. Your task is to press "D" if it is a negative or green word and press "K" if it is a positive or conventional word.

Please answer as fast and accurately as possible. If you do not answer within 5 seconds, the survey continues automatically. Put one finger on "D" and one finger on "K" and then continue. Be aware that some words may appear twice.

D = Negative + Green

K = Positive + Conventional

The following picture will appear for each stimuli. The stimuli listed in this block will all have the same spatial location of category/attribute stimuli:



Stimuli listed (at random) in the block:

Practice block: Sustainability, environmentally friendly, expensive, conventional, heavy packaging, pleasure, pollution, horror, nasty, love.

Q61 Sustainability

- D = Negative + Green (1)
- K = Positive + Conventional (2)

Q65 Environmentally friendly

- D = Negative + Green (1)
- K = Positive + Conventional (2)

Q69 Expensive

- D = Negative + Green (1)
- K = Positive + Conventional (2)

Q73 Convenient

- D = Negative + Green (1)
- K = Positive + Conventional (2)

Q77 Heavy packaging

- D = Negative + Green (1)
- K = Positive + Conventional (2)

Q97 Pleasure

- D = Negative + Green (1)
- K = Positive + Conventional (2)

Q81 Pollution

- D = Negative + Green (1)
- K = Positive + Conventional (2)

Q111 Horrible

- D = Negative + Green (1)
- K = Positive + Conventional (2)

Q107 Nasty

- D = Negative + Green (1)
- K = Positive + Conventional (2)

Q89 Love

- D = Negative + Green (1)
- K = Positive + Conventional (2)

Q67 Fresh

- D = Negative + Green (1)
- K = Positive + Conventional (2)

Q63 Recycling

- D = Negative + Green (1)
- K = Positive + Conventional (2)

Q71 Less pollution

- D = Negative + Green (1)
- K = Positive + Conventional (2)

75 Cheaper

- D = Negative + Green (1)
- K = Positive + Conventional (2)

Q79 Traditional

- D = Negative + Green (1)
- K = Positive + Conventional (2)

Q83 Waste

- D = Negative + Green (1)
- K = Positive + Conventional (2)

Q85 Honest

- D = Negative + Green (1)
- K = Positive + Conventional (2)

Q87 Joy

- D = Negative + Green (1)
- K = Positive + Conventional (2)

Q91 Peace

- D = Negative + Green (1)
- K = Positive + Conventional (2)

Q93 Glorious

- D = Negative + Green (1)
- K = Positive + Conventional (2)

Q95 Happy

- D = Negative + Green (1)
- K = Positive + Conventional (2)

Q99 Agony

- D = Negative + Green (1)
- K = Positive + Conventional (2)

Q101 Grief

- D = Negative + Green (1)
- K = Positive + Conventional (2)

Q103 Terrible

- D = Negative + Green (1)
- K = Positive + Conventional (2)

Q105 Evil

- D = Negative + Green (1)
- K = Positive + Conventional (2)

Q109 Awful

- D = Negative + Green (1)

- K = Positive + Conventional (2)

BLOCK 4: CONVENTIONAL AND GREEN STIMULI CATEGORIZATION

The next section is also a speed and accuracy of classification task. The categories have now switched positions. We will display different words on the screen (one at the time). Your task is to press "D" if it is a conventional word and press "K" if it is a green word.

Please answer as fast and accurately as possible. If you do not answer within 5 seconds, the survey continues automatically. Put one finger on "D" and one finger on "K" and then continue. Be aware that some words may appear twice.

D = Conventional

K = Green

The following picture will appear for each stimuli. The stimuli listed in this block will all have the same spatial location of category/attribute stimuli:



Stimuli listed (at random) in this block:

Q115 **Recycling**

- D = Conventional (1)
 K = Green (2)

Q113 **Sustainability**

- D = Conventional (1)
 K = Green (2)

Q117 **Environmentally friendly**

- D = Conventional (1)

K = Green (2)

Q119 Fresh

- D = Conventional (1)
- K = Green (2)

Q121 Expensive

- D = Conventional (1)
- K = Green (2)

Q123 Less pollution

- D = Conventional (1)
- K = Green (2)

Q125 Convenient

- D = Conventional (1)
- K = Green (2)

Q127 Cheaper

- D = Conventional (1)
- K = Green (2)

Q129 Heavy packaging

- D = Conventional (1)
- K = Green (2)

Q131 Traditional

- D = Conventional (1)
- K = Green (2)

Q133 Pollution

- D = Conventional (1)
- K = Green (2)

Q135 Waste

- D = Conventional (1)
- K = Green (2)

**BLOCK 5: CONVENTIONAL/NEGATIVE AND GREEN/POSITIVE STIMULI
CATEGORIZATION**

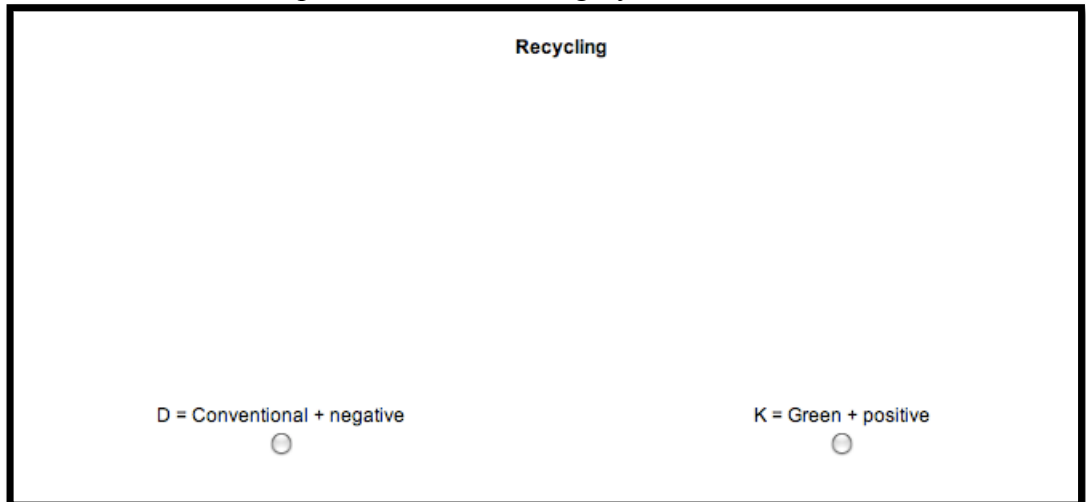
The next section is a speed and accuracy of classification task. We will display different words on the screen (one at the time). The four categories now appear together again. Your task is to press "D" if it is a conventional word or negative word and press "K" if it is a green word or a positive word.

Please answer as fast and accurately as possible. If you do not answer within 5 seconds, the survey continues automatically. Put one finger on "D" and one finger on "K" and then continue. Be aware that some words may appear twice.

D = Conventional + Negative

K = Green + Positive

The following picture will appear for each stimuli. The stimuli listed in this block will all have the same spatial location of category/attribute stimuli:



Stimuli listed (at random) in this block:

Practice block: Recycling, less pollution, traditional, fresh, honest, glorious, grief, awful, waste, cheaper.

Q139 Recycling

- D = Conventional + negative (1)
- K = Green + positive (2)

Q147 Less pollution

- D = Conventional + negative (1)
- K = Green + positive (2)

Q155 Traditional

- D = Conventional + negative (1)
- K = Green + positive (2)

Q143 Fresh

- D = Conventional + negative (1)
- K = Green + positive (2)

Q161 Honest

- D = Conventional + negative (1)
- K = Green + positive (2)

Q169 Glorious

- D = Conventional + negative (1)
- K = Green + positive (2)

Q177 Grief

- D = Conventional + negative (1)
- K = Green + positive (2)

Q185 Awful

- D = Conventional + negative (1)
- K = Green + positive (2)

Q159 Pollution

- D = Conventional + negative (1)
- K = Green + positive (2)

Q151 Cheaper

- D = Conventional + negative (1)
- K = Green + positive (2)

Q141 Environmentally friendly

- D = Conventional + negative (1)
- K = Green + positive (2)

Q145 Expensive

- D = Conventional + negative (1)
- K = Green + positive (2)

- Q149 **Convenient**
 D = Conventional + negative (1)
 K = Green + positive (2)

- Q137 **Sustainability**
 D = Conventional + negative (1)
 K = Green + positive (2)

- Q153 **Heavy packaging**
 D = Conventional + negative (1)
 K = Green + positive (2)

- Q157 **Pollution**
 D = Conventional + negative (1)
 K = Green + positive (2)

- Q167 **Peace**
 D = Conventional + negative (1)
 K = Green + positive (2)

- Q163 **Joy**
 D = Conventional + negative (1)
 K = Green + positive (2)

- Q165 **Love**
 D = Conventional + negative (1)
 K = Green + positive (2)

- Q171 **Happy**
 D = Conventional + negative (1)
 K = Green + positive (2)

- Q175 **Agony**
 D = Conventional + negative (1)
 K = Green + positive (2)

- Q173 **Pleasure**
 D = Conventional + negative (1)
 K = Green + positive (2)

- Q179 **Terrible**
 D = Conventional + negative (1)
 K = Green + positive (2)

- Q183 **Nasty**
 D = Conventional + negative (1)
 K = Green + positive (2)

Q181 **Evil**

- D = Conventional + negative (1)
- K = Green + positive (2)

Q187 **Horrible**

- D = Conventional + negative (1)
- K = Green + positive (2)

SOCIALLY DESIRABLE RESPONDING: THE BALANCED INVENTORY OF DESIRABLE RESPONDING

In this task we would like you to indicate on the given scale how true each statement is for you. Remember, there are no correct answers!

