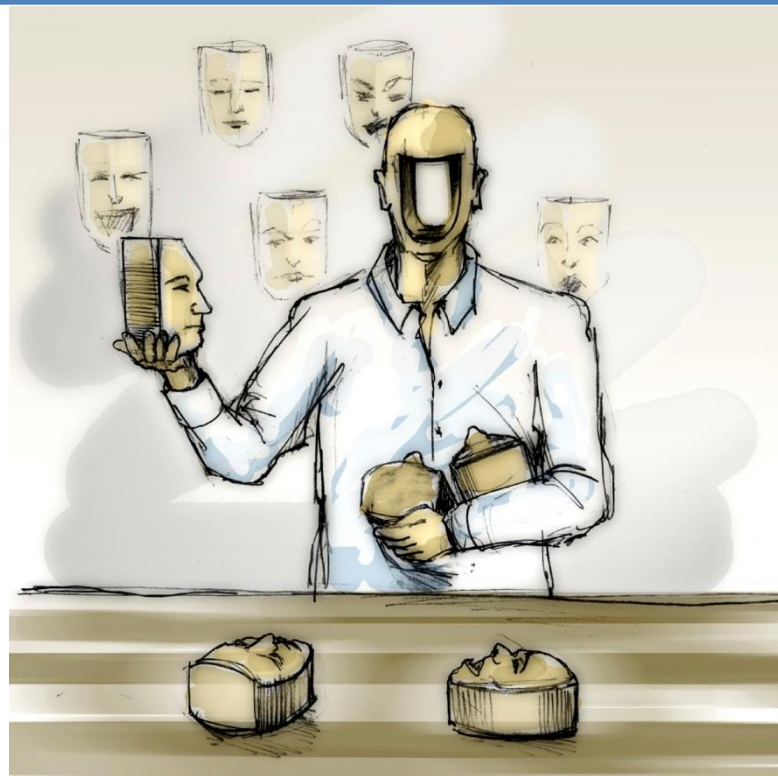# 2014

# Having a Bad Mood?
## Positive News:
### This Bad Mood Makes You Choose Good!

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Institute for Business and Economics; specialization Marketing
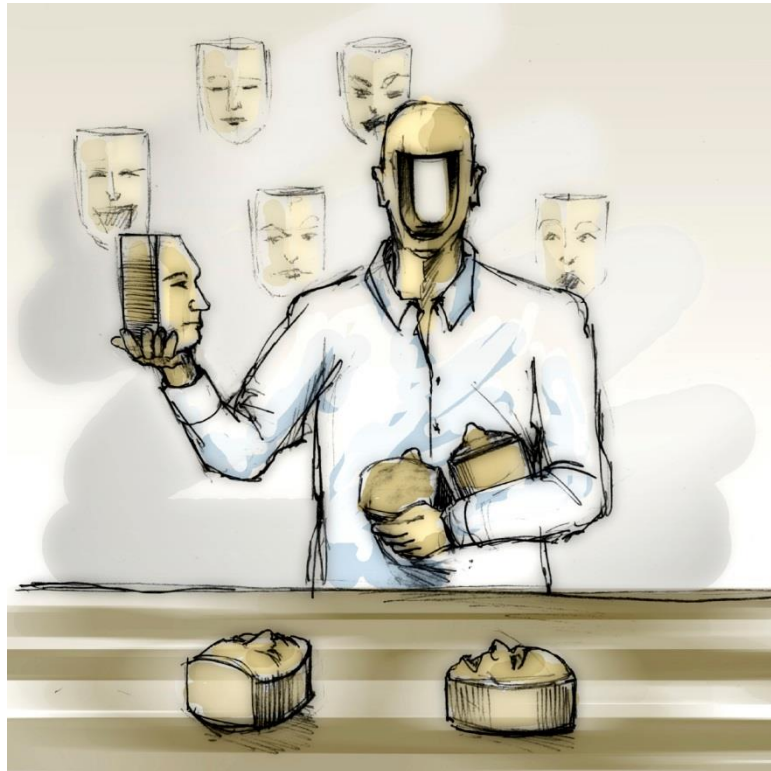
25-8-2014

# Being in a Bad Mood?

# Positive News:

# This Bad Mood Makes You Choose Good!

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Submitted in part fulfilment for the degree Master in Business and Economics,
specialisation Marketing
August 2014

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Rotterdam, 25-08-2014

## ABSTRACT

This research's objective is to investigate the relationships between mood, information processing and the decision quality of consumer's choice regarding utilitarian products. This is performed by reviewing existing literature and a succeeding experiment.

Literature states that mood and emotions are not identical. An emotion involves short duration, while a mood involves long duration; emotions are of high intensity, moods are low of intensity; the expression of an emotion is immediately visible, while a mood expresses progressively, and; rewards and threats of an emotion come out or go in our external environment, while a mood holds information about the internal state of affairs and it has resources available to meet environmental threats and challenges. Furthermore, literature defines two affect mechanisms. *Affect Evaluation* that infers that a mood gives information by personal feelings to create a perception of a concept, and; *Affect Regulation* that assumes that a person always tries to be in a desired mood. *Affect Regulation* overshadows *Affect Evaluation*, when a person is in a negative mood. A person in a good mood transfers positive feelings while a person in a bad mood tries to improve this mood into the desired mood. Hence, moods are influencing the choice of a consumer.

The experiment implied an online survey questionnaire that mainly focussed on consumer's mood, mood change, elaboration of processed information and decision quality of consumers when purchasing an utilitarian product. Consumer's mood is determined by the SUE Scale of Hartmann (2009) at the beginning of the experiment. Additionally, the mood change was detected by a second equal mood measurement question at the end of the key part of the experiment. Key important is the examination of the consumer choice process. This was done by asking the participant to choose one option out of five. Four options consisted each of a different vacuum cleaner together with a small amount of information and one option to acquire extra relevant information. Siemens, Philips, Dirt Devil and Sidi were the different vacuum cleaners. Sidi involved the product with the highest decision quality, then Philips followed, next Dirt Devil followed and finally Siemens followed. This implied that Siemens was the product with lowest decision quality in the experiment. The decision quality was determined by the quality of the specifications belonging to each vacuum cleaner. The option to acquire extra information identified the elaboration of the processed information. The extra information was only displayed to the participants that asked for it. Then, these participants needed to select again one out of five options that again defined four different vacuum cleaners equal to the previous question and an option that defined that no choice could be made based on the provided information. The option for the vacuum cleaner of the brand Sidi determined in both questions the utilitarian choice with the highest decision quality. This data gained from the participants was used to analyse the effect of mood on decision quality of a consumer's choice for an utilitarian product.

The statement that is verified in this research, is: '*A mood of a consumer influences the decision quality of an utilitarian product choice made by the consumer using the elaboration level of processed information*'. The analyses of the hypotheses determine that Decision Quality and Mood are significantly positive related. Literature suggest that a person's mood can be improved by the choices that a person make. The concerning analysis of this research states the significant negative relationship between Mood and Information Processing. Finally, no proof is delivered for the direct relationship between Mood and Decision Quality. Information Processing is the mediation variable in this relationship, and cannot be excluded from this relationship.

## PREFACE

To bring all the practice and knowledge gained within the Master 'Business and Economics' with the specialization 'Marketing' together, there had to be generated an final dissertation. This dissertation needed to perform a new research that studied topics associated with this Master programme.

To accomplish this final task, a research was performed to explore the relationship between a consumer's mood and the decision quality of this consumer's choice in a situation where only an utilitarian product could be purchased. This field was not scrutinised within existing scientific literature.

Hence, the outcome of this research that is outlined in this dissertation, added innovative applicable knowledge for further research and it generated new insights on the examined topics in the practical field for businesses and organisations.

I enjoyed working on my dissertation for the Master 'Business and Economics' for the reason the outcome of this research modifies the former awareness of how to use mood for influencing consumer choice within marketing. Moreover, this research enclosed my personal curiosity of the practices of individuals' affective states to generate their final choice for a product.

I want to thank mrs Versluis for the support to perform this experiment and to make it possible to produce a trustworthy dissertation by providing me the fitting advice to solve difficult problems.

Rotterdam, 25-08-2014
Grace Schoenmakers

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## 1. INTRODUCTION

This chapter describes the introduction for research that is performed for this dissertation. Paragraph 1.1 draws the situation of the problem that is researched. Next, paragraph 1.2 describes the problem statement followed by paragraph 1.3 that describes the research questions to answer the problem statement. Paragraph 1.4 discusses the relevance of this research. Subsequent, this chapter closes with an outline of this dissertation.

### 1.1 Situation Description (Problem Indication)

Imagine, you need to purchase a new washing machine, because your old washing machine went to pieces. Furthermore, you were already in a bad mood because for a week your dearly beloved pet is missing. Altogether, you are in the situation that you need *to buy a washing machine while having a bad mood*. In other words, you need to purchase an utilitarian product in an negative affective state.

"How are you going to do this? Do you care about the characteristics of the washing machine and to what it is capable of, or don't you care about these factors because you got other things on your mind at this moment? How do you process the information you need for this decision? What is most important when choosing the product? These kind of questions are asked unconsciously, and they are answered in your subconscious. This implies that you are answering these kind of questions without making effort to answer these. All these questions are the basis of a decision making process. This can also be referred as 'the start of the final choice of the consumer'. Within this process different data is gathered consciously or unconsciously and this information influences the final decision of an individual.

Based on the preceding paragraph, various topics are intertwined with the final consumer's choice of a product. Therefore, all topics are influencing the final outcome/decision. The first topic of interest is mood. How can mood be defined? Is a mood the same as an emotion? How do I get into a specific mood and how can I regulate my mood? Am I taking actions to change my mood or is it just a state that I am in and I cannot influence this state? All these kind of questions are important for understanding the relationship between mood and consumer's choice. The second topic of interest is information processing. This topic concerns how consumers process information to make a choice. The interest of this topic is the effect of mood on information processing. Mood influences the way information is processed regarding consumer's choice. The last main topic of interest is consumer's choice. This topic focuses on the decision quality of the choice of a consumer relating to mood and information processing. Next, each point of interest for this research is briefly discussed.

❖ Mood

Affective states can be divided into emotion and mood. They are cohesive, but emotions and moods are not the same. Moreover, this research focuses on mood as affective state because mood is more continuing than emotion. Emotions are often of a short time period and more fluctuating (Suh, 2009). This is elaborated in the literature review in the following chapter. An affective state influences a diversity of behavioural occurrences, such as a positive mood state improves the memorability of positive information (Bower H. G., 1981; Zillman, 1988; Gardner, 1985).

This research distinguishes a positive mood/affective state and a negative mood/affective state. These states can influence behaviours of individuals deliberately by implementing strategic management of mood states assuming persons in a negative affective state want to improve their affective states and persons in a positive affective state want to maintain in their positive states

(Andrade, 2005; Schwarz, 1990; Gardner, 1985). Previous literature describes two main affect mechanisms on consumer's choice to comprehend the 'rationality' behind affective influenced behaviour: 'affective evaluation' and 'affect regulation'. It suggests that affective evaluation implies that the mood state of a consumer is used as information in creating an evaluative judgement what leads to consumer behaviour (Schwartz & Clore, 1983; Pham, Cohen, Pracejus, & Hughes, 2001), whereas affect regulation indicates that the emotions generated by a product or service helps a consumer to control the mood state (Bagozzi, Baumgartner, & Pieters, 1998; Wegener, Petty, & Smith, 1995; Larsen & Prizmic, 2004). Furthermore, affective evaluation takes place without obvious consideration, while affective regulation indicates a conscious effort to improve a negative mood. Altogether, affective evaluation is linked to a positive affective state for the reason their state does not need to be improved, while affective regulation is linked to a negative state for the reason an individual with a negative affective state is always trying to improve their affective state. Nevertheless, when individuals were told they were able to improve their mood, the effect disappeared (López & De Maya, 2012). An assumption made in this research is that a person in a negative mood tries to improve this mood, while a person in a positive mood wants to stay in this mood (Larsen, 2000). This implies that both persons have different objectives and therefore they handle it different to reach these objectives. Consequently, this research focuses on how different affective states influence the quality of a decision of utilitarian products regarding the way information is processed.

❖ Information Processing

Consumers need to process information about a product. Otherwise, no perception of that product can be established, what implies that the consumer has no attitude towards this product. This causes no influencing behaviour to choose this product (Wo & Lo, 2009; Suh, 2009). Information processing by an individual is intertwined with the affective state of this individual. Different affective states cause differences in information processing. A positive affective state improves creative thinking whereas a negative affective state fosters a more careful and analytical processing method before making decisions and judgements. Likewise, there is evidence that an affective state influences an individual's capability of information processing (Martin & Clore, 2001). Altogether, a person in a negative mood shall have high elaboration of the information that is processed while a person in a positive mood shall have lower elaboration of the information that is processed. This is the key knowledge of this study regarding information processing. Both affect mechanisms are influenced by the significance of elaborated information that is gathered. The processed information is the shackle between mood and consumer's choice. For this reason this study scrutinizes the elaboration of the processed information linked to moods. This is discussed in the literature review of paragraph 2.1.