Q209 My first impression of people usually turns out to be right.

- 1 Not true (1)
- 2 (2)
- 3 (3)
- 4 Somewhat true (4)
- 5 (5)
- 6 (6)
- 7 Very true (7)

Q210 It would be hard for me to break any of my bad habits.

- 1 Not true (1)
- 2 (2)
- 3 (3)
- 4 Somewhat true (4)
- 5 (5)
- 6 (6)
- 7 Very true (7)

Q212 I do not care to know what other people really think of me.

- 1 Not true (1)
- 2 (2)
- 3 (3)
- 4 Somewhat true (4)
- 5 (5)
- 6 (6)
- 7 Very true (7)

Q213 Once I have made up my mind, other people can seldom change my opinion.

- 1 Not true (1)
- 2 (2)
- 3 (3)
- 4 Somewhat true (4)
- 5 (5)
- 6 (6)
- 7 Very true (7)

Q214 My parents were not always fair when they punished me.

- 1 Not true (1)
- 2 (2)
- 3 (3)
- 4 Somewhat true (4)
- 5 (5)
- 6 (6)
- 7 Very true (7)

Q215 I am a completely rational person.

- 1 Not true (1)
- 2 (2)
- 3 (3)
- 4 Somewhat true (4)
- 5 (5)
- 6 (6)
- 7 Very true (7)

Q216 I rarely appreciate criticism.

- 1 Not true (1)
- 2 (2)
- 3 (3)
- 4 Somewhat true (4)
- 5 (5)
- 6 (6)
- 7 Very true (7)

Q217 I am very confident of my judgments.

- 1 Not true (1)
- 2 (2)
- 3 (3)
- 4 Somewhat true (4)
- 5 (5)
- 6 (6)
- 7 Very true (7)

Q218 I have sometimes doubted my ability as a lover.

- 1 Not true (1)
- 2 (2)
- 3 (3)
- 4 Somewhat true (4)
- 5 (5)
- 6 (6)
- 7 Very true (7)

Q219 I do not always know the reasons why I do the things I do.

- 1 Not true (1)
- 2 (2)
- 3 (3)
- 4 Somewhat true (4)
- 5 (5)
- 6 (6)
- 7 Very true (7)

Q220 I sometimes tell lies if I have to.

- 1 Not true (1)
- 2 (2)
- 3 (3)
- 4 Somewhat true (4)
- 5 (5)
- 6 (6)
- 7 Very true (7)

Q221 There have been occasions when I have taken advantage of someone.

- 1 Not true (1)
- 2 (2)
- 3 (3)
- 4 Somewhat true (4)
- 5 (5)
- 6 (6)
- 7 Very true (7)

Q222 I sometimes try to get even rather than forgive and forget.

- 1 Not true (1)
- 2 (2)
- 3 (3)
- 4 Somewhat true (4)
- 5 (5)
- 6 (6)
- 7 Very true (7)

Q223 I have said something bad about a friend behind his/her back.

- 1 Not true (1)
- 2 (2)
- 3 (3)
- 4 Somewhat true (4)
- 5 (5)
- 6 (6)
- 7 Very true (7)

Q237 Most modern theories of decision making recognize the fact that decisions do not take place in a vacuum. Individual preferences and knowledge, along with situational variables can greatly impact the decision process. In order to facilitate our research on decision making we are interested in knowing certain factors about you, the decision maker. Specifically, we are interested in whether you actually take the time to read the directions; if not, then some of our manipulations that rely on changes in the instruction swill be ineffective. So, in order to demonstrate that you have read the instructions, please ignore the sports items below. Instead, simply write "sports participation" on this page and proceed with the survey. Which of these activities do you engage in regularly? Check all that apply.

- Skiing (1)
- Soccer (2)
- Snowboarding (3)
- Running (4)
- Hockey (5)
- Football (6)
- Swimming (7)
- Tennis (8)
- Basketball (9)
- Cycling (10)
- Other (11) _____
- None (12)

Q226 When I hear people talking privately, I avoid listening.

- 1 Not true (1)
- 2 (2)
- 3 (3)
- 4 Somewhat true (4)
- 5 (5)
- 6 (6)
- 7 Very true (7)

Q227 I have received too much change from a salesperson without telling him or her.

- 1 Not true (1)
- 2 (2)
- 3 (3)
- 4 Somewhat true (4)
- 5 (5)
- 6 (6)
- 7 Very true (7)

Q228 I never read sexy books or magazines.

- 1 Not true (1)
- 2 (2)
- 3 (3)
- 4 Somewhat true (4)
- 5 (5)
- 6 (6)
- 7 Very true (7)

Q229 I have taken sick-leave from work or school even though I was not really sick.

- 1 Not true (1)
- 2 (2)
- 3 (3)
- 4 Somewhat true (4)
- 5 (5)
- 6 (6)
- 7 Very true (7)

Q230 I have never damaged a library book or store merchandise without reporting it.

- 1 Not true (1)
- 2 (2)
- 3 (3)
- 4 Somewhat true (4)
- 5 (5)
- 6 (6)
- 7 Very true (7)

Q231 I have some pretty awful habits.

- 1 Not true (1)
- 2 (2)
- 3 (3)
- 4 Somewhat true (4)
- 5 (5)
- 6 (6)
- 7 Very true (7)

DEMOGRAPHICS

Lastly, we need some basic information from you. (This is the very last part!)

Q199 Sex

- Male (1)
- Female (2)

Q201 Age

- 20-25 (1)
- 26-30 (2)
- 31-36 (3)
- 37 (4)

Q203 Income (NOK)

- (1)
- 51 000 - 100 000 (2)
- 100 001- 150 000 (3)
- 150 001- 200 000 (4)
- 200 001- 250 000 (5)
- 250 000 (6)

THE END. Thank you for your participation!

Appendix 4: Balanced Inventory of Desirable Responding

BIDR Version 6 - Form 40A

Using the scale below as a guide, write a number beside each statement to indicate how true it is.

+	+	+	+	+	+	+
1	2	3	4	5	6	7
not true			somewhat			very true

- ____ 1. My first impressions of people usually turn out to be right.
- ____ 2. It would be hard for me to break any of my bad habits.
- ____ 3. I don't care to know what other people really think of me.
- ____ 4. I have not always been honest with myself.
- ____ 5. I always know why I like things.
- ____ 6. When my emotions are aroused, it biases my thinking.
- ____ 7. Once I've made up my mind, other people can seldom change my opinion.
- ____ 8. I am not a safe driver when I exceed the speed limit.
- ____ 9. I am fully in control of my own fate.
- ____ 10. It's hard for me to shut off a disturbing thought.
- ____ 11. I never regret my decisions.
- ____ 12. I sometimes lose out on things because I can't make up my mind soon enough.
- ____ 13. The reason I vote is because my vote can make a difference.
- ____ 14. My parents were not always fair when they punished me.
- ____ 15. I am a completely rational person.
- ____ 16. I rarely appreciate criticism.

____ 17. I am very confident of my judgments

____ 18. I have sometimes doubted my ability as a lover.

____ 19. It's all right with me if some people happen to dislike me.

____ 20. I don't always know the reasons why I do the things I do.

Using the scale below as a guide, write a number beside each statement to indicate how true it is.

$\begin{array}{ccccccc} + & + & + & + & + & + & + \\ 1 & 2 & 3 & 4 & 5 & 6 & 7 \\ \text{not true} & & & \text{somewhat} & & & \text{very true} \end{array}$

____ 21. I sometimes tell lies if I have to.

____ 22. I never cover up my mistakes.

____ 23. There have been occasions when I have taken advantage of someone.

____ 24. I never swear.

____ 25. I sometimes try to get even rather than forgive and forget.

____ 26. I always obey laws, even if I'm unlikely to get caught.

____ 27. I have said something bad about a friend behind his/her back.

____ 28. When I hear people talking privately, I avoid listening.

____ 29. I have received too much change from a salesperson without telling him or her.

____ 30. I always declare everything at customs.

____ 31. When I was young I sometimes stole things.

____ 32. I have never dropped litter on the street.

____ 33. I sometimes drive faster than the speed limit.

____ 34. I never read sexy books or magazines.

____ 35. I have done things that I don't tell other people about.

____ 36. I never take things that don't belong to me.

____ 37. I have taken sick-leave from work or school even though I wasn't really sick.

____ 38. I have never damaged a library book or store merchandise without reporting it.

____ 39. I have some pretty awful habits.

____ 40. I don't gossip about other people's business.

Scoring key for BIDR Version 6 - Form 40A

Self Deceptive Enhancement (SDE): Items 1 - 20

Reverse scored items: 2,4,6,8,10,12,14,16,18,20.

Impression Management (IM): Items 21 - 40

Reverse scored items: 21,23,25,27,29,31,33,35,37,39.

Dichotomous Scoring procedure

1. Reverse the Likert ratings for the items indicated above.

2. For each subscale, add one point for every '6' or '7'. (In the case of 5-point scales, add one point for every '5' on the SDE and one point for every '4' or '5' on the IM scale.)

For each subscale, the minimum score is 0; the maximum is 20.

Reliabilities: Typical alphas are .67-.77 (SDE) and .77-.85 (IM)

Norms: Means and standard deviations for 177 UBC undergraduates under two scale formats and two instructional sets.

	7-point scale		5-point scale	
	Males (182)	Females (251)	Males (122)	Females (248)
Respond Honestly				
SDE	7.5 (3.2)	6.8 (3.1)	2.3 (2.3)	2.1 (2.0)
IM	4.3 (3.1)	4.9 (3.2)	5.5 (3.5)	6.1 (3.6)
Play Up Your Good Points				
SDE	9.0 (3.9)	7.8 (3.9)	4.1 (3.6)	4.2 (3.6)
IM	10.5 (4.1)	10.9 (4.2)	11.8 (4.3)	12.5 (4.5)

For more information, consult the following papers:

- Paulhus, D.L. (1991). Measurement and control of response bias. In J.P. Robinson, P.R. Shaver, & L.S. Wrightsman (Eds.), *Measures of personality and social psychological attitudes* (pp.17-59). San Diego: Academic Press.
- Paulhus, D.L., & Reid, D. (1991). Enhancement and denial in socially desirable responding. *Journal of Personality and Social Psychology*, 60, 307-317.
- Paulhus, D.L., Bruce, M.N., & Trapnell, P.D. (1995). Effects of self-presentation strategies on personality profiles and their structure. *Personality and Social Psychology Bulletin*, 21, 100-108.
- Stober, J, Dette, D.E., & Musch, J. (2002). Comparing continuous and dichotomous scoring of the Balanced Inventory of Desirable Responding. *Journal of Personality Assessment*, 78, 370-389.

Updated February 2008

Appendix 5: Permission for use of BIDR Scale

Re: BIDR scale permission

Inbox x

[Turn off highlighting](#) [Forward all](#) [Collapse all](#) [Print all](#)



del paulhus delp1@mail.ubc.ca
to me

Mar 29 ☆ ↶ ↷

Here is a copy for use in your thesis. dp

On 3/29/12 6:20 AM, Ina Kyrkjebø Wickmann wrote:

Professor Paulhus,

We, Ina Wickmann and Jenny Brente, are currently working on a master thesis on green consumerism, and would like to use the BIDR scale in order to assess whether Socially Desirable Responding and Impression Management are affecting consumers' attitudes toward green products. We saw that we need your permission to use the scale, and hereby ask for that permission.

Thank you,

Jenny Brente and Ina K. Wickmann
Master of Science in Strategic Marketing Management
BI Norwegian Business School
Norway

...

BIDR-6.doc
36K [View](#) [Download](#)



Ina Kyrkjebø Wickmann
to dpaulhus

Mar 30 ☆ ↶ ↷

Thank you, we really appreciate it.

Regards,
Ina and Jenny

...

Appendix 6: SPSS Outputs

BIDR Scale:

SDE Cronbach Alpha

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,656	,658	10

IM Cronbach Alpha

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,726	,722	10

IM and SDE Cronbach Alpha combined

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,773	,771	20

Demographics of Respondents

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Male	64	41,0	41,0	41,0
Female	92	59,0	59,0	100,0
Total	156	100,0	100,0	

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 20-25	70	44,9	44,9	44,9
26-30	43	27,6	27,6	72,4
31-36	22	14,1	14,1	86,5
37	21	13,5	13,5	100,0
Total	156	100,0	100,0	

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	91	58,3	58,3	58,3
	51 000 - 100 000	30	19,2	19,2	77,6
	100 001- 150 000	14	9,0	9,0	86,5
	150 001- 200 000	3	1,9	1,9	88,5
	200 001- 250 000	4	2,6	2,6	91,0
	250 000	14	9,0	9,0	100,0
	Total	156	100,0	100,0	

H1: The behavioral intention to buy green products expressed explicitly will be significantly positive.

	N	Minimum	Maximum	Mean	Std. Deviation
Green products appeal to me	156	2	7	5,53	1,110
I think green products is a good idea	155	2	7	5,95	1,034
People who are important to me expect me to consume green products	155	1	7	3,65	1,553
Most people (like me) consume green products	155	1	7	4,32	1,308
Society expects me to consume green products	156	1	7	4,44	1,301
I can make a difference (in a positive way) by consuming green products as compared to conventional...	154	1	7	5,42	1,209
I feel that consuming green products contributes to a better planet	155	1	7	5,57	1,227
It is my duty to consume responsibly	154	1	7	5,57	1,225
The next time I am in the grocery store, I intend to buy green products	155	1	7	4,66	1,420
Valid N (listwise)	149				

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,851 ^a	,725	,709	,770

a. Predictors: (Constant), It is my duty to consume responsibly, Society expects me to consume green products, People who are important to me expect me to consume green products, I feel that consuming green products contributes to a better planet, Green products appeal to me, Most people (like me) consume green products, I think green products is a good idea, I can make a difference (in a positive way) by consuming green products as compared to conventional...

ANOVA^b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	218,762	8	27,345	46,074	,000 ^a
	Residual	83,090	140	,594		
	Total	301,852	148			

a. Predictors: (Constant), It is my duty to consume responsibly, Society expects me to consume green products, People who are important to me expect me to consume green products, I feel that consuming green products contributes to a better planet, Green products appeal to me, Most people (like me) consume green products, I think green products is a good idea, I can make a difference (in a positive way) by consuming green products as compared to conventional...

b. Dependent Variable: The next time I am in the grocery store, I intend to buy green products

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-1,086	,405		-2,681	,008
	Q1. Green products appeal to me	,484	,089	,381	5,449	,000
	Q2. I think green products is a good idea	-,254	,099	-,186	-2,555	,012
	Q3. People who are important to me expect me to consume green products	,149	,054	,163	2,755	,007
	Q4. Most people (like me) consume green products	,311	,069	,286	4,523	,000
	Q5. Society expects me to consume green products	-,061	,055	-,056	-1,099	,274
	Q6. I can make a difference (in a positive way) by consuming green products as compared to conventional...	-,080	,092	-,067	-,865	,389
	Q7. I feel that consuming green products contributes to a better planet	,223	,091	,191	2,454	,015
	Q8. It is my duty to consume responsibly	,382	,074	,328	5,187	,000

a. Dependent Variable: The next time I am in the grocery store, I intend to buy green products

H2: Implicit attitudes toward conventional products will be at least as positive as the implicit attitudes toward green products.

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	D_score_green	,6861	136	,60599	,05196
	D_score_con	-,5473	136	,65416	,05609

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	D_score_green & D_score_con	136	-,281	,001

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	D_score_green - D_score_con	1,2334 2	1,00884	,08651	1,06234	1,40451	14,258	135	,000

H3: Explicit attitudes toward green products will be relatively more positive than implicit attitudes towards green products.

One-Sample Statistics				
	N	Mean	Std. Deviation	Std. Error Mean
Green products appeal to me	156	5,53	1,110	,089
I think green products is a good idea	155	5,95	1,034	,083
People who are important to me expect me to consume green products	155	3,65	1,553	,125
Most people (like me) consume green products	155	4,32	1,308	,105
Society expects me to consume green products	156	4,44	1,301	,104
I can make a difference (in a positive way) by consuming green products as compared to conventional...	154	5,42	1,209	,097
I feel that consuming green products contributes to a better planet	155	5,57	1,227	,099
It is my duty to consume responsibly	154	5,57	1,225	,099
The next time I am in the grocery store, I intend to buy green products	155	4,66	1,420	,114

One-Sample Test

	Test Value = 3.5					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Green products appeal to me	22,798	155	,000	2,026	1,85	2,20
I think green products is a good idea	29,555	154	,000	2,455	2,29	2,62
People who are important to me expect me to consume green products	1,164	154	,246	,145	-,10	,39
Most people (like me) consume green products	7,768	154	,000	,816	,61	1,02
Society expects me to consume green products	8,985	155	,000	,936	,73	1,14
I can make a difference (in a positive way) by consuming green products as compared to conventional...	19,732	153	,000	1,922	1,73	2,11
I feel that consuming green products contributes to a better planet	21,044	154	,000	2,074	1,88	2,27
It is my duty to consume responsibly	20,979	153	,000	2,071	1,88	2,27
The next time I am in the grocery store, I intend to buy green products	10,209	154	,000	1,165	,94	1,39

H4: There will be no correlation between implicit and explicit attitudes toward green products.

Correlations

	Green products appeal to me	I think green products is a good idea	People who are important to me expect me to consume green products	Most people (like me) consume green products	Society expects me to consume green products	I can make a difference (in a positive way) by consuming green products as compared to conventional...	I feel that consuming green products contributes to a better planet	It is my duty to consume responsibly	The next time I am in the grocery store, I intend to buy green products	D_score_green2
Green products appeal to me	1									
I think green products is a good idea	.704	1								
People who are important to me expect me to consume green products	.432	.282	1							
Most people (like me) consume green products	.479	.394	.631	1						
Society expects me to consume green products	.158	.212	.336	.436	1					
I can make a difference (in a positive way) by consuming green products as compared to conventional...	.571	.613	.315	.345	.220	1				
I feel that consuming green products contributes to a better planet	.549	.608	.275	.362	.793	.793	1			
It is my duty to consume responsibly	.585	.648	.369	.398	.255	.583	.255	1		
The next time I am in the grocery store, I intend to buy green products	.694	.515	.588	.662	.261	.511	.261	.645	1	
D_score_green2	.083	.115	.048	.073	.063	.010	.063	.037	.037	1
	.336	.186	.584	.468	.136	.178	.468	.134	.134	.136
	.136	.135	.135	.135	.136	.135	.135	.135	.135	.135

** Correlation is significant at the 0.01 level (2-tailed).
* Correlation is significant at the 0.05 level (2-tailed).

H5a: The higher the score on the socially desirable responding scale, the higher positive explicit attitudes toward green products.