❖ Consumer Choice

Consumers choose their needed products before purchasing these. This choice is based on the consumer's perception of a product. This perception consists of thoughts regarding the product and this product is most times part of the consideration set of the consumer (Suh, 2009).

Consumer's choice belongs to the broader concept of 'consumer behaviour'. In the beginning of research in consumer behaviour, most research was based on the assumption that consumers make rational decisions regarding choosing products and purchasing products. Different models are established based on this assumption with utility as a key factor when purchasing. These models are

applicable for understanding rational consumer behaviour, but they leave out the effect of irrational consumer behaviour, also called the affective side of consumer behaviour (Gardner, 1985; Agarwal & Malhotra, 2005; Dhar & Wertenbroch, 2000). According to the research of Pham (1998), affect is of importance in consumer decision making/choice. Various scholars define the link of purchasing a product and improving the affective state (Zillmann, 1988; Cohen & Andrade, 2004; Pham M. T., 1998). Due to the comprehensible relationship of purchasing hedonic products and the improvement of affective states, this field is scrutinized in lots of studies. (For example see 'When hedonic products help to regulate my mood.'(López & De Maya, 2012)) All of these studies demonstrate proof for this relationship. Although, within all of these studies, utilitarian products have been left behind in improving affective states for the reason hedonic products have more impact on improving the affective state than utilitarian products. To improve an affective state by a products, feelings need to be created for this product. This research tries to create these feeling for an utilitarian product by focussing on the decision quality of this product. The decision quality of a product is based on the fulfilment of the practical need from a consumer (Raghunathan, 1999). There is no research found that examines a specific mood, the elaboration of processed information and the choice of an utilitarian product. Studying the linkages between these variables should help to create a better understanding of the choice for an utilitarian product by a consumer while focussing on the mood of the consumer. Therefore, this reveals an open field to examine further in this research.

## 1.2 Problem Statement

One purpose of this research is to explore the relationships between mood, information processing and the decision quality of utilitarian choice of the consumer. Another purpose is to use the gathered information from the exploration of this relationships to create an insight in the process of the utilitarian choice of the consumer. Altogether, these purposes are included in the following research objective:

*To investigate the relationships between mood, information processing and the decision quality of consumer's choice regarding utilitarian products*

To reach the objective of this research, the following problem statement is defined:

> **How does a consumer's mood (mechanism) influence the decision quality of a consumer's choice when purchasing an utilitarian product?**

## 1.3 Research Questions

To create an answer on the problem statement, following research questions are defined:
1. What are moods and emotions?
2. What kind of affect mechanisms are pointed out in literature?
3. What different buying situations can be defined?
4. How does the decision quality of a consumer's choice for an utilitarian product influence a consumer's mood?
5. How does mood influence information processing regarding utilitarian products?
6. How does information processing influence a consumer's choice regarding decision quality of an utilitarian product?
7. How does mood influence a consumer's choice regarding the decision quality of an utilitarian product?

## 1.4 Relevance

This paragraph discusses the academic relevance and the practical relevance regarding this research. First, the academic relevance is discussed that focuses on academic knowledge to create an insight why this research is important within the academic field. Subsequently, the practical relevance is discussed that elaborates the practical insight of this research. This section demonstrates how the outcomes of this research can be applied in daily life.

### 1.4.1 Academic Relevance

In the past decade affect has become an important subject within different studies on consumer behaviour. Different studies on affect have been accomplished within various areas such as consumer satisfaction (Mano & Oliver, 1993) and advertising (Batra & Stayman, 2005; Edell & Burke, 1987). Nevertheless, relatively a small amount of research has been done on the role on mood in consumer choice. Research that has been focussing on this field, was mainly focussing on positive moods. The effect of negative moods has been less well investigated. This paper will add to extant research by addressing mainly negative moods, but still discussing also the positive moods.

Moreover, previous written studies, often used the words emotions, mood and sentiments interchangeable (Bower, Monteiro, & Gilligan, 1978; Lin, Yen, & Chuang, 2006). Conversely these words point out different occurrences. Due to the facts that these words are not pointing out different occurrences, it is not really clear what these previous conducted studies are proving. This research will clarify the effect of only the phenomenon 'mood' on information processing and the decision quality on consumers choice.

This study differs from other studies because the final choice of the consumer is only focussing on utilitarian products. Relatively all previously written scholars have been focussing on the consumer choice of hedonic products when the basic input was mood within the study. A predominantly reason for this focus in previous studies is that it was already proven that hedonic products were influencing mood and emotions, while utilitarian products were not been investigated in this respect. The hedonic product was used as an object to regulate a person's mood (Cohen & Andrade, 2004; Andrade, 2005; Fedorikhin & Cole, 2004; Larsen, 2000; López & De Maya, 2012).

### 1.4.2 Practical Relevance

As stated before in this paper, this research addresses the influence of a consumer's mood on the decision quality of an utilitarian product that a consumer chooses to purchase.

Scholars have documented that affect plays a key role in the choice of consumers (Pham M. T., 1998; Schwartz & Clore, 1983; Dhar & Wertenbroch, 2000). Therefore, knowledge of mood is important for managers within organisations.

According to Rook (1987), research has proven that moods influence the extent to which persons manage their buying impulses (Rook, 1987). As written in the literature review, there is found proof that persons who are in a bad mood, are consistent to further examine information using an analytical/systematic approach (Bless, Bohner, Schwarz, & Strack, 1990; Forgas, 2001; Schwarz & Bless, 1991; Cohen & Andrade, 2004). Moreover, there is provided evidence that persons who are in a good mood, are taking more risks and in this extension these persons are processing information with a heuristic approach (Armitage, Conner, & Norman, 1999). This knowledge is elaborated in the literature review of this research. Using these statements, the information of this research may provide managers a more complete awareness of consumers and their responses to marketing

strategies and tactics. As documented in research of Gardner (1985), this information may be essentially for comprehending consumer behaviour as it is adopted by service encounters, point-of-purchase stimuli and marketing communications (Gardner, 1985). Managers could learn their employees procedures for perceiving a consumer's mood and then using this mood to change a consumer's attitude towards a product and directing this consumer's behaviour. For example, a consumer is in a bad mood. This will be noticed by the salesman because he is trained to perceive a person's mood. Based on this research, persons in a bad mood want to have more detailed information about a product to be sure to choose a product with a high decision quality. So, this salesman provides this consumer detailed information and he lets this consumer make considerations about the utilitarian product(s) he is trying to sell. He could navigate the thoughts of this consumer and could create a positive attitude towards a product. This directional change may lead to purchasing a product by this consumer. It might be that when there was not provided detailed information, this consumer would not purchase a product for the reason he was not able to gather this wanted information. In the situation that a consumer is in a positive mood, this salesman would also notice this mood and he focusses more on the feelings that are linked to a product (or brand) or he leaves this consumer alone for the reason this consumer is more risk taking and this consumer does not wish for extra information.

When a manager wants to induce mood to a consumer, he could use point-of-purchase stimuli that create a better mood for a consumer. Although, it is difficult to use these stimuli for the reason persons could differently respond to these and a mood is not immediately changed like emotions. However, stimuli that can be used for responding on a mood are information devices (Gardner, 1985).

A manager could implement the knowledge examined in this research in the marketing communication strategies of an organisation. For example, if there is going an economic recession, probably more people would be in a bad mood because they have more worries about their expenditures and the costs related to these. The communication strategy of an organisation should implement the knowledge of the relationship between bad moods and consumers choices. The focus of the marketing communication strategy should include more detailed information about a product or it should try to induce a more positive mood to a consumer. This research does not include the knowledge of how to induce moods to a consumer.

Altogether, a mood is an essential factor within the marketing that influences consumer behaviour and the knowledge discussed in this research may lead to an adjustment of an organisation's marketing (communication) strategies to improve its organisational performances.

## 1.5 Dissertation Outline

The structure of this dissertation is described following in this paragraph.

The first chapter describes the introduction of this research. It gives an overview of what is researched exactly. At the start the current situation regarding the objects of this research is described. Subsequently, the problem statement and research questions are stated. To delimit this research, the academic relevance and practical relevance are discussed. This chapter closes with this dissertation outline.

Consequently, the second chapter describes the literature that is reviewed to create the basis of this research and it determines a conceptual model that displays an total overview of the examined relationships. It scrutinises the expected relationships of this study.

Next, the third chapter defines the methodology of this research. It gives an overview of how this research is executed and it discusses the experiment executed for this research. Consequently, the fourth chapter discusses the outcomes generated from the different analyses of the data gathered by the experiment of to this research. This chapter starts with a descriptive analysis and is followed by the various analyses of the different hypotheses.

Finally, the fifth chapter defines the general discussions of this research. This part combines all considered information of this research to answer of the problem statement. Furthermore, this chapter defines the limitations and further research that could be done based on this research. This chapter closes this research.

## 2. THEORY

This chapter defines the theory used within this research. Paragraph 2.1 describes the literature that is reviewed and which hypotheses are determined based on this information. To clarify what is tested within this research, paragraph 2.2 draws the conceptual framework together with its variables. Based on the framework and the literature review, the hypotheses of this research are listed to keep this research structured.

### 2.1 Literature Review

This paragraph reviews the previous written literature regarding the topics of this research. It starts with a description of the differences between a mood and an emotion, consequently it discusses the affect mechanisms linked to different moods, then it defines consumer choice, and finally this paragraph reviews the way information is processed based on the different moods.

#### 2.1.1   Mood vs. Emotion

Mood and emotion are often considered as equal in daily life. The reason for this is that people are not common with the precise differences of these entities. For example, I am very angry, so I am in a bad mood. This is not entirely right. It is possible, although a person is very angry at a moment in time, this person is in a positive affective state. (Affective states are equally used as moods within this research. For example, when a person is in a bad mood, this is the same as when a person is in a positive affective state.)

The following example clarifies this:
*A woman is feeling great because she reached her goals after working to these for over more than two years. She is proud on herself and she feels like she can conquer the whole world now. Then, another person makes her angry because he promised something to do, but he did not do it. So, she is also angry. Still, she is in a positive mood, because her emotions of anger are only temporary.*

Next the commonalities and differences between <u>mood</u> and <u>emotions</u> are described.

First of all: 'Affective states have informational value to the person who experiences and attends to them.' (Larsen (2000) p. 129) Research distinguishes mood and emotion. Although they are closely related, they are not equal to each other. However, mood and emotion have a few common primary features. First, both are *experiential entities*. This means that they are felt or sensed to some degree by an individual being in a mood or having an emotion. Emotional sensation may be compared to other stimulus modalities, such as smell and vision. In certain respects, this embodies a 'sixth' sensory domain. This sensing aspect of mood and emotion is called 'the affective component', subsequently mentioned as 'affect'. Affect can be divided in negative affect (feel bad) and positive affect (feel good).  Second, both mood and emotion have in common the feature *expression*. However, emotion is more expressed in facial expressions, while mood is more expressed non-facial in body language and speech utterances. The last common primary feature is *physiology*. As well mood as emotion levy support of the body, guide energy of the body, and take part of an enormous flow of physiological responses (Larsen, 2000; Luomala & Laaksonen, 2000).

Although moods and emotions are overlapping, there are distinctions. First, *the duration* of moods and emotions are not equal. Moods carry on for a longer time period than emotions. Also, the *intensity* of these two are dissimilar. Emotions are far more intense than moods. Moreover, emotions

often have a clear cause for the reason they are *expressed* immediately, while moods cannot be directly related to a cause for the reason moods build progressively (Larsen, 2000; Luomala & Laaksonen, 2000). Another difference, developed by Morris (1992) involves *information value* of moods and emotions. Emotions deliver information about the environment and the demands being placed on a person by environmental happenings. Emotions gesture what is going wrong or right, what threats or rewards come out or go in our external environment. In contrast, moods give information about a person's internal state of affairs and the resources available to meet environmental threats and challenges (Larsen, 2000; Luomala & Laaksonen, 2000). Finally, it is stated that emotions are associated with more distinctly phasic or acute physiological *changes* (in the central and autonomic nervous system), also called 'rapid response', while moods are associated with more tonic and chronic changes (like hormones and the immune system), also called 'sustained response' (Larsen, 2000; Luomala & Laaksonen, 2000).