Statistics

Sum IM og SDE

N	Valid	156
	Missing	0
Median		5,0000

Group Statistics

	dummySDR	N	Mean	Std. Deviation	Std. Error Mean
Green products appeal to me	1,00	83	5,40	1,104	,121
	2,00	73	5,67	1,106	,129
I think green products is a good idea	1,00	83	5,92	,978	,107
	2,00	72	6,00	1,101	,130
People who are important to me expect me to consume green products	1,00	82	3,61	1,421	,157
	2,00	73	3,68	1,699	,199
Most people (like me) consume green products	1,00	82	4,21	1,274	,141
	2,00	73	4,44	1,344	,157
Society expects me to consume green products	1,00	83	4,34	1,262	,138
	2,00	73	4,55	1,344	,157
I can make a difference (in a positive way) by consuming green products as compared to conventional...	1,00	81	5,32	1,213	,135
	2,00	73	5,53	1,203	,141
I feel that consuming green products contributes to a better planet	1,00	82	5,51	1,220	,135
	2,00	73	5,64	1,240	,145
It is my duty to consume responsibly	1,00	81	5,42	1,117	,124
	2,00	73	5,74	1,323	,155
The next time I am in the grocery store, I intend to buy green products	1,00	82	4,46	1,484	,164
	2,00	73	4,89	1,318	,154

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Green products appeal to me	Equal variances assumed	,028	,868	-1,544	154	,125	-,274	,177	-,624	,077
	Equal variances not assumed			-1,543	151,377	,125	-,274	,177	-,624	,077
I think green products is a good idea	Equal variances assumed	,448	,504	-,505	153	,614	-,084	,167	-,414	,245
	Equal variances not assumed			-,501	143,337	,617	-,084	,168	-,417	,248
People who are important to me expect me to consume green products	Equal variances assumed	1,843	,177	-,300	153	,765	-,075	,251	-,570	,420
	Equal variances not assumed			-,297	140,998	,767	-,075	,253	-,576	,426
Most people (like me) consume green products	Equal variances assumed	,054	,816	-1,098	153	,274	-,231	,210	-,647	,185
	Equal variances not assumed			-1,095	148,706	,275	-,231	,211	-,648	,186
Society expects me to consume green products	Equal variances assumed	,260	,611	-1,009	154	,315	-,211	,209	-,623	,202
	Equal variances not assumed			-1,005	148,521	,317	-,211	,210	-,625	,204
I can make a difference (in a positive way) by consuming green products as compared to conventional. ..	Equal variances assumed	,219	,640	-1,094	152	,276	-,213	,195	-,598	,172
	Equal variances not assumed			-1,094	150,597	,276	-,213	,195	-,598	,172
I feel that consuming green products contributes to a better planet	Equal variances assumed	,001	,981	-,665	153	,507	-,132	,198	-,522	,259
	Equal variances not assumed			-,665	150,311	,507	-,132	,198	-,523	,260
It is my duty to consume responsibly	Equal variances assumed	,283	,595	-1,627	152	,106	-,320	,197	-,709	,069
	Equal variances not assumed			-1,613	141,583	,109	-,320	,198	-,712	,072
The next time I am in the grocery store, I intend to buy green products	Equal variances assumed	4,198	,042	-1,884	153	,061	-,427	,227	-,875	,021
	Equal variances not assumed			-1,897	153,000	,060	-,427	,225	-,872	,018

H5b: Respondents with higher SDR scores will have a lower correlation between IAT scores and explicit attitude score toward green products than respondents with lower SDR scores.

Correlations for respondents with low SDR score

	Green products appeal to me	I think green products is a good idea	People who are important to me expect me to consume green products	Most people (like me) consume green products	Society expects me to consume green products	I can make a difference (in a positive way) by consuming green products as compared to conventional...	I feel that consuming green products contributes to a better planet	It is my duty to consume responsibly	The next time I am in the grocery store, I intend to buy green products	D_score_green2
Pearson Correlation	1	,563	,437	,387	,095	,488	,398	,523	,698	,175
Sig. (2-tailed)		,000	,000	,000	,392	,000	,000	,000	,000	,143
N	83	83	82	82	83	81	82	81	82	71
Pearson Correlation	,563	1	,254	,270	,093	,596	,490	,551	,474	,302
Sig. (2-tailed)	,000		,021	,014	,405	,000	,000	,000	,000	,011
N	83	83	82	82	83	81	82	81	82	71
Pearson Correlation	,437	,254	1	,680	,374	,207	,122	,332	,579	,067
Sig. (2-tailed)	,000	,021		,000	,001	,065	,277	,003	,000	,581
N	82	82	82	82	82	80	81	80	82	70
Pearson Correlation	,387	,270	,680	1	,353	,200	,205	,253	,628	,051
Sig. (2-tailed)	,000	,014	,000		,001	,076	,066	,023	,000	,678
N	82	82	82	82	82	80	81	80	82	70
Pearson Correlation	,095	,093	,374	,353	1	,175	,141	,089	,175	,090
Sig. (2-tailed)	,392	,405	,001	,001		,117	,207	,427	,115	,457
N	83	83	82	82	83	81	82	81	82	71
Pearson Correlation	,488	,596	,207	,200	,175	1	,753	,585	,447	,272
Sig. (2-tailed)	,000	,000	,065	,076	,117		,000	,000	,000	,024
N	81	81	80	80	81	81	80	79	80	69
Pearson Correlation	,398	,490	,122	,205	,141	,753	1	,448	,429	,304
Sig. (2-tailed)	,000	,000	,277	,066	,207	,000		,000	,000	,011
N	82	82	81	81	82	80	82	80	81	70
Pearson Correlation	,523	,551	,332	,253	,089	,585	,448	1	,602	,203
Sig. (2-tailed)	,000	,000	,003	,023	,427	,000	,000		,000	,094
N	81	81	80	80	81	79	80	81	80	69
Pearson Correlation	,698	,474	,579	,628	,175	,447	,429	,602	1	,048
Sig. (2-tailed)	,000	,000	,000	,000	,115	,000	,000	,000		,695
N	82	82	82	82	82	80	81	80	82	70
Pearson Correlation	,175	,302	,067	,051	,090	,272	,304	,203	,048	1
Sig. (2-tailed)	,143	,011	,581	,678	,457	,024	,011	,094	,695	
N	71	71	70	70	71	69	70	69	70	71

** . Correlation is significant at the 0.01 level (2-tailed).
 * . Correlation is significant at the 0.05 level (2-tailed).

Correlations for respondents with high SDR scores:

	Green products appeal to me	I think green products is a good idea	People who are important to me expect me to consume green	Most people (like me) consume green products	Society expects me to consume green products	I can make a difference (in a positive way) by consuming green..	I feel that consuming green products contributes to a better planet	It is my duty to consume responsibly	The next time I am in the grocery store, I intend to buy green products	D_score_green2
Green products appeal to me	1	,852	,432	,566	,207	,656	,713	,633	,680	-,054
	Pearson Correlation Sig. (2-tailed) N	,000 72 73	,000 73 73	,000 73 73	,079 73 73	,000 73 73	,000 73 73	,000 73 73	,000 73 73	,667 65
I think green products is a good idea	,852	1	,305	,513	,322	,631	,726	,732	,571	-,099
	Pearson Correlation Sig. (2-tailed) N	,000 72 72	,009 72 72	,000 72 72	,006 72 72	,000 72 72	,000 72 72	,000 72 72	,000 72 72	,436 64
People who are important to me expect me to consume green	,432	,305	1	,591	,302	,417	,414	,396	,617	,034
	Pearson Correlation Sig. (2-tailed) N	,000 73 73	,009 73 73	,000 73 73	,009 73 73	,000 73 73	,000 73 73	,001 73 73	,000 73 73	,785 65
Most people (like me) consume green products	,566	,513	,591	1	,511	,489	,520	,510	,678	-,081
	Pearson Correlation Sig. (2-tailed) N	,000 72 72	,000 73 73	,000 73 73	,000 73 73	,000 73 73	,000 73 73	,000 73 73	,000 73 73	,521 65
Society expects me to consume green products	,207	,322	,302	,511	1	,255	,352	,386	,348	,006
	Pearson Correlation Sig. (2-tailed) N	,079 73 73	,009 73 73	,000 73 73	,000 73 73	,030 73 73	,002 73 73	,001 73 73	,003 73 73	,964 65
I can make a difference (in a positive way) by consuming green..	,656	,631	,417	,489	,255	1	,837	,577	,581	,019
	Pearson Correlation Sig. (2-tailed) N	,000 72 72	,000 73 73	,000 73 73	,000 73 73	,000 73 73	,000 73 73	,000 73 73	,000 73 73	,880 65
I feel that consuming green products contributes to a better planet	,713	,726	,414	,520	,352	,837	1	,679	,664	,060
	Pearson Correlation Sig. (2-tailed) N	,000 73 73	,000 73 73	,000 73 73	,002 73 73	,000 73 73	,000 73 73	,000 73 73	,000 73 73	,636 65
It is my duty to consume responsibly	,633	,732	,396	,510	,386	,577	,679	1	,692	-,115
	Pearson Correlation Sig. (2-tailed) N	,000 73 73	,001 73 73	,000 73 73	,001 73 73	,000 73 73	,000 73 73	,000 73 73	,000 73 73	,360 65
The next time I am in the grocery store, I intend to buy green products	,680	,571	,617	,678	,348	,581	,664	,692	1	-,060
	Pearson Correlation Sig. (2-tailed) N	,000 72 72	,000 73 73	,000 73 73	,003 73 73	,000 73 73	,000 73 73	,000 73 73	,000 73 73	,634 65
D_score_green2	-,054	-,099	,034	-,081	,006	,019	,060	-,115	-,060	1
	Pearson Correlation Sig. (2-tailed) N	,667 65	,785 65	,521 65	,964 65	,880 65	,636 65	,360 65	,634 65	,634 65

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

* . Correlation is significant at the 0.05 level (2-tailed).