Concluding from paragraph 2.1.1, emotions and moods are two separated entities. These entities are overlapping, but each they have different features. Table 1 summarises the differences previously discussed.

|  | EMOTION | MOOD |
|---|---|---|
| **Duration** | Short | Long |
| **Intensity** | High | Low |
| **Expression** | Immediately | Progressively |
| **Informational Value** | External state of affairs | Internal state of affairs |
| **Changes** | Rapid response | Sustained response |

**Table 1: Differences between mood and emotion**

*These differences are main important to delimit this research. It focuses only on mood. To specify the outcome of this research, this research disregard emotion. For the following writings within this paper, affect is restricted to mood only. Each mood state causes different behaviour. This is explained in the following sub-paragraph.*

### 2.1.2   Affect Theories

Several theories explain the causal relationship of affective states and behaviour. Different affective states of an equal valence can have dissimilar effects on judgement and decision making. Two general theories explain these effects, called affect evaluation and affect regulation (Zillman, 1988; Thayer, Newman, & McClain, 1994; Di Muro & Murray, 2012).

Literature on these theories exposes that consumer's choice is consistent with a basic consumer's motivation to conserve the existing arousal level when being in a positive affective state. Therefore, consumers in a positive affective state tend to choose products that are fitting their current level of arousal. On the other hand, a consumer with a negative affective state adjusts this arousal level.  Hence, these consumers in a negative affective state choose products that are incongruent with their current arousal (Di Muro & Murray, 2012). According to Larsen (2000), affect regulation overshadows affect evaluation when goods have the potential to improve affective states (Larsen, 2000). This is also proven by research of Cohen and Andrade (2004) which confirms recognitions towards mood maintenance and affect regulation (Cohen & Andrade, 2004).

The affect theories are elaborated next.

❖ Affect Evaluation Theories

Affect evaluations adopt that a person's feelings at a single point in time impact evaluative judgment and behaviour (Pham, Cohen, Pracejus, & Hughes, 2001).

*The memory-based theory* or *the mood inductive theory* are both affect evaluation theories. These theories expect that an individual's existing affective state creates an evaluative judgment and actions in a consistent way that influence consumer behaviour (Isen, Clark, Shalker, & Karp, 1978; Bower H. G., 1981; Gardner, 1985). Generally, a positive affective state is expected to cause a more encouraging evaluation of the environment, which motivates proactive behaviour when choosing a product. However, a negative affective state is expected to cause a less encouraging evaluation of the environment, which prevents taking decisions which products to choose. A person makes an evaluative conclusion based on an affective evaluation generated out of an individual's own method to process affective information (Andrade, 2005). Consumers who have tend to bias their evaluations in mood corresponding directions when they are in a positive affective state and have to build new perceptions (Forgas, 1995; Schwarz & Bohner, 2003; Fredorikhin & Cole, 2004). This could these new perceptions, a person could use a memory-based approach or an inductive approach.

The affect priming model is a memory-based approach, that assumes that an affective state activated a node when thinking of this idea. This node is linked to other nodes in memory and by these linkages the consumer will create a new perception. For example, a consumer sees a television of Samsung, so the nodes television and perception are activated and linked to Samsung, following more nodes are activated like trustful and revolutionary, also nodes are activated that are linked to the node television, like movies and fun. Then, all these nodes are giving information to construct a new perception based on old nodes of this television to this individual. Persons in a positive affective state will link more positive nodes to this new perception.

The affect-as-information model is an inductive approach, and makes a new perception by the heuristic method of asking yourself the question when evaluating a stimulus: 'How do I feel about it?. The answer of this question would act as information to construct a perception. For example, a person in a positive affective state sees a new television in a shop. Then, he asks himself the question 'How do I feel about it? and thinks this is a good product for the reason he is in a positive affective state. When persons use this heuristic method, they make the mistake of thinking that their feeling belonging to their mood, belong to this product (Petty, Schumann, Richman, & Strathman, 1993; Schwartz & Clore, 1983; Pham M. T., 1998; Fredorikhin & Cole, 2004).

❖ Affect Regulation Theories

Affect regulations adopt that a person's distinction between feelings at two points in time causes a major affective role in managing behaviour (Andrade, 2005). Preceding research on mood regulation has provided evidence for two motivational consequences of mood states: people are motivated to maintain positive moods and people are motivated to diminish negative states. Related research confirmed that people attempt to make choices to retain their positive mood. Conversely, people in a negative mood aim to improve their mood in a more positive mood. (Wegener, Petty, & Smith, 1995; Atalay & Meloy, 2011). According to Andrade (2005) the impact of the non-optimal mood state on decision making becomes stronger when an individual is further away from his/her preferred affective state. This implies individuals in a negative affective state are more likely to take

action to become in a more positive affective state, because their need to alter their affective state is bigger (Andrade, 2005).

A mood regulation model can be explained in the same way a thermostat works. When a person wants to have a temperature of 21° in a room, he could put the thermostat on this temperature and if it is colder, it will sign the heater to give more warmth to reach his goal. This will lead to heating up the room to 21°. The mechanism regulates the temperature.

It works the same for the regulation of moods. Assuming every person wants to be in a positive affective state, a person in a negative affective state would sign something need to be done to improve this affective state to reach his goal. Therefore, a positive stimuli needs to be used. Until this goal is reached, the person tries to keep changing his affective state by its personal control mechanism (Larsen, 2000).

Individual differences in mood regulation have numerous essential consequences. Larsen (2000) determines six potential mechanisms of individual differences in mood regulation.

The first mechanism is the *detection of affective states*. Not every person detects affective cues equally. There are differences in attending to these cues, coding these cues and processing these cues. For example, there is a television commercial about fair trade chocolate. An individual could focus on this commercial, and could code this information as fair trade chocolate is better than normal chocolate. Later, when this person is in a supermarket, he processes this information and he chooses to purchase fair trade chocolate instead of normal chocolate. In another example, a person sees the same commercial, and codes the information, fair trade chocolate is more expensive. Later, when he is processing this information, he would buy normal chocolate instead of fair trade chocolate. Therefore, during the three stages there could arise lots of differences in detection of affective cues by individuals.

The second mechanism is the *mood-regulation behaviour* of an individual. An individual has its own strategies to regulate mood. For example, a person in a negative effective state is purchasing a new Ipod to self-reward him and making his mood state better. Another person compares himself to other persons and creates a belief that he is better in his job than some other person, what creates a good feeling and leads to an improvement of his affective state. Both activities belong to mood-regulation behaviour, but this does not imply that they are successful and used frequency.

The third mechanism is *temperamental affective reactivity*. Some persons are more reactive on affective stimuli than other persons. The intensity for each person is linked to his personality. For example, there are two individuals, both in a negative affective state. Both are getting a surprise party what in this situation is a pleasant event in their daily life. This event is for one person uplifting his mood and for the other person it does not change anything in his mood. In other words, one person is more sensitive for the pleasant event than the other person.

The fourth mechanism is the *accurate sensitivity* to the individuals current affective state. This implies how an individual is feeling his affective state. For example, a person is in a negative affective state, but he is too busy for thinking over this. Another person does have the time to think about his negative affective state. The first person with less time does not feel this affective state as the other person does and the first person is less sensitive to his affective state than the other person.

The fifth mechanism is the *frequency and sensitivity of the comparator process*. This implies how often the initial affective state is compared with the desired affective state and how sensitive an individual is for this differences between the affective states.

The last mechanism concerns the *desires, beliefs and values* regarding the desired affective state. This mechanism defines that every person thinks different about his perfect affective state.

Concluding from paragraph 2.1.2, the theories of affect can be divided in affect evaluation theories and affect regulation theories. Main important is that affect regulation dominates affect evaluation. Previous written research state that a person in a negative affective state always is motivated to become in his desired affective state, using affect regulation, while a person in a positive affective state is motivated to remain this state, using affect evaluation. According to this assumption, the goal of every individual is to be in a positive affective state. Subsequently, affect regulation takes always place when a person is in a negative affective state, while affect evaluation takes only place when a person is in a positive affective state.

*Both affect theories are important for this research because a participant of the experiment could be in a positive affective state or a negative affective state. Moreover, consumer behaviour is linked to these theories and for this reason these theories are important for the choice made by the consumer. Consumer choice is elaborated in the following sub-paragraph..*

### 2.1.3   Consumer Choice

Starting this sub-paragraph, the recognition from the origin of a consumer's mood plays is significant for the effects of arousal and physiological value on <u>consumers choices</u>.  When consumers are aware of the origin and keep this in mind when choosing a product, mood is not significantly related to product choice (Di Muro & Murray, 2012; Martin & Clore, 2001).

Cited from Jacoby, Johar and Morrin (1998), consumer behaviour is defined as " the acquisition, consumption and disposition of products, services, time and ideas by decision making units." According to this definition, it is adopted that consumer choice and decision making are part of consumer behaviour (Jacoby, Johar, & Morrin, 1998). Decision makers search for motives to defend their choices. These motives could be classified in *reasoned motives*, these are the 'shoulds' of the consumer, also called utilitarian considerations, and; *affective motives*, these are the 'wants' of the consumer, also called hedonic considerations (Dhar & Wertenbroch, 2000). Also, Batra and Athola (1990, p. 159) state: "consumers purchase goods and services and perform consumption behaviors for two basic reasons: (1) consummatory affective (hedonic) gratification (from sensory attributes) and (2) instrumental utilitarian reasons." (Batra & Ahtola, 1990) By these considerations two different *buying situations* can be determined based on previously written scholars: <u>the hedonic buying situation</u> and; <u>the utilitarian buying situation.</u>

The hedonic buying situation is the situation where a product is purchased for the feeling resulting out of the experience linked to this product, the product satisfies an affective need (Voss, Spangenberg, & Grohmann, 2003; Rajat & Sharon, 2012; Dhar & Wertenbroch, 2000). Hedonic products are perceived as subjective signs instead of objects motivated by seeking pleasure and emotions for their consumption. (Palazon & Delgado-Ballester, 2013; Hirschman & Holbrook, 1982; Holbrook & Hirschman, 1982). Moreover, hedonic products contain direct sensory satisfaction and affective objects and therefore these products are linked to the improvement of an affective state (Holbrook M. B., 1986; Woods, 1960). Different studies show that the nature of this kind of product generates affective responses over cognitive responses (Palazon & Delgado-Ballester, 2013; Batra & Ahtola, 1990; Mano & Oliver, 1993; Shiv & Fedorikhin, 1999).  These products can be the objects of affect evaluation and also for affect regulation (Adaval, 2001; Schwartz & Clore, 1983).  Cited from

López and De Maya (2012, p.708):'(1) hedonic products represent an uplifting opportunity for consumers wishing to regulate their mood, (2) information processing drives differences in purchase intention of positive hedonic products between individuals in positive and negative moods, and (3) mood intuition regulation also mediates the relationship between net thoughts and purchase intention.' (López & De Maya, 2012)

The utilitarian buying situation is the situation where a product is purchased to reach an functional or practical task (Dhar & Wertenbroch, 2000). One of the most widely investigated models of behavioural decision making belonging to this situation is the 'Theory of Reasoned Action' from Fishbein and Ajzen (1977). This rational model theorises that how bigger the intentions from a person to behave in a specific way, how sooner this person behaves is that specific way. These intentions are established by the attitudes and personal norms. The keystones of this model are the expectancy-value theory and personal expected utility. This model is used when decision making is only done systematically and it is not applicable when decision making is done heuristic. In short, a person that really wants to paint the walls of his bedroom, so the intention is high, would go as soon as possible to a store that sells wall paint to purchase this paint and this person starts to paint his walls as soon as he is at home. His behaviour consists of going to the shop, purchasing paint and painting his walls. Mainly utilitarian products are purchased in this situation (Fishbein & Ajzen, 1977; Armitage, Conner, & Norman, 1999). Utilitarian products are identified as instrumental and functional objects to fulfil a practical or functional need. Therefore, their consumption is more cognitively motivated, instrumental and goal-focussed (Dhar & Wertenbroch, 2000).

Scrutinizing consumer choice, main important is the *decision quality* of a product. Decision quality of a product is closely related to the functional need of a consumer. A product choice is made by a consumer to fulfil a need. How better a products functions, how better the practical need is fulfilled. This implies that the decision quality of the choice is higher when a practical need is totally fulfilled than when a practical need is not totally fulfilled (Raghunathan, 1999). Consequently for this research, a product that holds all practical functions encloses the highest decision quality.

As previously written in this paper, persons are subconsciously aware that an affective state is able to fulfil a specific task. A person tries to realize its ideal affective state to perform better via its mood (Cohen & Andrade, 2004). When the choice of a product needs to help to become in a better state, the product must have the ability to create positive emotions, like arousal, when using it (Voss, Spangenberg, & Grohmann, 2003). Studies suggest that choice processes and responses are dissimilar for hedonic and utilitarian products (Palazon & Delgado-Ballester, 2013; O'Curry & Strahilevitz, 2001; Jones, Reynolds, & Arnold, 2006). According to Palazon and Delgada-Ballester (2013), it is essential to analyse what kind of reactions control consumers choice, even if it is driven affectively or cognitively (Palazon & Delgado-Ballester, 2013). Also, according to Voss et al. (2003) involvement with a product is less influencing the final choice of the consumer when the product is highly functional (Voss, Spangenberg, & Grohmann, 2003; Hirschman & Holbrook, 1982; Strahilevitz & Loewenstein, 1998).