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Preliminary Thesis Report

Assessing Implicit and Explicit Attitudes toward Green Consumerism

Hand-in date:

16.01.2011

Supervisor: Even J. Lanseng

BI Norwegian Business School

GRA 1902 Preliminary Master Thesis

Master of Science in Strategic Marketing Management

Content

Content	i
Summary	iii
1.0 Introduction	1
<i>1.1 Definition of "Green"</i>	<i>1</i>
<i>1.2 The Choice between Green and Conventional Products</i>	<i>1</i>
2.0 Purpose of Study	2
3.0 Research Questions	3
4.0 Theoretical Framework	3
5.0 Literature Review	4
<i>5.1 The Theory of Planned Behavior</i>	<i>4</i>
5.1.1 Perceived Behavioral Control	4
5.1.2 Subjective Norm	4
5.1.3 Ethical Obligation	5
5.1.4 Behavioral Attitude	5
5.1.5 Behavioral Intention	6
<i>5.2 A Broken TPB-Premise: The Attitude/Intention-Behavior Gap</i>	<i>6</i>
<i>5.3 Socially Desirable Responding</i>	<i>7</i>
5.3.1 Impression Management	8
5.3.2 Self-Deceptive Enhancement	8
<i>5.4 Measuring Implicit and Explicit Attitudes</i>	<i>9</i>
6.0 New Conceptual Model	10
7.0 Hypotheses	10
8.0 Methodology	12
<i>8.1 Design</i>	<i>12</i>
8.1.1 The Implicit Association Test (IAT)	12
8.1.2 The Study	13
8.1.2.1 Pre-study	13
8.1.2.2 Main Study	14
8.1.2.3 Multiple Regression	14
<i>8.2 Participants</i>	<i>14</i>
<i>8.3 Instruments</i>	<i>15</i>

8.3.1 Focus Group	15
8.3.2 The Implicit Association Test	15
8.3.2.1 Target Category Stimuli	15
8.3.2.2 Attribute category stimuli	15
8.3.3 Explicit Measures: Questionnaires	15
9.0 Validity	18
9.1 <i>Internal Validity</i>	18
9.1.1 Instruments: Category Familiarity	18
9.1.2 Order of Tasks and Cognitive Inertia	18
9.1.3 Possibility of Faking the Test	19
9.2 <i>Construct Validity</i>	19
9.2.1 Salient Asymmetry Issues	19
9.2.2 Culture or Person?	19
10.0 The Study's Significance: Managerial Implications	20
11.0 Progression Plan	20
References	21

Summary

Increased public awareness of environmental issues has led to an increase in the demand of environmentally friendly products and services. Despite the growth in customers expressing positive attitudes and purchase intentions toward green products, the purchase rate for such products are still considerably low. Hence, most consumers refrain from acting in accordance with their explicit attitudes.

This study aims to explore a possible explanation of the attitude/intention-behavior gap found within the ethical consumer behavior field by using literature primarily from the Theory of Planned Behavior (TPB) and Socially Responsible Responding (SDR). It is discussed how explicit measures are subject to self-report bias. To control for bias, the experimental computer based Implicit Association test (IAT) will be used to investigate whether a discrepancy between implicit and explicit attitudes toward green products can explain the attitude/intention-behavior gap. The test will comprise both an implicit and explicit measurement part. A focus group will be conducted early in the research process to harvest data used in the development of category stimuli as well as questionnaires. Multiple regression will be used when analyzing the data. Respondents will be recruited on BI Norwegian Business School, Oslo, and online through social media channels and e-mail.

Results driven from this study will provide marketing managers with information on how to better conduct marketing research concerning attributes related to ethical consumption. If a discrepancy between explicit and implicit attitudes is found, conducting traditional surveys when measuring products' attractiveness and potential might be inadequate and result in failure.

Given that our suggestions are correct, the findings will support the scholars who call for a shift from focusing on the individual consumer to a more collective view when it comes to pro-social actions.

1.0 Introduction

Increased media coverage of environmental issues has led to public awareness around global warming and its detrimental effects (Lee et al., 2010), and concerns for the environment has become a social issue worldwide. As a consequence environmental concerns have reached the purchase behavior scene, something that has led to an increase in the demand for green products and services.

Additionally, consumers expect businesses to consider the environment to a larger extent than before.

1.1 Definition of “Green”

Researchers refer to the term “green” as alternatively “eco-friendly”, “environmentally responsible”, “environmentally friendly”, “environmentally oriented” and “sustainable” (Han et al., 2009; Pizam, 2009 in Kim and Han, 2010). Hence, there is no exclusive definition or dominant logic of the term green. In this paper, green products refer to products that are marketed as environmentally friendly and thus ethical products.

1.2 The Choice between Green and Conventional Products

Ajzen’s Theory of Planned Behavior (TPB) has been widely used in previous research as a framework to understand the ethical decision-making process. Researchers have depicted the ethical decision-making process as more complex than in the case of “conventional” consumption due to the inclusion of the consumer’s sense of social responsibility (Meulenbergh, 2003 in Vermeir & Verbeke, 2006).

Previous research has primarily focused on the relation between an individual's attitude and behavioral intention, where it is found to be a positive correlation. According to TPB, intention leads to actual behavior. Several studies have found a positive correlation between consumers’ attitude toward green products and their intention to buy such products (Han et al., 2009). Additionally, Alwitt and Berger (1993 in Vantomme et al., 2005) claim that around 70% of consumers expressed high levels of concern for the environment and were willing to change

consumption pattern. However, Carrigan and Attalla (2001) state that only 20% of self-reported socially responsible consumers had recently bought a product that was linked to social responsibility. Furthermore, the market share is less than 1% for the majority of low- involvement environmentally friendly products (Roozen, 1999 in Vantomme et al., 2005) indicating that consumers are not willing to switch from their traditional brand to an environmentally friendly alternative. The premise that behavioral intentions will automatically lead to actual behavior has therefore recently been questioned. Strutton et al. (1994) argue that there is a paradox when it comes to consumers' stated attitudes toward a social issue and their actual behavior. The authors refer to this phenomenon as a "man-bites-dog" inversion, and illustrate why consumers' stated ethical concerns should be questioned critically by referring to the consumer-based increasing pressure on corporations to act ethically while consumer-initiated shoplifting has increased at the same time. A similar finding is seen in the case of fair-trade coffee (Williams, 2000: Bird and Huges, 1997 in Chatzidakis et al., 2007). Despite the range of consumers expressing positive attitudes and intentions to buy such products, the actual purchase rate is considerably low.

Basing your marketing strategy on marketing research that measures consumers' attitudes and intentions to buy a certain product might turn out to be inadequate as it is not given that intentions to buy will result in actual purchase. A reason for the discrepancy between intentions and behavior might be that people tend to express environmental concerns just to present themselves favorably - a phenomenon referred to as socially desirable responding (Mick, 1996). Consequently, there might also be a discrepancy between consumers' explicit and implicit attitudes toward green products.

2.0 Purpose of Study

This study aims to give a better understanding of why there is gap between consumers' expressed attitudes/intentions and actual behavior when it comes to green consumerism. The findings will provide us with a better understanding of the ethical consumer decision-making process. By utilizing the Implicit Association Test (IAT), this study will explore if a discrepancy between implicit and explicit attitudes and purchase intention toward green products can explain

the attitude/intention-behavior gap found in green consumerism. The result will also say something about whether marketing products as green actually have an advantageous effect.

3.0 Research Questions

The main research question for this study is;

Can a discrepancy between explicit and implicit attitudes and intention explain the gap between attitude/intention and actual behavior when it comes to green consumerism? Further, how important is the perceived prevailing opinion of society in the formation of explicit attitudes toward green products?

4.0 Theoretical Framework

This study's theoretical framework is based on the Theory of Planned Behavior (Ajzen, 1991) Socially Desirable Responding (e.g. Mick, 1996; Steenkamp et al., 2010) as well as implicit and explicit attitudes (e.g. Vantomme et al., 2005; Nosek et al., 2005)

Illustrated below is a model based on the Theory of Planned Behavior. The model is modified to concern ethical consumer behavior by including "Ethical Obligation" as a predictor for attitude.

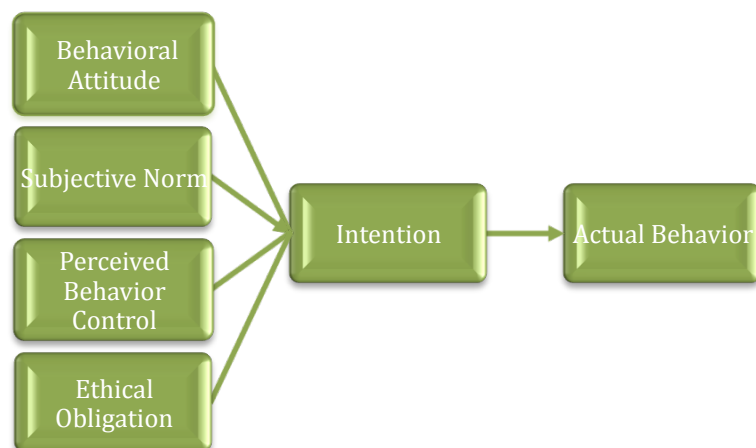


Figure 1: The Theory of Planned Behavior (Ajzen, 1991), adjusted to concern ethical issues (Shaw & Shiu 2003).

5.0 Literature Review

5.1 The Theory of Planned Behavior

The Theory of Planned Behavior (TPB) is an extended version of the Theory of Reasoned Action (TRA), developed by Icek Ajzen. The TPB-model is believed to give a precise prediction of why specific behavior occurs as it considers both volitional and non-volitional control factors (Ajzen and Fishbein, 1980; Fishbein and Ajzen, 1975 in Kim and Han, 2010). The model considers behavior to be a function of behavioral intention, and the stronger the intention the more likely it is that the actual behavior will be carried out (Ajzen, 1991). Behavioral intention is a function of attitude, subjective norm and perceived behavioral control (Chatzidakis et al., 2007). In addition, ethical obligation is added as a variable when the model is applied in studies concerning ethical consumer behavior (Shaw and Clarke, 1999; Shaw et al., 2000; Shaw and Shiu, 2002a, b, 2003 in Chatzidakis et al., 2007).

5.1.1 Perceived Behavioral Control

Vermeir and Verbeke (2006) refer to perceived behavioral control as “the extent to which the consumer believes that his personal efforts can contribute to the solution of a problem”. Perceived behavioral control is based upon control beliefs, which consist of the power of a certain factor to support the act and the perceived admission to that specific factor (Kalafatis et al., 1999). If he or she believes that the level of control is high, the behavioral intention is likely to be high as well (Baker et al., 2007 in Han et al., 2009). Opposite, if the individual perceives the problem to be of such character that his or her actions will not make any difference, the intention to engage in the specific behavior is likely to be lower.

5.1.2 Subjective Norm

The subjective norm reflects how the individual considers what he or she perceives to be the prevailing opinions of society when deciding whether or not to engage in a certain behavior. The variable is internally controlled and is described by Ajzen (1991 in Han et al., 2009) as “the perceived social pressure to perform or not to perform the behavior”. The determinant to engage or not in a specific

behavior will depend on what the significant references are believed to approve or disapprove of.

5.1.3 Ethical Obligation

As stated by Chatzidakis et al. (2007), the ethical consumer decision-making process still remains partly unexplained despite the TPB-model's contribution. In order to adjust the model to consider the ethical consumerism field, the variable "ethical obligation" has been added (Shaw and Clarke, 1999; Shaw et al., 2000; Shaw & Shiu, 2002a, b, 2003 in Chatzidakis et al., 2007). Kurland (1995 in Shaw and Shiu, 2003) describes ethical obligation as "an individual's internalized ethical rules, which reflect their personal beliefs about right and wrong". Shaw and Shiu (2003) found that the ethical obligation variable is an applicable predictor of behavioral intention.

Consumers who feel ethically obligated must have adequate access to information about ethical issues. As of today, such information is endless and consumers are more aware than before. Carrigan and Attalla (2001) argue that the vast information pool makes it difficult for consumers to evaluate the integrity of the different ethical issues. Consumers are required to trade off which ethical issue to support – environmental pollution or exploitation of children?

5.1.4 Behavioral Attitude

The attitude toward a specific behavior is described by Eagly and Chaiken (1993 in Honkanen et al., 2006) as "a psychological tendency that is expressed by evaluating a particular object with some degree of favour or disfavour". Attitude is believed to be a function of the individual's salient beliefs about the consequences of engaging in a certain behavior, and an evaluation of the significance of those consequences (Eagly and Chaiken, 1993 in Han et al., 2009). A positive attitude towards a specific behavior will strengthen the behavioral intention and thus strengthen the likelihood that the behavior will be performed (Ajzen, 1991 in Han et al., 2009).

5.1.5 Behavioral Intention

Intention is defined as “a psychological construct distinct from attitude and it represents a person’s motivation to carry out a behaviour”. (Eagly and Chaiken 1993 in Honkanen et al., 2006).

5.2 A Broken TPB-Premise: The Attitude/Intention-Behavior Gap

The underlying premise in TPB that an expressed intention to engage in a certain behavior evidently will lead to actual behavior, has - as previously mentioned - recently been questioned. Several researchers have suggested possible explanation for the gap using different theories as basis for their studies. Vermeir and Verbeke (2006) found in their study on consumers’ willingness to buy sustainable food that perceived consumer effectiveness, certainty and level of involvement impacted the attitude-formation, which positively correlated with purchase intention. Yet, if sustainable food were unavailable, the intention-to-buy would be low regardless of the consumer’s attitude. Hence, external factors strongly influence purchase intentions and thus simply measuring attitudes toward sustainable food products might be inadequate seen from a managerial perspective.

Moisander (2009) argues for motivational complexity as an explanation for the discrepancy between expressed attitudes/intentions and actual behavior. The author suggests that behavior is determined by motivation and ability. Motivation is made up the strength or intensity of the motivation in addition to direction where direction explains why a specific behavior is chosen amongst several alternatives. Ability refers to the consumer’s personal resources required to perform the behavior and the opportunity to carry out the behavior. The immediate external environment determines opportunity. Motivation and ability is believed to influence each other in such a way that a strong motivation will enhance the feeling of ability. Contrary, a lack of ability could decrease the initial motivation - similar to Vermeir and Verebeke’s (2006) findings.

According to Chatzidakis et al. (2007), the TPB-model fails to include psychological factors that explain why some consumers refrain from acting upon their stated intentions. The authors suggest neutralization techniques as a possible

explanation for the discrepancy between attitudes/intentions and actual behavior. Neutralization theory has been widely cited in sociology of deviance, but has recently been applied within the consumer behavior field as well. Neutralization refers to “a mechanism that facilitates behaviour that is either norm violating or in a contravention of expressed attitudes” (Chatzidakis et al. 2007). Sykes (1957 in Chatzidakis et al., 2007) identified five categories of neutralization techniques that people use to rationalize their behavior; denial of responsibility; denial of injury; denial of victim; condemning the condemners and appeal to higher loyalties. Chatzidakis et al. (2007) found neutralization techniques to be applicable to the consumer behavior field where minor ethical breaches have been conducted, but the study has methodological limitations. In addition, it is not known when the neutralization techniques are activated - whether it precedes an act or occurs post-behavior.

Sachdeva et al. (2009) suggest the state of self-worth as a measure that indicates when moral action is needed. Self-worth is described as the individual's perception of how moral he or she is (Dunning, 2007 in Sachdeva et al., 2009). The authors introduce the following concepts to explain how self-worth is regulated; moral cleansing refers to actions you engage in when your moral self-worth has been threatened. After a period of time, you feel you have accrued a surplus of moral currency and thus have a license to refrain from engaging in moral behavior. The regulation is a dynamic process that explains why consumers act differently without a change in attitude.

5.3 Socially Desirable Responding

Social norms guide ethical behavior crucially (Chatzidakis et al., 2007). Given that consumers' evaluation of subjective norm influences their attitudes and intentions, researchers within the ethical consumer behavior field need to take this into account. If the consumer assumes that the society expects him or her to act in a certain way, this could bias the attitude formation. Several researchers (La Trobe, 2000; Roozen and De Pelsmacker, 1998 in Vantomme et al., 2004) agree that people hide their actual attitudes and purchase patterns because they either want to impress the researcher or hide undesirable behavior. This phenomenon is related to impression management, self-deception and socially desirable

responding. Steenkamp et al. (2010) defines socially desirable responses as “answers that make the respondent look good, based on cultural norms about the desirability of certain values, traits, attitudes, interests, opinions and behaviors”. The response bias of Socially Desirable Responding (SDR) threatens the validity of marketing survey data and might address the issue of a discrepancy between explicit and implicit attitudes.

5.3.1 Impression Management

Impression management as originated in social psychology is defined as “studying how individuals present themselves to others to be perceived favourably by others (Hooghiemstra, 2000 in Merkl-Davis and Brennan, 2011). Further, Paulhus (1984, in Mick, 1996) identifies impression management “a respondent’s attempt to shape their answers purposefully to reflect the most positive social image”. Edwards (1957 in Mick, 1996) argues that the tendency to express socially desirable responses is a relatively stable personality trait. This will occur independently of the researcher’s ability to identify the subject’s individual responses. Additionally, observation has shown that subjects present favorable social expressions even when others nearby are completely strangers. Thus, impression management is likely to occur even in an anonymous research context and anonymity in itself is therefore not sufficient to control for bias. Impression management is a conscious and deliberate attempt to assess a favorable self-image (Steenkamp et al., 2010).