Summarising this paragraph, there are two buying situation distinguished: utilitarian, and; hedonic. These situations are originated from the different needs of purchasing products. Consumer choices aim to fulfil needs of the consumer. Although, utilitarian products are mainly focussed on

fulfilling functional needs, it is not proven that these utilitarian products cannot help to improve an individual's mood. It is only stated that hedonic products are perfect to improve an individual's mood. There is no evidence in previously written research that utilitarian products cannot indirectly generate a feeling to improve an individual's mood by focusing on the decision quality of a product.

*Hence, this research focuses on the utilitarian buying situation for the reason this research is investigating the relationship between mood and utilitarian choice made by a consumer. This buying situation is divided in two sub-situations. The first sub-situation implies buying an utilitarian product when a person is in negative affective state, and the second sub-situation is buying an utilitarian product when a person is in a positive affective state. Based on the information that the involvement with a products is less influencing the final choice of the consumer when the product is highly functional, the hedonic buying situation is left out this research to be able to examine the relationship between utilitarian product choice and mood. To be more specific, the decision quality of this utilitarian product choice and mood are examined for the reason decision quality could create feelings belonging to an utilitarian product that fulfils the need of improving a person's affective state. The following hypothesis is stated based on previously written information.*

> **Hypothesis 1:      High decision quality leads to mood improvement**
> This hypothesis is determined based on the mood regulation theory. A person in a bad mood tries to improve its affective state. The purchase of an utilitarian product with a high decision quality could create positive feelings and therefore become an opportunity to improve an affective state.

### 2.1.4   Information Processing

An assumption adopted from previously written literature is that affective states may guide the choice of information processing strategies (Schwarz, 1990). However, when an individual does not unconsciously provide self-evaluation, the extent of differences between these affective states will not be a stimulus to take action and no information processing strategy can be explained on type of mood (Cohen & Andrade, 2004).

Supported by this assumption, a new variable has to be implemented in the relationship between mood and consumer choice.  This research variable is called information processing.

The variable information processing comprises two groups within this research. The first group is *information processing in a negative affective state* and the second group is *information processing in a positive affective state.*

Persons in a negative mood process information cognitively, while persons in a positive mood process information affectively. Cohen and Andrade (2005) state that individuals in a negative mood be likely to scrutinize information and they approach the information more systematic and analytical before making decisions and judgements. This should cause a better accomplishment is making good decisions, whereas individuals in a positive mood accomplish tasks better involving creativity better (Andrade, 2005; Schwartz & Clore, 1983; Armitage, Conner, & Norman, 1999).

Literature shows that *cognitive information processing* is used to solve a specific problem, also called *higher-order processing*. This indicates concentrating on the tangible attributes of a product. The level of elaboration within the processed information is high (MacInnis & Jaworski, 1989). This causes a choice for a product with high decision quality for the reason that information processing is positively related to decision quality (Hwang & Lin, 1999). This way of information processing is

linked to processing information in a negative affective state. Therefore this way of information processing is mainly linked to affect regulation (Cohen & Andrade, 2004).

*Affective information processing* is used when information is quickly processed. This is also called *low-order processing* that according to MacInnis and Jaworski (1989) is used for choosing hedonic products for the reason a consumer pays more attention to the symbolic value and feeling. The level of elaboration for the processed information is low and therefore the decision quality of a product choice is commonly lower than a product choice with high elaborated information processing. This method of information processing is linked to affect evaluation when a person is in a good mood, and to affect regulation when a person is in a bad mood (MacInnis & Jaworski, 1989).

Cited from Armitage et al. (1999): "Mackie & Worth (1989) suggested that positive mood limits cognitive processing capacity by priming positive thoughts in memory, which are more extensive and interconnected than negative thoughts." As discussed in paragraph 2.1.2, this priming model belongs to the affect evaluation theory. Also, cited from Armitage et al. (1999): " Isen (1987) has argued that individuals seek to maintain positive mood, and will avoid exerting cognitive effort which is not directed at either maintaining or regaining positive mood." Based on this, it can be stated that persons in a positive mood are not scrutinising the information systematically and analytically, and therefore these persons will rely on their feeling instead of the information. Moreover, cited  from Armitage et al. (1999): "Schwarz & Bless's (1991) motivational interpretation posits that negative moods signal problematic situations which require attention, cognitive resources and a depth of processing to avoid erroneous decision making. Positive moods signal that all is well with the world, encouraging risk taking, through the use of heuristic processing". This expresses that a person in a negative mood elaborates the processed information to avoid bad decisions, while a person in a positive mood feels that all happenings around him are positive and this person takes risks by not elaboration the processed information. (Schwarz & Bless, 1991).

Altogether, the distinction between processing in a positive affective state or in a negative affective state is the distinction between relying on general knowledge contrasted with relying on the necessities of the situation. (Armitage, Conner, & Norman, 1999)

In brief, different affective states have a different way of information processing. A positive mood uses a heuristic way of information processing that implies the elaboration level of processed information is low while a negative mood state uses a systematic way of processing that implies the elaboration level of processed information is high.

*Hence, this research adopts two options of information processing. The first option is non-elaborated information processing, that is used by persons that are in a positive mood. The second option is elaborated information processing, that is used by persons that are in a negative mood.*
*Combining the previously written information, the following hypotheses are established.*

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**Hypothesis 2:   Negative moods lead to more elaborated information processing than positive moods**

Based on the knowledge that a person in a negative affective state processes information systematically, while a person in a positive affective state processes information heuristically, this hypothesis is conducted. A person in a negative affective state scrutinises more information before making a choice than a person in a positive affective state. In other words, the elaboration level of the processed information is higher when a person is in a negative mood than when a person is in a positive mood.

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**Hypothesis 3:   More elaborated information processing will lead to a product choice with high decision quality**

This hypothesis is based on the elaboration level of processed information that influences the final choice of the consumer. If a consumer puts more effort in gathering and analysing information, the specifications of a product become clear and this will lead to the decision quality of the final choice. Therefore, this hypothesis states that more elaborated information processing guides to a product choice with high decision quality.

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**Hypothesis 4:   Negative moods lead to a higher decision quality than positive moods**

Persons in a negative mood are less risk taking and therefore it is more difficult to make choices in a negative mood than in a positive mood. This is the basis for this hypothesis. However, based on the information processing approach for a negative mood, that indicates that more elaboration of the information processed leads to the product choice with high decision quality, this research would also examine if  the relationship between moods and the decision quality of consumer's choice is direct. In consequence, this hypothesis is divided into two sub-hypotheses.

*Hypothesis 4a:   There is a relationship between negative moods and high decision quality*

This first sub-hypothesis tests if negative moods are significantly related to the choice for a product with high decision quality.

*Hypothesis 4b:   There is a mediating variable in the relationship between negative moods and high decision quality*

This second sub-hypothesis investigates if the relationship tested in hypothesis 4a has a mediating variable within. It shows if elaboration of the processed information is an essential part of the relationship between negative moods and the choice with high decision quality, that explores if moods control the decision quality of consumer's choice directly.

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## 2.2 Conceptual Model & Hypotheses

Figure 1 displays the conceptual model of this research. This conceptual model counts three variables that are all dependent.
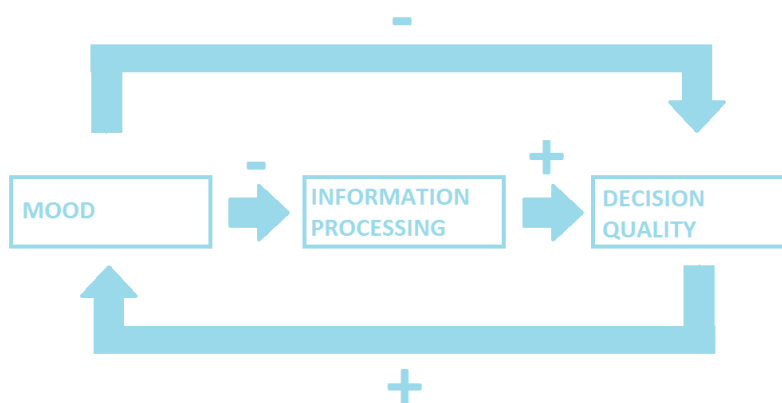


**Figure 1: Conceptual model**

The first research variable in this conceptual model is called <u>Mood</u>. This research distinguishes a *negative mood* and *a positive mood*. Based on this segmentation, there is chosen for not introducing the variables affect regulation and affect evaluation within this model for the reason that the kind of mood is linked to these specific mechanisms. This is an assumption for this research. Being more specific, this means that within this research a negative mood is inseparable linked to affect regulation and a positive mood is inseparable linked to affect evaluation. This is elaborated in paragraph 2.1.2 that is part of the literature review.

The second research variable is <u>Information Processing</u>. This variable is focussing on the elaboration of the information throughout the process of decision making by a consumer. This variable is segmented in *non-elaborated information processing* and *elaborated information processing*. In the context of this research, non-elaborated information processing implies that no extra effort is spend examining information, while elaborated information processing implies the opposite that indicates that a person is more dedicated in scrutinising the available information.

The third research variable is <u>Decision Quality</u>. This variable is the product choice with the highest decision quality made by the consumer. This variable is categorised in *choice product with highest decision quality* and *choice product without highest decision quality*. The product with the highest decision quality is determined on the quality of specifications belonging to the examined utilitarian product. This research only concentrates on the choice of an utilitarian product and it excludes the choice of an hedonic product. Chapter 3 and chapter 4 show more details on the kind of utilitarian product that is used to examine.

All other external factors that could influence these three research variables are kept constant.

As displayed in the conceptual model, this research is examining four different relationships.

The first discussed within this research is <u>Decision Quality</u> related to <u>Mood</u>. The research variable <u>Decision Quality</u> is positively linked to <u>Mood</u>. This linkage shows that a higher decision quality for an utilitarian product leads to an improvement of a consumer's mood. The literature review explains that high decision quality of a product choice should influence a consumer's mood in a positive way due to the feelings that are generated by this choice. The relationship is tested by looking to the utilitarian product with the highest decision quality and the ensuing mood change of the consumer.

The second relationship is <u>Mood</u> related to <u>Information Processing</u>. <u>Mood</u> negatively influences <u>Information Processing</u> in this model. In this relationship, the different mood categories are linked to the level of elaboration within information processing. Based on the literature review, a positive mood causes heuristic information processing, while a negative mood causes systematic information processing. A person in a negative affective state scrutinises more information to make sure that the choice this person is going to make is carefully considered for the reason this person wants to improve this affective state. Therefore, a person in a negative affective state would put lots of effort in making the right choice. In other words, a person in a bad mood processes more elaborated information than a person in a good mood.

The third relationship is <u>Information Processing</u> and <u>Decision Quality</u>. The variable <u>Information Processing</u> is positively linked to the variable <u>Decision Quality</u>. Based on the literature review, the amount of information that is processed by a consumer leads to a higher decision quality for products. This relationship will be tested by looking to the method of information processing and the final product choice of a consumer.

The fourth relationship that is examined in this research, is <u>Mood</u> related to <u>Decision Quality</u>. The research variable <u>Mood</u> is negatively linked to the research variable <u>Decision Quality</u>. Based on the literature review, it can be stated that a negative mood should lead to the choice of a product with a higher decision quality than a positive mood for the reason a person in a negative mood does not make choices without considering these that they help to achieve their desired affective state. This relationship is tested by focussing on the negative moods and the product choice related to these moods.

Finally, to examine if <u>Information Processing</u> is a mediating variable within the relationship <u>Mood</u> and <u>Decision Quality</u>, the steps for mediation of Baron and Kenny are implemented (Baron & Kenny, 1986). This analysis determines the direct relationship of the research variable <u>Mood</u> and the research variable <u>Decision Quality</u> in a model when the research variable <u>Information Processing</u> is also implemented to the model. Based on the information discussed in the literature review, it is expected that there will be no significant relationship between <u>Mood</u> and <u>Decision Quality</u> when the variable <u>Information Processing</u> is also implemented to the model for the reason <u>Information Processing</u> plays a mediating role between persons' moods and the decision quality of their product choices.

Next, the hypotheses linked to relationships are displayed again.

| | |
|---|---|
| **Hypothesis 1:** | High decision quality leads to mood improvement |
| **Hypothesis 2:** | Negative moods lead to more elaborated information processing than positive moods |
| **Hypothesis 3:** | More elaborated information processing will lead to a product choice with high decision quality |
| **Hypothesis 4:** | Negative moods lead to a higher decision quality than positive moods |

Hypothesis 4 is divides into the following sub-hypotheses.

| | |
|---|---|
| *Sub-hypothesis 4a:* | There is a relationship between negative moods and high decision quality |
| *Sub-hypothesis 4b:* | There is a mediating variable in the relationship between negative moods and high decision quality |

The analyses of these relationships generate knowledge to answer the research questions 4, 5, 6 and 7, displayed in paragraph 1.3. All these hypotheses were clarified in the literature review compiled in paragraph 2.1.

## 3. RESEARCH METHODOLOGY

This chapter describes the methodology of this research. First, paragraph 3.1 gives a general overview of what is done. Then, paragraph 3.2 illustrates the details of the experiment belonging to this research. Moreover, it describes the sample and the operationalization of this experiment. Finally, paragraph 3.3 discusses how the final data file of the experiment is processed and how this is analysed.

### 3.1 In general

This research was designed to determine if mood and the decision quality of an utilitarian product choice are significantly related to each other. The basic theory of this research was that persons become happier when choosing an utilitarian product with the highest decision quality. Furthermore, the focus was on the mediating role of information processing within the relationship of mood and decision quality of an utilitarian product choice. This research design was fixed.

In order to answer the problem statement and the research questions, the researcher collected information indirectly and directly. The indirect data consist of the information collected out of scientific books and scholars that were combined to form the literature review of this paper (§2.1). Following, the conceptual framework had been constructed for this research and it was tested in the experiment. The outcome of this quantitative research provided the direct data that adds knowledge to the existing literature.

### 3.2 The Experiment

The experiment was executed to test all hypotheses belonging to the conceptual model. To test these hypotheses an online survey questionnaire was executed. The online survey questionnaire was set up using the programme **Qualtrics**. This was the main instrument to gather direct data for this research.

Moreover, for this experiment the key assumption discussed within the literature review that people are guided by their affective state if they do not consciously know that affective states are influencing their behaviour was adopted (Di Muro & Murray, 2012; Martin & Clore, 2001). Therefore, the participant did not acquire knowledge about the research topics that were explored before attempting to the experiment. This is important to keep every input variable as objective as possible and to gather only accurate data to create high reliability by consistency of the measurement in this research.

A 'review group' was established with the aim of testing the validity of the online survey questionnaire used in this research. This review group counted 5 participants who filled in the questionnaire and also gave concerning comments. The information gained from this trial by the review group was not used in the final used data file and the review group was only used for testing the questionnaire and improving it. Irrelevant parts were deleted and unclear parts were made clear. These participants did not redo the questionnaire based on the assumption that participants may not know what the research topics of the experiment are. Furthermore, the participants of this review group had already assimilated the total amount of information of the products, and therefore they did not need to choose for elaborated information if they would participate to the online survey questionnaire again. The choice with the highest decision quality would probably be chosen by these participants without de necessity of added information.

### 3.2.1 Sample

To gather data to answer the research questions, a total of 77 participants completed the full experiment. Another 15 participants started the experiment, but did not finish it. The input of these 15 participants is left out the final used data file because this information was not applicable for testing the hypotheses. The key questions were not answered, that measured the affective states of the participants at a point in time. Due to this, the mood of the participants was unknown and the mood change during the experiment could not be measured.

All these participant were recruited by implementing the snowball process (Palomba, 1975). First, a link of the survey was sent to a mailing list and it was also placed on the social medium Facebook, where the participants were ask to complete this survey and share the survey with their Dutch connections. Due to this way of recruiting the participants the only characteristic that can be assigned to the sample is that the participants have the knowledge of the Dutch language.

### 3.2.2 Operationalization

The questionnaire of the online survey was constructed based on the hypotheses that needed to be tested in this research. This questionnaire of the online survey is displayed in appendix 1. It is divided in three parts. In the first part of this questionnaire, questions were asked to obtain information that was necessary for testing the stated hypotheses.

To test these hypotheses, the questionnaire included two *mood measure questions*. The first mood measure question was asked in question 1 at the beginning of the experiment, while the second mood measure question was asked at the end of the first part of the experiment in question 5. These questions measured the affective state of a participant by the SUE scale of Hartmann (2009). This graphic rating scale shows 20 different emoticons that express how a person feels (Hartmann, 2009). This scale is displayed in figure 2.



**Figure 2: SUE Scale (Hartmann, 2009)**

The first mood measure question asked the participants to indicate how they felt over the last few days by choosing the representative emoticon on the SUE scale of Hartmann (2009). Because moods are continuing, there was chosen to ask for a representation of their feeling within a period of time to create insights of the affective states of the participants and not the representation of how they feel on that specific moment for the reason that by that approach emotions would be represented on the rating scale. There was chosen for a time period of a few days for the reason that the question needed to be answered easily to prevent confusion of their type of mood.

Then, to define the decision quality of consumer choice, the participants were asked to imagine that they were in a situation where they needed to buy a new vacuum cleaner. These participants were asked in survey question 2 which of the four vacuum cleaners that were displayed, they would choose. The participants could choose between a vacuum cleaner of Siemens, Philips, Dirt Devil and Sidi. The specifications of each vacuum cleaner were adopted based on the following statement. The vacuum cleaner of Sidi is the utilitarian product with the highest decision quality, followed by Philips,

then Dirt Devil and the product with the lowest decision quality is the vacuum cleaner of Siemens. The choice for a product with the highest decision quality implied that the product choice contained the specifications with the highest quality.

Hence, there was chosen for an unknown brand as best choice based on the decision quality of the products, a known brand that is also a respectable choice, an unknown brand that is poorer and a known brand that is most horrible.

Survey question 2 only displayed a photo of each vacuum cleaner together with a small amount of information about the following specifications; *price, way of collecting dirt, power capacity* and *noise level*. The price was kept approximately the same. For the brands Siemens and Philips this price was €89.95 and for the brands Dirt Devil and Sidi the price was €88.95. The way of collecting dirt was for all vacuum cleaners the same, namely by the use of a paper bag. The power capacity was displayed in Watt, 1900 Watt for Siemens, 2000 Watt for Philips, 1900 Watt for Dirt Devil and 2000 Watt for Sidi. The noise level was displayed in Decibel (Db). Siemens had a noise level of 85 Db, Philips had a noise level of 80 DB, Dirt Devil had a noise level of 85 Db and Sidi had a noise level of 80 Db. The photos showed four blue almost equal vacuum cleaners. Based on this information, Sidi was the choice with the highest decision quality together with Philips, while Dirt Devil and Siemens were the products with a lower decision quality. As discussed, the differences already shown in this part of the question were present, but not really obvious.

Based on this small amount of information, the participant could choose one of the vacuum cleaners or choose for the possibility to get added information about the products.

The possibility to get added information is used in the experiment to determine the elaboration of information processing. When a participant choose this possibility they were classified to the group that processed information more elaborative than the participants that chose immediatly a product. The participants that chose their product, did not see the added information, while the other participants saw an overview of more specifications belonging to each vacuum cleaner in question 3. This overview is translated in English and displayed in table 2.

| Brand | Siemens | Philips | Dirt Devil | Sidi |
|---|---|---|---|---|
| Price | €89.95 | €89.95 | €88.95 | €88.95 |
| Warranty | 2 years | 2 years | 2 years | 2 years |
| Effective suction power | 300 watt | 600 watt | 350 watt | 650 watt |
| Power capacity | 1900 watt | 2000 watt | 1900 watt | 2000 watt |
| Noise level | 85 dB | 80 dB | 85 dB | 80 dB |
| Cable length (metres) | 6 | 6 | 6 | 8 |
| Automatic roll cable | Yes | Yes | Yes | Yes |
| Parquet brush | Yes | Yes | Yes | Yes |
| Handle | No | Yes | Yes | Yes |
| Wheels | Rubber | Rubber | Rubber | Rubber |
| Way of collecting dirt | Bag | Bag | Bag | Bag |
| Storage capacity | 4 | 5 | 5 | 6 |
| Exhaust filter | Yes | Yes | Yes | Yes |
| Engine filter | Yes | Yes | Yes | Yes |
| Colour | Blue | Blue | Blue | Blue |
| Weight (kg) | 5 | 4.5 | 5 | 4.0 |
| Score 'Consumentenbond' | 5 | 7.5 | 6 | 9 |

Table 2: Added information of survey question 3

As shown in table 2 on the preceding page, the vacuum cleaner of Sidi maintained the choice with the highest decision quality, followed by Philips, then Dirt Devil and then Siemens. After obtaining this information by the participants that wanted to have more information, they were asked again in question 3 to choose one of the possibilities to choose a product or the possibility that indicated that based on this information no choice could be made by the participant.

Next, all 77 participants were asked in the open question 4 to motivate their choice.

Following, the mood measure question was asked again to the participants in question 5. Again they needed to give an indication on how they felt after their choice in this situation using the SUE scale of Hartmann (2009).

Then, the second part of the online survey questionnaire started that focused on the importance of the specifications of a vacuum cleaner when purchasing one. To discover the importance of every specification, the following 5-point Likert scale was used. The 5 points of the Likert scale are displayed in blue next.

| 1= very unimportant | 2= unimportant | 3= no opinion | 4= important | 5= very important |

There was chosen for this method to continue the easiness to complete the online survey questionnaire. The specifications that were measured in question 6, are; *brand, price, noise level, storage capacity, weight, suction power, score of the 'Consumentenbond'[1]* and *cable length*. There was chosen for these specifications based on information of the 'Consumentenbond' (2014) about the most important specifications when purchasing a new vacuum cleaner. The information of the importance of these specifications could contribute to this research in case when the results of the product choice questions (asked in survey question 2 and 3) looked mistrustful and therefore these results need to be explored further.

To finish the survey, the last part of the online survey questionnaire determined characteristics that could classify the participants if necessary for the analyses of the data gathered. First, the participants were asked in survey question 7 how often a vacuum cleaner was used at their homes. This question had the following possible options; daily, 3 -5 times à week, 1-2 times à week, once per two weeks, once à month, less than once à month, or never. Second, the participants were asked in survey question 8 how often they use the vacuum cleaner by themselves. The same options were displayed as in survey question 7 of the online survey questionnaire. Both of these questions were asked to determine if every individual participant did have any knowledge about vacuum cleaners because a layman regarding vacuum cleaning is probably influencing the results of the analyses in a falsified way.

Following, the participants were asked to point out their gender in survey question 9. Then, they were asked in survey question 10 to choose the age category they belong to and finally in survey question 11 these participants were asked about their living situation. At the last question they could choose between the categories; living alone, living together with parent or family, living together with friends or students, and married or cohabiting with partner. These details could also influence the final outcome of the experiment. For example, when a participant is a man and he is 14 years old,

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[1] Score of the 'Consumentenbond' is a score rated by consumers for the easiness of using and the durability of the vacuum cleaner.

furthermore he is living with his parents, maybe he would not care about what type of vacuum cleaner he uses and does not care about the result after vacuuming. The only reason why he vacuumed was because his mother was screaming to him that he had to vacuum his room. This boy only thought, let her hear the sound of the vacuum cleaner and my mother would be satisfied and she would stop screaming. Concluding from this example the decision quality as used in this research is not important for this specific boy.

To finish this online survey questionnaire, information was given at the end that stated that the reviewed products are fiction and that stated the source of the mood rating scale.

### 3.3 Data processing and analysis

After collecting the final data of the online survey questionnaire out of Qualtrics, the final data file was imported in SPSS to be organised and made ready to perform analyses on the data. Qualtrics permitted the research to execute the quantitative approach of this study effectively using the statistics for the data interpretation.

The data analyses started with a descriptive analysis that discussed the profile of the participants, the mood states, the change of these states during the experiment, the importance of the specifications and the familiarity with vacuum cleaners by the participant.

Subsequently, the hypotheses that were formed in chapter 2 were tested by using different statistical methods to examine relationships. The primary data that include the outcomes from the analyses of the hypotheses are described and reviewed in paragraph 4.2 by the use of secondary resources in the form of scientific literature discussed in chapter 2.

Next, every hypothesis of this research is linked to the information derived from the survey.

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**Hypothesis 1: High decision quality leads to mood improvement**
The information of the participants belonging to the product choice was categorised in the category choice with highest decision quality (that implied that the final choice of the participant was Sidi) and the category choice without highest decision quality (that implied that the final choice was not Sidi). This information needed to be retrieved from the survey questions 3 and 4 where the participants made their final choice. Next, the mood change of these participants needed to be determined. This is done by comparing the answers to the two mood measure questions. This information was the input to test this hypothesis by executing a linear regression analysis.

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**Hypothesis 2: Negative moods lead to more elaborated information processing than positive moods**
To test this hypothesis the relationship between the initial mood of a participant and the elaboration level of information that is processed by the participant needed to be examined. The initial mood was determined by the first mood measure question, while the elaboration level was determined by the choice for the possibility to get added information in survey question 2. This information was used as the input to test this hypothesis by executing a logistic regression analysis.