5.3.2 Self-Deceptive Enhancement

The self-deceptive enhancement (SDE) is defined as “an unconscious inclination to perceive oneself in a favorable light, manifested in positively biased but honestly believed self-descriptions”. For instance this could be “never regretting past decisions”. The factor self-deception represents the incorrectness of self-knowledge. It is typically found in well-adjusted individuals who are prone to ignore minor criticism, discount failures, and hold high expectations of success in new projects (Paulhus, 1986 in Mick, 1996). Self-deception is an unconscious inclination to argue for positive attributes and denial of negative ones related to his or her own person. Self-deceptiveness should not be controlled for if

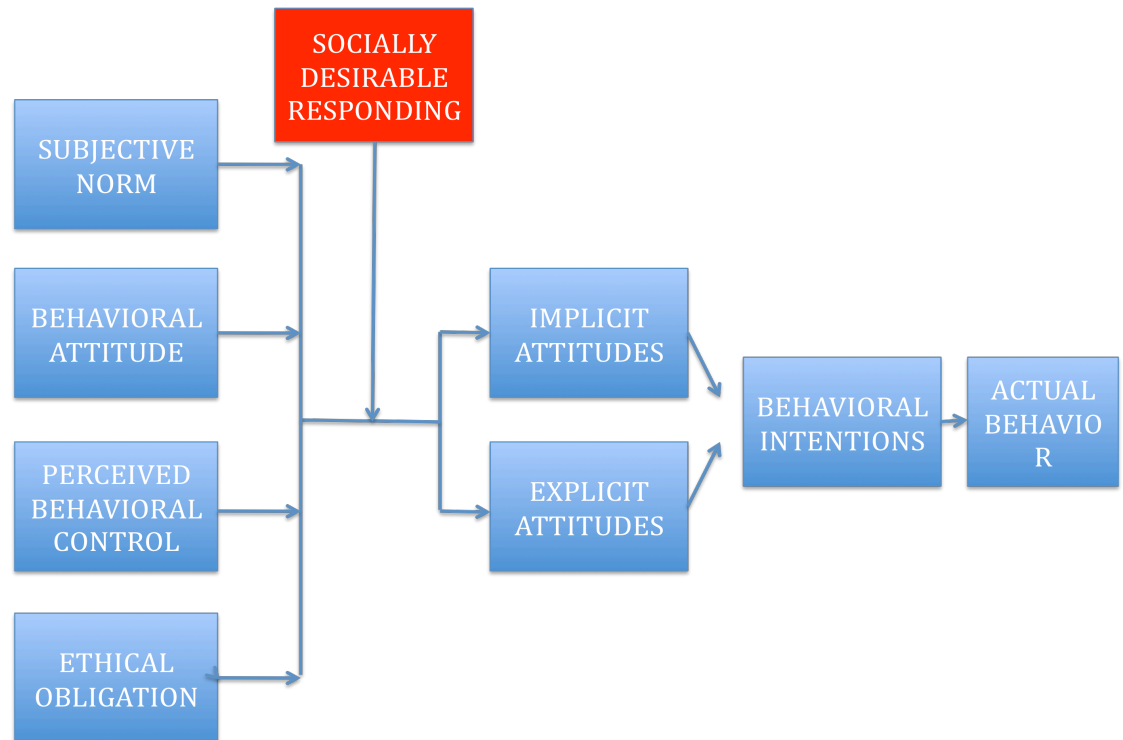
personality factors are of interest for the study. Controlling for this factor could then exclude important content variance.

5.4 Measuring Implicit and Explicit Attitudes

Recently, researchers have become more attentive to implicit attitudes within the consumer behavior field. An enhanced understanding of implicit attitudes is necessary in order to assess the attitude-behavior gap. Explicit attitudes are defined as “attitudes that operate in a conscious mode” (Vantomme et al., 2005) and are often measured by self-report tasks, such as surveys. Explicit attitudes are the building blocks for intentional behavior and are a consequence of deliberative (cognitive) processing. Implicit attitudes are defined as “introspectively unidentified (or inaccurately identified) traces of past experience that mediate favorable or unfavorable feeling, thought, or action toward social objects” (Greenwald and Banaji, 1995 in Vantomme et al., 2005). Implicit attitudes are expected to lead spontaneous (automatic) behavior and are an outcome of spontaneous processing. While explicit attitudes can easily be measured through surveys, measuring implicit attitudes are a more complicated indirect measure. It is common to use reaction time as an indicator of spontaneous and automatically activated attitudes (Vantomme et al., 2005). One measure that takes reaction time into account is the Implicit Association Test (IAT). Nosek et al. (2005) conducted a study where they explored IAT’s applicability on consumers’ brand preferences. They found IAT to be suitable and suggest that IAT should be used in consumer behavior areas where socially desirable responding and impression management could bias the result if only explicit attitudes are measured. We argue that this could be the case for green products. Hence, choosing IAT as a design for this study seems appropriate.

6.0 New Conceptual Model

Based on previous literature, we propose the following conceptual model;



The model suggests the belief constructs (subjective norm, behavioral attitude, perceived behavioral control and ethical obligation) to affect the formation of implicit and explicit attitudes. Further, implicit and explicit attitudes affect behavioral intentions, which evidently affects the actual behavior. We suggest socially desirable responding as a moderator for belief constructs, based on previous research and findings.

7.0 Hypotheses

We have discussed how socially desirable responding bias can work in favor of green products. We therefore hypothesize the following;

H1: *Explicit attitudes toward green products will be more positive than explicit attitudes toward conventional products.*

Further, because of the measurement bias related to explicit attitudes toward green products, we suggest that implicit attitudes will provide a different result. This is because it measures spontaneous and automatic associations, while explicit attitudes are a result of cognitive processing. Thus, we hypothesize the following;

H2: *Implicit attitudes toward conventional products will be at least as positive as the implicit attitudes toward green products.*

As it is not yet established if, or to which extent, socially desirable responding might bias implicit attitudes, we suggest two possible outcomes that are not mutually exclusive;

H3a: *The higher the score on the socially desirable responding scale, the higher positive explicit attitudes toward green products.*

H3b: *The lower the score on the socially desirable responding scale, the less gap between implicit and explicit attitudes.*

Based on Alwitt and Berge's (1993 in Vantomme et al., 2005) findings where 70% of the consumers expressed high levels of concern of the environment and were willing to change their purchase pattern, we assume that the perceived prevailing opinion in society is in favor of green products. Nevertheless, only a small percentage actually goes through with it (Carrigan and Attala, 2001). Therefore, we suggest that the more concerned one is about other people's opinion, the likelihood of expressing positive attitudes toward green products increases. If this assumption holds, implicit measures should correct for this effect.

H4: *The more a person is concerned with other people's opinion (subjective norm), the more positive explicit attitudes relative to implicit attitudes toward green products.*

Being that behavioral intentions are explicitly expressed, we hypothesize;

H5: *Behavioral intentions and explicit attitudes will vary less than behavioral intentions and implicit attitudes.*

8.0 Methodology

8.1 Design

The hypotheses will be tested using the experimental computer-based Implicit Association Test (IAT) that comprises an explicit part as well as implicit measurements. A focus group will be conducted as a pre-study and thus be of explorative design. The second and main part of the study will be experimental. We know that there is a problem - namely a gap between attitudes/intentions and actual behavior. However, we do not know if this is due to a discrepancy between implicit and explicit attitudes and will use an experimental measurement method to explore whether this could be the case.

8.1.1 The Implicit Association Test (IAT)

IAT is designed to measure the strength of a subject's automatic associations between concepts in memory. The subject is required to rapidly and accurately categorize given stimuli that represent the concepts. Two target categories and two attribute categories are given (Vantomme et al., 2004). The idea behind IAT is that it is easier to make a behavioral response when the association between two concepts is strong than it is if the association is weak. When a target concept is paired with one of the attributes, one of these combinations will be perceived as more congruent than the other. The way IAT measures behavioral response is through measuring response time on key presses. Each test has at least five blocks, whereas two of the blocks provide the critical data. The blocks consist of the following steps (Nosek et al., 2005):

Block 1	Learning the concept dimension (target categories)
Block 2	Learning the attribute dimension (attribute categories)
Block 3	Concept-attribute pairing
Block 4	Learning to switch the spatial location of the concepts
Block 5	Concept-attribute pairing

Practice blocks are included to ensure that the subject's response latencies are not interfered by difficulties due to the switching of spatial location.

Each respondent's IAT score is calculated using latency data from the pairing blocks (Nosek et al., 2005). The difference in performance speed between the initial pairing task and the reversed pairing task makes the basis for the IAT measure. Greenwald et al. (2003, in Perkins et al., working paper) have established a scoring algorithm that computes the D measure. The D measure is computed by dividing the difference between the congruent and incongruent blocks by the standard deviation of the aggregated test block latencies. The D measure is interpreted as an effect size, and is found to be a superior measure to the conventional scoring system as it increases the IAT scores' validity on behavioral dependent variables (Perugini, 2004 in Perkins et al., working paper).

8.1.2 The Study

8.1.2.1 Pre-study

The early stage of the study will have an explorative approach, as we will conduct a focus group. The aim of the focus group is to find a suitable product category and corresponding brands for which to base the target categories on in the IAT in order to increase the validity and reliability of the study. Additionally, findings from the focus group will be used to develop a questionnaire pertaining attitude belief constructs. If the first focus group does not provide us with sufficient data to rely on, another focus group will be carried out. The data collected from the focus group will be for research purposes only.

8.1.2.2 Main Study

In the second and main part of the study, we will use the computer-based experimental measurement method Implicit Association Test (IAT) to investigate whether the attitude/intention-behavior gap can be explained by a discrepancy between implicit and explicit attitudes. This test will thus counteract a possible impression management issue and evaluation apprehension. For our study, the target categories will be *green* and *conventional* products, and the attribute categories will be *good/positive* and *bad/negative*.

The IAT will comprise both an implicit part as well as an explicit part. To measure the participants' implicit attitudes, an experiment will be conducted. The subjects will be exposed to target categories with two distinct stimuli categories; green and conventional products. Products in the green category will hold typically green attributes whereas the other products have more conventional and traditional attributes. For the explicit part, the participants will be asked to fill out three questionnaires; one pertaining demographics, one pertaining attitude belief constructs and one pertaining socially desirable responding measures.