---

**Hypothesis 3:   More elaborated information processing will lead to a product choice with high decision quality**

For testing this hypothesis, the participants that chose the possibility to get added information, were assigned to the elaborated information processing category, while the other participants were assigned to the non-elaborated information processing category. Furthermore, the information of the participants belonging to the product choice as defined for hypothesis 1 was used again to scrutinise the relationship of this hypothesis by performing a logistic regression analysis.

**Hypothesis 4:   Negative moods lead to a higher decision quality than positive moods**
This hypothesis is examined by testing the following two sub-hypotheses:

**Hypothesis 4a: There is a relationship between negative moods and high decision quality**
**Hypothesis 4b: There is a mediating variable in the relationship between negative moods and high decision quality**

To test these sub-hypotheses, the initial mood of the participants needed to be determined. This was done by the first mood measure question of the online survey questionnaire. The information input of this question was categorised in negative mood and positive mood. Then, the information input linked to the categorical variable that presents the choice with the highest decision quality as discussed in hypothesis 3, was used again to examine its relationship with the initial mood of the participants. This information was used for executing a logistic regression analysis to test sub-hypothesis 4a.

Additionally, the mediating role of information processing within the analysis of this hypothesis, is examined by the steps of Baron and Kenny (1986) to conclude if sub-hypothesis 4b can be adopted. This approach clarifies if there is indeed a direct relationship between a person's mood and the choice for the product with high decision quality or if there is a mediator that cannot be excluded from the model within this relationship.

## 4. RESEARCH ANALYSIS

This chapter describes the outcome of analysing the final data file that was established by Qualtrics and modified in SPSS. Starting with paragraph 4.1, that discusses the descriptive analysis that is used as the basis for testing the hypotheses of this research. Consequently, paragraph 4.2 delineates the different analyses to test the four hypotheses of this research.

### 4.1 Descriptive Analysis

The sample of this research consists of 77 persons. Determined from survey question 9, 52 of these 77 persons are females. This is approximately 67.5% of the total group. Defined by survey question 10, the ages of the participants are divided over six categories. 58.44% of the participants belong to the age category '21-30 years old' and 24.68% belong to the age category '31-40 years old'. This division per age category is presented in appendix 2, table 16.

Further, it can be determined by the answers on question 11 that the major part of the participants of this sample are married or cohabiting with a partner. This is 45.45% of the total sample. The second largest part of the participants lives alone, namely 31.17%.

Main important for this research is the change of a participant's mood based on their choice. To display a participant's mood, the SUE Scale of Hartmann (2009) was used (as discussed in paragraph 3.2). The information derived from the answers on survey question 1 reveals that the initial average mood of a participant is 2.48, while the answers on survey question 5 reveal that the average mood of a participant after making a choice is rated with 3.48. This is shown in appendix 2, table 17. The outcome of a paired sample T-test shows that there is a significant difference between the initial mood of the participants and the final mood of the participants for the reason the p-value of this test is 0.01. The outcome of this paired sample T-test is demonstrated in appendix 2, table 18. The positive values of the average moods imply that the average participant was in a good mood at the beginning of the experiment and in an improved mood at the end of the first part of the experiment. Based on the gender of the participants, the average mood ratings before and after making a choice are for a male and a female slightly different. An average male's mood at the start is rated with 2.24, while an average female's mood at the start is rated with a 2.60. After making a choice an average male's mood is 3.68, while an average female's mood is rated with 3.38. These average mood ratings are displayed in appendix 2, table 19. Derived from the outcome of the independent samples t-tests for initial mood and final mood focussing on the differences between gender, it can be concluded by a p-value of 0.79 that there is no significant difference between the initial mood of a man and initial mood of a woman and also by a p-value of 0.80 there is no significant difference between the final mood of a man and the final mood of a woman. This is displayed in appendix 2, table 20.

Looking to the difference in mood change between man and woman, the independent samples t-test shows that there is no significant difference in mood change between man and woman. The p-value is 0.42 and is displayed in appendix 2, table 21.

To clarify the distribution of the participants' moods, the pie chart that is generated out of the answers on survey question 1, presented in figure 3 on the following page displays the mood in four categories. The major part of the participants was in a very positive mood in the beginning of this experiment. In total 31% of the participants was in a bad mood at the start of the experiment. Subsequently, figure 4 on the following page that is established by the answers of survey question 5, shows that only 21% of the participants were in a bad mood.
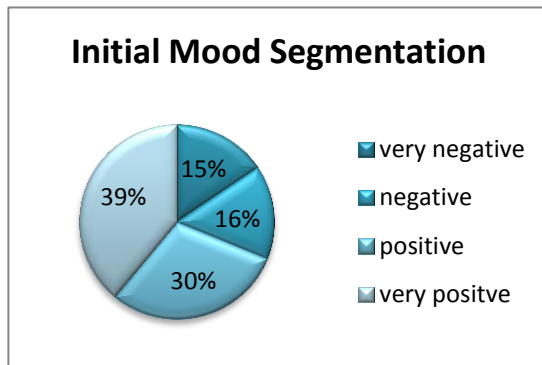
**Figure 3: Initial mood segmentation**
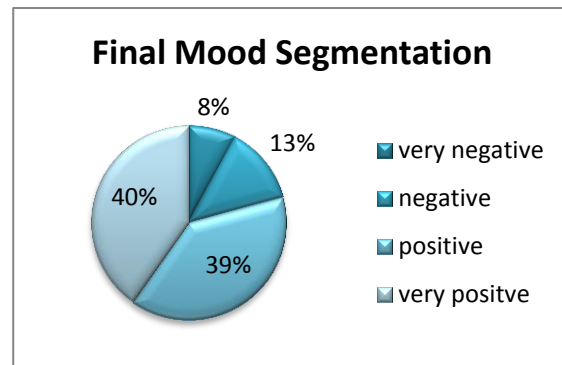


**Figure 4: Final mood segmentation**

Derived from the answers on survey question 6 that examines the importance of the specifications for choosing a vacuum cleaner, the average mean of the importance of every specification for a vacuum cleaner is determined. The average participant of this research rated the specification *suction power* with the highest average mean, followed by *length of the cable*. Subsequent, the *storage capacity* is rated highest, followed by *price* and subsequent *level of noise*. *Weight, score of the 'Consumentenbond'*, and *brand* are rated with the lowest average mean, and therefore seem to be on average less important for choosing a vacuum cleaner.

After categorising the data in the categories *non-elaborated information processing* and *elaborated information processing*, differences in importance appeared. To test if these differences were significant, independence sample t-tests were executed. The outcome of these tests is displayed in appendix 2, table 22. For each specification the variances are assumed equal based on the outcome of the Test for Equality of Variances from Levene where every p-value is higher than 0.05 for each specification. Concluded from this test, it can be stated that there is no significant difference between the importance of *brand* for the two categories. Also, the importance of the *Score of the Consumentenbond* is equal for these categories. The other specifications are not equally important for these two categories. For example, *price* of the product is more important for non-elaborative participants than for elaborative participants. Noticeable is that the three most important specifications for the non-elaborative participants were not revealed as information to them during the experiment. Based on this information it can be stated that non-elaborative participants did not put much effort in processing the given information. The information of the average importance per specification is displayed in table 3.

| | All participants | Elaborative participants | Non-elaborative participants |
|---|---|---|---|
| **1.** | Suction Power (4.43) | Suction power (4.48) | Suction power (4.39) |
| **2.** | Cable length (4.09) | Cable length (4.16) | Cable length (4.05) |
| **3.** | Storage Capacity (3.97) | Storage capacity (4.06) | Storage capacity (3.91) |
| **4.** | Price (3.61) | Score Consumentenbond (3.76) | Price (3.75) |
| **5.** | Noise Level (3.53) | Weight (3.67) | Brand (3.7) |
| **6.** | Weight (3.47) | Noise level (3.36) | Noise level (3.66) |
| **7.** | Score Consumentenbond (3.22) | Price (3.42) | Weight (3.32) |
| **8.** | Brand (3.14) | Brand (2.39) | Score Consumentenbond (2.82) |

**Table 3: Importance of the specifications**

Furthermore, information about the respondent's familiarity with vacuum cleaners was derived from the answers on survey questions 7 and 8. The average participant's home is vacuumed 3 till 5

times a week and the average participant uses the vacuum cleaner 1 à 2 times a week. Only one of the participants' homes is vacuumed once a month and the other participants' homes are more often vacuumed. Besides, only two participants vacuum less than once a month, and only two other participants vacuum once a month. The other 73 participants vacuum more often. Concluding from this information, every participant is familiar with a vacuum cleaner and therefore their input to the experiment is valuable for this research.

## 4.2 Testing the Hypotheses

This paragraphs describes the results of testing the different hypotheses determined in chapter 2. Every part of the conceptual model of this research is tested and reviewed by the data variables made for the different hypotheses. All data variables used for the analyses of the hypotheses are briefly discussed in appendix 2, table 23.

### 4.2.1   High decision quality leads to mood improvement

On the right, figure 5 is displayed. This figure is established to clarify the examination of hypothesis 1. This figure shows the positive relationship between the research variables Decision Quality and Mood. This hypothesis is stated as follows:



**Figure 5: Hypothesis 1**

| Hypothesis 1: | High decision quality leads to mood improvement |
|---|---|

Consumer's choice with high decision quality and the interrelated transformation of this consumer's mood is tested by this hypothesis and analysed. The execution of this is done by testing the significance of the correlation between the data variables DQ Choice and Mood Change belonging to the research variables Mood and Decision Quality of the conceptual model. A linear regression analysis is performed to define the causality between the data variables DQ Choice and Mood Change. The dependent variable Mood Change is explained by the variation in the independent variable DQ Choice. To be more specific, a simple linear regression is executed for the reason only one independent variable is used to test this hypothesis. To accept this hypothesis, the choice for a product with high decision quality must lead to a positive mood change.

The information for the variable Mood Change is derived from the input of the participants on survey questions 1 and 5. For Mood Change the change of a participants mood during the first part of the experiment needed to be determined. This is done by measuring a participant's mood on two different points in time during the experiment. These moods were measured by the SUE Scale of Hartmann (2009) as discussed in the methodology within chapter 3. The information belonging to the variable DQ Choice is obtained from survey questions 2 and 3. Survey question 2 asked the participant to choose one option out of five. In four out of these five options a particular vacuum cleaner was displayed together with only a small amount of information belonging to each vacuum cleaner. In the last option, the participant chose for more added information and the participants choosing this option were asked to answer survey question 3 that again asked to choose a vacuum cleaner after getting added information about each vacuum cleaner. The fifth option was that the participant still not wanted to make a choice. The other participants were directly lead to survey

question 4 that is not important for this data analysis. These final answers of the options were combined to the input for the variable DQ Choice. Only the information of the participants' choices for one of the options that defined a vacuum cleaner within survey question 2 together with the information of the participants' choices for one option that was answered on question 3 were collected as the input for calculating the variable DQ Choice. After this information had been gathered, it was recoded into two categories. The first category is '*Choice for the product without the highest decision quality*' and the second category is '*Choice for the product with the highest decision quality*'. Only the participants that chose for option 4 (Sidi) in one of the two survey questions were assigned to the second category, and all participants that chose for a different option than option 4 were assigned to the first category. Therefore, DQ Choice is a categorical nominal variable.

| | Mood Change | | | | | | | | | | | | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | -16,00 | -3,00 | -2,00 | -1,00 | ,00 | 1,00 | 2,00 | 3,00 | 4,00 | 5,00 | 7,00 | 10,00 | 17,00 | |
| Choice without highest decision quality | 1 | 0 | 0 | 2 | 21 | 10 | 8 | 1 | 1 | 0 | 0 | 0 | 0 | 44 |
| Choice with highest decision quality | 0 | 1 | 2 | 1 | 9 | 7 | 5 | 2 | 2 | 1 | 1 | 1 | 1 | 33 |
| Total | 1 | 1 | 2 | 3 | 30 | 17 | 13 | 3 | 3 | 1 | 1 | 1 | 1 | 77 |

Table 4: Cross table 'Mood Change x DQ Choice'

The cross table belonging to this analysis, drawn in table 4, shows that 30 participants did not change their mood during the experiment. This is 39% of the total sample. Also, it is shown that 33 participants did choose for the product with the highest decision quality, although there mood did not change.  The most participants changed none, one or two mood states positively on the SUE Scale of Hartmann (2009).

To examine the relationship between DQ Choice and Mood Change a simple regression analysis is executed. The predictor DQ Choice was already constructed as a Dummy variable valued by zeros and ones belonging to the categories. For this reason a linear regression analysis could be done immediately. This analysis discusses the linear dependence of DQ Choice on Mood Change and it is also able to forecast the value of Mood Change based on DQ Choice.

The first step is to examine if this linear regression model is significant. This is done based on the results of the analysis of variance displayed in appendix 3, table 24. The p-value is 0.039 is smaller than the significance level of 0.05. This denotes that this model is significant and therefore applicable.

| | B | Std. Error | Beta | t | P |
|---|---|---|---|---|---|
| **Constant** | 0.341 | 0.480 | | 0.710 | 0.480 |
| **DQ Choice** | 1.538 | 0.734 | 0.235 | 2.096 | 0.039 |

Table 5: Variables of the linear regression model for Hypothesis 1

The regression model that is constructed by the simple regression analysis is displayed in table 5. Looking to the p-value of the independent variable DQ Choice (0.039), it can be concluded that this model accepts the hypothesis 'High decision quality leads to mood improvement'. Subsequently, the model of this analysis is stated.

| **Mood Change** = 0.341 + 1.538 * <u>DQ Choice</u> + $\varepsilon$ |
|---|

| Predictor | R | R$^2$ |
|---|---|---|
| DQ Choice | 0.235 | 0.055 |

Table 6: Summary statistics of the linear regression for hypothesis 1

Table 6 displays important measures to scrutinize the linear relationship resulted from the linear regression model. The first statistic that is presented is the correlation coefficient of Pearson (R) that is valued with 0.235. This coefficient suggests that the strength of the linear relationship between the two variables in the regression is not very high for the reason the value is closer to 0 than to (-)1. Next, the coefficient of determination (R$^2$) is displayed. For the reason there is only one independent variable used in this model this coefficient indicates that 94.5% of the variance in <u>Mood Change</u> cannot be explained by <u>DQ Choice</u>.

Concluding from the linear regression analysis, it is confirmed that hypothesis 1 is accepted. Therefore, it can be concluded that the choice for a product with the highest decision quality leads to a positive change of a person's mood. In other words, the choice for a product with the highest decision quality leads to mood improvement.

### 4.2.2 Negative moods lead to more elaborated information processing than positive moods

Figure 6 displays the second hypothesis that is tested to get knowledge for answering the problem statement within this research. Displayed in this figure is the negative relationship between the research variables <u>Mood</u> and <u>Information Processing</u>. This hypothesis is stated as follows:



Figure 6: Hypothesis 2

| **Hypothesis 2:** **Negative mood leads to more elaborative information processing than positive moods** |
|---|

In other words, a person in a negative mood scrutinises more information than a person in a positive mood. The first step for testing this hypothesis is to perform the chi-square test for the data variables <u>Initial Mood Category</u> and <u>Elaboration</u> that are created to test the relationship of the research variables <u>Mood</u> and <u>Information Processing</u>.

|  | Non-elaborative information processing | Elaborative information processing | Total |
|---|---|---|---|
| Initial positive mood | 39 | 14 | 53 |
| Initial negative mood | 5 | 19 | 24 |
| Total | 44 | 33 | 77 |

Table 7: Cross table 'Initial Mood Category x Elaboration'

Table 7 shows the cross table of the variables <u>Initial Mood Category</u> and <u>Elaboration</u>. <u>Initial Mood Category</u> is constructed by recoding the variable <u>Initial Mood Continuous</u> that is related to survey

question 1 in two categories.  The first category is *Initial mood positive* and the second category is *Initial mood negative*. The variable Elaboration that is obtained from the answers on survey question 4, already counted only 2 categories, namely *Non-elaborative information processing* and *Elaborative information processing*. 19 of the 24 participants that were in a negative mood, processed information more elaborative. This is 79.2%. 39 of the 53 participants that were in a positive mood did not ask for more information, what implies that 73.6% of the participants in a positive mood did not choose for elaboration of their information processing.

The Pearson Chi-Square test is executed to check if these variables are related. The output of this test gives a two-sided p-value of 0.00. This information reveals that there is no support for the hypothesis 'There is no connection between the two variables.' Based on this information, it can be concluded that the variables are correlated, what statistically concludes there is a signification relationship between these variables.

To get more information about the correlation within hypothesis 2, following there is looked to the data variables Initial Mood Continuous and *Elaboration.* When keeping the initial mood as a continuous variable, a logistic regression analysis is able to test hypothesis 2. To accept this hypothesis, it is substantial that there is a significant correlation between the two data variables Initial Mood Continuous and Elaboration. This is first tested by a t-test. Initial Mood Continuous is the variable that shows the affective state of the participant  in the beginning of the experiment. This information is obtained from survey question 1. The affective state counted as 1 is the worst that a participant could be in while the affective state counted as 20 is the best state a participant could be in. The variable Elaboration is divided in two categories. The first category is *Non-elaborative information processing* and the second category is *Elaborative information processing*.

A t-test for 2 independent samples is performed to determine if there is correlation between these variables. This t-test can be found in appendix 4, tables 25 and 26. First, the outcome of this test shows by Levene's test for equality of variances that equal variances are assumed for testing these variables. Then, looking to the equality of means, it can be concluded by a p-value of 0.00 that there is a significant correlation between the data variables Initial Mood Continuous and Elaboration.

To get more information about the correlation of the independent variable Initial Mood Continuous and the dependent variable Elaboration a binary logistic regression is implemented. The coefficient of determination that is calculated by the method of Nagelkerke during this logistic regression is 0.198. This value expresses how well the model can predict the dependent variable based on the independent variable. In this case 19.8% of the model predicts Elaboration. The cross table made using this logistic regression is drawn in appendix 4, table 27.

| Step | Chi-square | Df | Significance |
| --- | --- | --- | --- |
| 1 | 12.557 | 7 | 0.084 |

**Table 8: Goodness-of-fit test of Hosmer and Lemeshow for hypothesis 2**

The goodness-of-fit of this model is estimated by the test of Hosmer and Lemeshow. The outcome of this test is revealed in table 8. The Chi-square belonging to this test is not significant (0.084>0.05), what implies this model fits good to the data.

Subsequently, the variables of the equation for this logistic regression model are displayed in table 9.

| | B | Std. Error | Wald | Df | Significance | Exp(B) |
|---|---|---|---|---|---|---|
| Constant | 1.705 | 0.665 | 6.582 | 1 | 0.010 | 5.503 |
| Initial Mood Continuous | -0.162 | 0.050 | 10.461 | 1 | 0.001 | 0.851 |

Table 9: Variables of the equation for the logistic regression model for hypothesis 2

Looking to the variables of the equation, it can be concluded that Initial Mood Continuous is significantly related to Elaboration. Based the logit of Initial Mood Continuous that counts - 0.162, it can be stated that the variable Initial Mood Continuous effects the variable Elaboration negatively. Further, this table states that the Exp(B) of Initial Mood Continuous is 0.851. This implies that every more positive mood state of the SUE scale of Hartmann leads to a decrease of the odds in Elaboration with 14.9%. The odds for Elaboration is lower for a more positive mood. The odds ratio is 0.851 for every improved affective state of a person in Elaboration. Derived from the table with the variables of the equation, the following equation for $P_{Elaboration}$ is composed:

$$P_{Elaboration} = \frac{e^{(1.705 - 0.162 * \text{Initial mood})}}{e^{(1.705 - 0.162 * \text{Initial mood})} + 1}$$

In this equation Initial Mood refers to the variable Initial Mood Continuous. $P_{Elaboration}$ stands for the probability of using the elaborative information processing approach that is the subject to the initial mood of a person. Altogether, based on this model it can be concluded that the probability to adopt elaborative information processing becomes larger when a person's mood develops in a negative way and the other way around. Therefore, hypothesis 2 that states that negative mood leads to more elaborative information processing than positive moods is accepted.

### 4.2.3 More elaborated information processing will lead to a product choice with high decision quality

This paragraph describes the results of the third analysis that is focussing on the part of the conceptual model that is displayed in figure 7. This figure draws the positive relationship between the research variables Information Processing and Decision Quality. This hypothesis is defined as follows:



Figure 7: Hypothesis 3

| Hypothesis 3: | More elaborated information processing will lead to a product choice with high decision quality |
|---|---|

This hypothesis states the relationship of the level of elaboration within information processing and the decision quality for an utilitarian product choice. To accept this hypothesis, a significant positive correlation between the data variables Elaboration and DQ Choice must be present. Elaboration and DQ Choice are the data variables that are created for testing the relationship of the research variables Information Processing and Decision Quality. Both data variables are categorical.

The variable Elaboration was already coded as a dummy variable where the category *Non-elaborated information processing* is referred as a 0 and the category *Elaborated information processing* is referred as a 1. Due to this, Elaboration could be implemented in the binary regression analysis.

DQ Choice is the variable that arose from the final product choices by all participants. To construct this variable survey question 2 and survey question 3 were combined. This was done by collecting the data of the product choices in question 2 of the participants that belong to the *non-elaborated information processing* category of the variable Elaboration together with the data of the choices made in survey question 3 by the participants that belong to *the elaborated information processing* category of the variable Elaboration. This collected information was also assigned to two categories. The first category is *Choice without highest decision quality* and the second category is *Choice with highest decision quality*. Accordingly, the category *Choice with highest decision quality* is the choice of the participant for the vacuum cleaner that embraces the highest quality-specifications. In other words, this variable is the choice of a consumer for the utilitarian product with the highest decision quality. In the experiment this is the vacuum cleaner of the brand Sidi, displayed in both survey questions as option 4. As told previously in this research, this survey questionnaire can be found in appendix 1. When a participant did not finally choose for option 4 when answering survey questions 2 and 3, the information of this person has been assigned to the first category that implies *Choice for an utilitarian product without the highest decision quality*. This first category is presented in the data file with a 0, while the second category is presented with an 1.

The cross table of these two data variables used for this hypothesis is displayed in table 10. This table reveals that 25 participants of the 33 participants who had asked for more information, consequently chose for the product with the highest decision quality. This implies that 75.8% of the total participants who did asked for extra information, had chosen for the product with the highest decision quality. This is in agreement with stated hypothesis 3.

| | Choice product without highest decision quality | Choice product with highest decision quality | Total |
|---|---|---|---|
| **Non-elaboration information processing** | 8 | 36 | **44** |
| **Elaboration information processing** | 25 | 8 | **33** |
| **Total** | **33** | **44** | **77** |

**Table 10: Cross table 'DQ Choice x Elaboration'**

To scrutinise the correlation between these categorical variables, the Pearson's Chi-Square Test is completed. Successively, a binary logistic regression is executed to foster information regarding the correlation and the logit of the dependent variable DQ Choice is determined by the independent variable Elaboration and the calculated constant value belonging to this logistic regression model for hypothesis 3.

The Pearson Chi-Square test is carried out for determining if there is a significant correlation between DQ Choice and Elaboration. The outcome of this test defines a two-sided p-value of 0.00 and is displayed in appendix 5, table 28. Concluding from this information, there is a significant

relationship between the discussed variables for the reason the null-hypothesis is rejected after completing the Pearson Chi-Square Test.

To obtain more relevant data regarding the correlation of the independent variable Elaboration and the dependent variable DQ Choice, a binary logistic regression analysis is accomplished. Also, The coefficient of determination of Nagelkerke is computed during this logistic regression analysis. It is estimated as 0.039. Within this model, this value states how well you can predict the dependent variable DQ Choice by the independent variable Elaboration. This indicates that the model of hypothesis 3 forecasts 39% of the variable DQ Choice. This means that this model is very useful to examine this relationship.

To define the total fit of this model, the Chi-Square that resulted out of the logistic regression analysis needed to be observed. The Chi-Square of this model is defined as equal to the number 26.89. Moreover, the model is significant with 1 degree of freedom (df). This statistic assumes that the variable Elaboration fits to the model for DQ Choice.

The variables of the equation derived from the logistic regression analysis, are displayed in table 11. As displayed the p-value of the variable Elaboration is 0.000 that advocates that the variable is significant and therefore the model can be adopted.

| (Block 1) | B | Std. Error | Wald | Df | p | Exp(B) |
|---|---|---|---|---|---|---|
| Constant | 1.139 | 0.406 | 7.869 | 1 | 0.005 | 3.125 |
| Elaboration | - 2.644 | 0.564 | 21.991 | 1 | 0.000 | 0.071 |

**Table 11: Variables of the equation for the logistic regression model of hypothesis 3**

The variables of this logistic regression model validate that the relationship between Elaboration and DQ Choice is significant. Looking to the logit of Elaboration that is -2.64, it can also be assumed that this is a negative relationship. Exp(B) shows a value of 0.071. This number implies that at the moment a person elaborates processed information this causes a decrease of the odds in the product choice of the consumer to choose for the product with the highest decision quality with 92.9%. Using the information of table 11, the following equation for $P_{DQ\_Choice}$ is composed:

$$P_{DQ\_Choice} = \frac{e^{(3.125 - 0.2644*Elaboration))}}{1 + e^{(3.125 - 0.2644*Elaboration))}}$$

The data variable Elaboration constitutes the data variable DQ Choice.