8.1.2.3 Multiple Regression

After the data collection, multiple regression will be used to statistically test the hypotheses.

8.2 Participants

For the focus group, we will recruit 8-10 people among students from BI Norwegian Business School in Oslo, Norway, preferably at least 50% of them female.

For the IAT experiment, respondents will be recruited online via social media channels and e-mail. As similar studies operate with between 50-80 participants, we aim to recruit at least 60 respondents.

8.3 Instruments

8.3.1 Focus Group

The main topics that will be discussed during the focus group session are the state of the planet, what they associate with the term green and green products and to which extent they actually buy green products. Further, we will discuss what the participants perceive as the prevailing opinion of society regarding these matters. These topics are chosen to explore the subjects' perception, associations and feelings toward environmentally friendly products. In addition, we will discuss which product category and which particular brands they associate with the green aspect.

The focus group will also be used as an elicitation study for the development of a questionnaire pertaining attitude belief constructs.

8.3.2 The Implicit Association Test

8.3.2.1 Target Category Stimuli

Two target stimuli are chosen for the IAT - a green product and a conventional (non-green) product. IAT effects are strong even with only two target stimuli (Nosek et al., 2003 in Vantomme et al., 2004). According to Nosek et al. (2005), each category should have at least four stimulus items in order for the IAT to be sufficient.

8.3.2.2 Attribute category stimuli

The attribute categories will be good and bad. The preliminary items for the attribute categories are shown below;

ATTRIBUTE CATEGORIES	ITEM STIMULI
GOOD/POSITIVE	Honest, joy, love, peace, glorious, happy, pleasure
BAD/NEGATIVE	Agony, grief, terrible, evil, nasty, awful, horrible

8.3.3 Explicit Measures: Questionnaires

Three questionnaires will follow the implicit association test. The first questionnaire will pertain to demographic measures in order to find out if there is

a pattern between the participants' response and for instance political identity. The second questionnaire will pertain to the participants' explicit attitudes toward corporate social responsibility, green products, social concerns and affiliation with social status. Both questionnaires will be completed in the data program.

Questionnaire 1: Demographics

When measuring demographics, each question will have alternatives corresponding to the question. When conducting statistical analyses however, for instance the scale for political identity will be coded on a Likert scale from 1-7, where 1 refers to strongly disagree and 7 refers to strongly agree. Below follows a suggestion for this questionnaire.

CATEGORY	ALTERNATIVES
Sex	Male, female
Age	Values 0-100
Cultural Background	Norwegian, Swedish, Danish, Other European, Asian, Middle East, American, African, Other.
How many IATs have you previously performed?	1,2,3-5, 6+
Political identity	Strongly conservative, moderately conservative, slightly conservative, neutral, slightly liberal, moderately liberal, strongly liberal
Politic Party	Fremskrittspartiet, Høyre, Arbeiderpartiet, Venstre, Sosialistisk Venstreparti, Kristelig Folkeparti, Senterpartiet, Rødt, Other, None
Occupation	Administrative, arts/design/entertainment/sports, business, computer/math, construction/extraction, education, engineers/architects, farming/fishing/forestry, food service, healthcare, homemaker, legal, maintenance, management, military, production, protective service, repair/installation, retired, sales, science, service and personal care, social service, student, transportation, unemployed
Religiosity	Strongly religious, moderately religious, slightly religious, not religious.
Education	Elementary school, junior high, high school, bachelor, master, MBA, M.D., Ph.D, other advanced degree
Country/Region of Primary Citizenship	List of Countries
Country/Region of Residence	List of Countries
Current Postal Code	<write in>
Postal code where you have lived the longest	<write in>

By measuring the above-listed categories, we will be able to find out if there is a pattern between a subject's age, cultural background, religious affiliation and

political identity and their implicit and explicit attitudes toward green products. Additionally, the postal code will identify if there is a pattern between for instance which part of Oslo you grew up and your attitudes.

Questionnaire 2: Explicit Attitudes linked to the TPB-model

To measure the different beliefs constructs of the TPB model we will use measurement items developed from an elicitation study and a review of literature. For the elicitation method we will conduct a focus group consisting of various business students from BI. The participants will discuss the different belief constructs and answer open-ended questions to elicit the different items to analyze the belief constructs. A questionnaire developed from this process and literature review will contain 25 items measuring the belief constructs and evaluative components. The four constructs; behavioral attitude, control beliefs, subjective norm and ethical obligation will have around 5 items each construct with a 7 point Likert scale with 1 (strongly disagree) and 7 (strongly agree). The items for the different belief constructs will be multiplicatively combined with their evaluative components by utilizing expectancy-value approach to acquire an overall level of each belief construct (Han et al., 2009).

Questionnaire 3: SDR Measures

The Balanced Inventory of Desirable Responding scale (BIDR) will be used to assess SDR-measures. The BIDR scale is developed by Paulhus (1984, 1991, 2002) to detect socially desirable responding related to the two subscales of impression management and self-deceptive enhancement (Li and Bagger, 2007). Both of the subscales consist of 20 items, thus 40 items in total. The respondents indicate to which extent they agree with a following 40 statements on a 7-point or 5-point scale, 1 indicating "not true" and 7 indicating "very true". An example of a subscale on the item of impression management is "I have some pretty awful habits" while an example of a subscale of self-deceptive enhancement is "I never regret my decisions". The scale consists of just as many negative as positive keyed items, making it counterbalanced. There are two methods to measure the BIDR item; dichotomous or continuous scoring. We will use continuous scoring for most reliable and refined results.

9.0 Validity

Below follows a discussion concerning the most important validity issues related to the Implicit Association Test and how we aim to increase the level of validity for our study.

9.1 Internal Validity

9.1.1 Instruments: Category Familiarity

A common critique against using well-known stimuli during the IAT is that familiarity might enhance the participants' liking or disliking of the products depending on earlier experience and perception. Consequently, using familiar stimuli might be a source of artifact and thus reduce the validity of the test. However, studies have showed that familiarity does not result in artificial results. Rather, completely unfamiliar stimuli such as using non-words to represent a pseudo-category are more likely to produce artificial results. Thus, to increase validity of our study, we aim to use stimuli that will fall into already existing categories and consequently enhance the IAT-effect. Additionally, clearly distinguished familiar categories will not lead to reduced response time and artificial results.

9.1.2 Order of Tasks and Cognitive Inertia

Another threat to internal validity is the order of the combined tasks given. Studies have shown that the IAT effect often is better in the first blocks of the test and that response time slows down in the latter blocks. A cause for this is most likely the counterbalancing of the categorization tasks and the corresponding key switch. Messner and Vosgerau (2010) found that the IAT effect increases when the compatible block precedes the incompatible block. They did not find any IAT effect when the blocks were reversed. The authors suggest cognitive inertia as an explanation for this, caused by the switching of categorization rules. To reduce this, we will introduce practice rounds in the third and fifth block, as suggested by Nosek et al. (2005).

9.1.3 Possibility of Faking the Test

Some studies have found that it is possible to fake the IAT scores, but only to a certain extent (Steffens, 2004). The most efficient way of faking the scores is to respond slowly on the combined task block that the respondent finds to be the easiest one. However, we consider the likelihood of faking to be minimal and thus do not consider fakeability to be a major threat to the internal validity.

9.2 Construct Validity

The Implicit Association Test raises important questions pertaining to construct validity and there is an ongoing debate on whether the test actually measures what it is intended to measure.

9.2.1 Salient Asymmetry Issues

Rothermund and Wentura (2004) claim that subjects' ability to group categories depend on perceptual salience, and not necessarily mere associations. According to the authors, highly salient categories are easily grouped together, and will consequently affect the IAT measures. On the other hand, Greenwald et al., (2005) state that salience is unlikely to have a stronger influence on IAT measures than association strengths. Hence, even though IAT is believed to be a valid measurement method of implicit attitudes, there is still some uncertainty related to the measures - whether they are based on associations or other inferences.

9.2.2 Culture or Person?

Several researchers have argued that IAT does not measure the subject's individual associations, but rather associations that reside in the culture in which the subject belongs (e.g. Karpinski and Hilton, 2001; Olson and Fazio, 2004). However, predictive validity studies have found that the test is sensitive to individual differences and thus measure the subject's individual associations (Greenwald et al., 2002; Hofmann et al., 2005).

10.0 The Study's Significance: Managerial Implications

If it is proven that a difference between explicit and implicit attitudes can explain why consumers refrain from acting in accordance with their stated attitudes and intentions, this study will provide managers with useful information when developing marketing strategies. Using consumers' explicit attitudes and buying intentions toward a green product as an indicator of the product's likelihood of success might be an inadequate measure due to impression management and socially desirable responding. The findings will also give marketing managers directions to which extent the green or ethical aspects of the product should be emphasized.

Further, the study will explore the IAT's applicability within the green consumer behavior field.

Given that our suggestions are correct, the findings will support the scholars who call for a shift from focusing on the individual consumer to a more collective view when it comes to pro-social actions.

11.0 Progression Plan

January	Work on literature review and development of measurement scales
February	Conduct focus group Develop first IAT test Pre-test IAT
March	Evaluate IAT-test Re-structure IAT test if necessary Send IAT test to respondents
April	Harvest results Begin analyzing results
May	Analyzing results
June	Finalizing first draft
July	Work on draft
August	Continue work if necessary
September	Hand-in

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