$P_{DQ\_Choice}$ stands for the probability of choosing the utilitarian product with the highest decision quality that is the subject to the possibility to elaborate processed information during a choice process of an individual. Closing this analysis for hypothesis 3, it can be concluded that based on this model the probability to choose the option with the highest decision quality becomes bigger when elaborating the processed information than when no elaborating of the processed information is performed. For this reason hypothesis 3 that declares that more elaboration of the processed information will lead to a product choice with high decision quality, is accepted by the proof of this previously written analysis.

### 4.2.4    Negative moods lead to a higher decision quality than positive moods

The final hypothesis that is tested in this paragraph is displayed in figure 6. This figure draws the negative relationship between the research variables <u>Mood</u> and <u>Decision Quality</u>. This hypothesis states that making a choice in a negative mood leads to the choice for a product with a higher decision quality than when making a choice in a positive mood. This hypothesis is defined as follows:



**Figure 8: Hypothesis 4**

| | |
|---|---|
| **Hypothesis 4:** | **Negative moods lead to a higher decision quality than positive moods** |

As discussed in sub-paragraph 2.1.4, this hypothesis is divided in two sub hypotheses to scrutinize the relationship between a consumer's mood and the decision quality of this consumer's choice.

The first sub-hypothesis is stated as follows:

| |
|---|
| ***Hypothesis 4a: There is a relationship between negative moods and high decision quality*** |

This sub-hypothesis focuses on the contrast between the choice made in a negative mood and the choice made in a positive mood. To accept this hypothesis, it is substantial that there is a correlation between the two data variables <u>Initial Mood Category</u> and <u>DQ Choice</u> that represent the research variables <u>Mood</u> and <u>Decision Quality</u>. <u>Initial Mood Category</u> is a categorical variable created out of the variable <u>Initial Mood Continuous</u>. It is the same variable that is used within paragraph 4.2.2 and it includes the two categories *Initial mood positive* and *Initial mood negative*.

Repeating from paragraph 4.2.3 that explains the dependent variable <u>DQ Choice,</u> this variable contains the two categories *Choice without highest decision quality* and *Choice with highest decision quality*. After examining if there is a significant relationship between these two dichotomous variables, another relationship of variables is analysed. This is the relationship between <u>Initial Mood Continuous</u> and <u>DQ Choice</u>. The data variable <u>Initial Mood Continuous</u> was also explained in paragraph 4.2.2. Subsequently, if these variables are significantly related, a binary logistic regression analysis is executed to discover more details about this relationship.

The cross table of the variables <u>DQ Choice</u> and <u>Initial Mood Category</u> is displayed in table 12. It demonstrates that 38 of the 53 participants that were in a good mood, choose a product without the highest decision quality. This is 71.7%. Furthermore, it shows that 18 of the 24 participants in a negative mood chose for the product with the highest decision quality. This suggests that 75.0% of the participants in a negative mood chose the product with the highest decision quality.

| | Initial negative mood | Initial positive mood | Total |
|---|---|---|---|
| **Choice without highest decision quality** | 6 | 38 | **44** |
| **Choice with highest decision quality** | 18 | 15 | **33** |
| **Total** | **24** | **53** | **77** |

**Table 12: Cross table 'DQ Choice x Initial Mood Category'**

To test the relationship, the Pearson's Chi-Square was estimated. This is displayed in appendix 6,table 29. It is determined that that the two-sided p-value for this test is 0.00. This means that there is no evidence for the hypothesis 'There is no connection between the two variables'. Based on this information, it can be concluded that the variables are significantly related to each other.

To elaborate this relationship between the research variables <u>Mood</u> and <u>Decision Quality</u> even more, the relationship of the data variables <u>DQ Choice</u> and <u>Initial Mood Continuous</u> are now examined. When these variables are related, the binary logistic analysis is performed to examine this relationship. The variable <u>Initial Mood Continuous</u> was explained in paragraph 4.2.2.

Starting to elaborate the relationship of <u>DQ Choice</u> and <u>Initial Mood Continuous,</u> a cross table of this relationship is displayed in appendix 6, table 30. A t-test for 2 independent samples is completed to define if there is correlation between the variables of this hypothesis. This t-test is displayed in appendix 6, table 31. The outcome of this test shows by Levene's Test for Equality of Variances that equal variances are assumed for testing these variables resulting from a p-value of 0.07. Following the t-test for equality of means is analysed and it can be concluded based on a p-value of 0.002 that there is a significant correlation between the variables <u>Initial Mood Continuous</u> and <u>DQ Choice</u>.

To test the relationship between the variables <u>Initial Mood Continuous</u> and <u>DQ Choice</u>, a binary logistic regression is performed. The coefficient of determination is calculated by the method of Nagelkerke ($R^2$) that implies that the total variation of <u>DQ Choice</u> for 16.1% is explained by this regression model.

| Step | Chi-square | Df | p |
|------|-----------|-----|-------|
| 1 | 6.912 | 7 | 0.438 |

**Table 13: Goodness-of-fit test of Hosmer and Lemeshow for hypothesis 4a**

The fit of the model is calculated by the Goodness-of-fit Test of Hosmer and Lemeshow. The results are shown in table 13. The Chi-square belonging to this test is not significant (0.438>0.05), what implies for this test that this model fits good to the data.

The variables of this regression model are next displayed in table 14. As shown the p-value of 0.003 belonging to the independent variable is smaller than the significance level of 0.05. Hence, this model can be adopted.

| Step 1 | B | Std. Error | Wald | Df | P | Exp(B) |
|--------|------|-----------|-------|-----|-------|--------|
| Constant | 1.468 | 0.643 | 5.204 | 1 | 0.023 | 4.338 |
| Initial Mood Continuous | -0.142 | 0.048 | 8.677 | 1 | 0.003 | 0.867 |

**Table 14: Variables of equation by the regression model of hypothesis 4a**

According to the variables of the equation belonging to the analysis of hypothesis 4a, hypothesis 4a is accepted. This means that there is a significant relationship between <u>Initial Mood Continuous</u>

and <u>DQ Choice</u>. Based on this analysis, the research variable <u>Mood</u> is significantly related to <u>Decision Quality.</u>

Following, the second sub-hypothesis is analysed to scrutinise the relationship stated in hypothesis 4. This sub-hypothesis is examined on mediation within the relationship of the research variables <u>Mood</u> and <u>Decision Quality</u>. The second sub-hypothesis of hypothesis 4 is stated as follows:

> ***Hypothesis 4b: There is a mediating variable in the relationship between negative moods and high decision quality***

This sub-hypothesis is set up to determine if this direct relationship between the research variables <u>Mood</u> and <u>Decision Quality</u> that was analysed for sub-hypothesis 4a, is really existing. Sub-hypothesis 4b is explored further by concentrating on the possible mediating research variable <u>Information Processing</u>. This is done by implementing Baron and Kenny's (1986) Steps for Mediation.

According to these researchers, it is essential that several requirements must be met to determine if there is a true mediation relationship. They defined three steps to check if these requirements are met which are also used to determine if <u>Information Processing</u> is an mediator (Baron & Kenny, 1986).

The first step for mediation is *regressing the dependent variable on the independent variable.* This step was executed for the relationship between the independent data variable <u>Initial Mood Continuous</u> and the dependent data variable <u>DQ Choice</u>. This was done in the previous section of this sub-paragraph. Based on that analysis, it was concluded that this relationship is significant.

The second step for mediation is *regressing the mediator on the independent variable.* This step confirms if the research variable <u>Mood</u> that is represented by the data variable <u>Initial Mood Continuous</u> is a significant predictor of the mediator <u>Information Processing</u> that is represented by the data variable <u>Elaboration</u>. According to the analysis of the hypothesis *Negative mood leads to more elaborative information processing than positive moods*, discussed in sub-paragraph 4.2.2, it was concluded by the implementation of a logistic regression analysis that <u>Initial Mood Continuous</u> is a significant predictor for the mediator <u>Elaboration.</u>

The final step for mediation is *regressing the dependent variable on both the mediator and independent variable.* This step executes the regression for the total relationship between the data variables <u>Initial Mood Continuous</u>, <u>Elaboration</u> and <u>DQ Choice</u>. To regress these variables a binary logistic regression analysis is executed using the independent variables <u>Initial Mood Continuous</u> and <u>Elaboration,</u> and as dependent variable <u>DQ Choice</u>. The outcome of this analysis is displayed in table 15.

| Step 1 | B | S.E. | Wald | Df | P | Exp(B) |
|---|---|---|---|---|---|---|
| **Initial Mood Continuous** | -0.077 | 0.053 | 2.088 | 1 | 0.148 | 0.926 |
| **Elaboration** | 2.399 | 0.584 | 16.900 | 1 | 0.000 | 11.011 |
| **Constant** | -0.444 | 0.810 | 0.301 | 1 | 0.584 | 0.641 |

**Table 15: Variables of the equation derived out the logistic regression analysis for mediation**

When studying this table, the variable <u>Initial Mood Continuous</u> is not significant is this model based on a p-value of 0.148. In other words this means that using this model, a person's mood is not significantly related to a person's choice for a product with the highest decision quality. Consequently, this implies that this variable is not a predictor for <u>DQ Choice</u>.  In contradiction, the

other data variable <u>Elaboration</u> is significantly related looking to the p-value of 0.000. This concludes that <u>Elaboration</u> is the mediator within the relationship of <u>Initial Mood Continuous</u> and <u>DQ Choice</u>.

Altogether, the outcome of this final regression analysis concludes that there is no direct relationship between the data variables <u>Initial Mood Continuous</u> and <u>DQ Choice</u>. Although the logistic regression analysis that had examined the relationship between these data variables without taking into account the data variable <u>Elaboration</u>, showed there is a significant relationship, the logistic regression analysis for mediation exposed that this is no direct relationship. The reason for this is the significant data variable <u>Elaboration</u> as mediator in this model. Therefore , sub-hypothesis 4b is accepted.

Summarising paragraph 4.2, the research variables <u>Decision Quality</u> is significantly related to <u>Mood</u>. This relationship is positive and it implies that the choice for a product with the highest decision quality causes positive mood change. This outcome is in line with the expectations discussed in the literature review of paragraph 2.1. It implies that an utilitarian product when concentrating on the decision quality of this kind of product, can generate an improvement of an individual's affective state.

Moreover, the research variables <u>Mood</u> and <u>Information Processing</u> are significantly related. This relationship is negative. This infers that a person in a bad mood processes information with a higher level of elaboration than a person in a good mood. This result is in line with previously written literature that declared that a type of mood in linked to an affect mechanism and this affect mechanism is linked to the method of information processing, explained in sub-paragraph 2.1.3. For example, a person in a good mood automatically implements the affect evaluation mechanism, that is linked to low-order processing of the information available. In other words, the elaboration level within the processed information is low when a person is in a good mood.

Also, the research variables <u>Information Processing</u> and <u>Decision Quality</u> are significantly related. This relationship is positive and can be described as follows. A person that processes information with a high level of elaboration chooses a product with higher decision quality than a person that processes information with a lower level of elaboration. Also, this outcome is in line with the reviewed literature that stated that processed information that is scrutinised properly generates a better choice for the reason this is a considered choice, elaborated in the sub-paragraphs 2.1.3 and 2.1.4. This considered choice is based on the decision quality of a product within this research.

As a final point, the relationship  between the research variables <u>Mood</u> and <u>Decision Quality</u> was examined. Concluding from this analysis, the direct relationship between these variables does not exist for the reason that the research variable <u>Information Processing</u> is a mediator within this relationship. This outcome is also in line with the reviewed literature, that did not advocate the influence of a person's mood on a choice without taking into consideration other variables that mediate this relationship.

*So, this research creates new knowledge regarding the influence of an utilitarian product on an individual's mood. Previously written literature only focuses on the influence of a hedonic product on an individual's mood and excluded the influence of an utilitarian product based on the belief a utilitarian product only fulfils functional needs. In contrast, this research advocates the effect of a utilitarian product on an individual's mood. In this research, decision quality of a consumer's choice makes an utilitarian product a significant factor in a consumer's mood.*

## 5. GENERAL DISCUSSION

The following statement is proven within this research.

> **A mood of a consumer influences the decision quality of an utilitarian product choice made by the consumer using the elaboration level of processed information.**

This statement is evidenced by this research using scientifically substantiated assumptions adopted from previously written literature. The first assumption is that the consumers are not aware of the origin of their moods. Moreover, the second assumption that constitutes this statement is that individuals want to stay in their desired affective state and when persons are not in this desired affective state, they try to become is this desired affective state. The final assumption is that mood and emotions are two different phenomena. These are all discussed within the literature review of chapter 2. When all these assumptions are met, the analyses belonging to the four hypotheses of this research show evidence for this statement. Each hypothesis explains a part of this statement.

The first hypothesis stated in this research is: **'High decision quality leads to mood improvement'**. The analysis implemented to test this hypothesis revealed the positive relationship between the decision quality of a consumer's utilitarian choice and a consumer's mood. This indicates that the choice for a product with high decision quality causes a positive change of the consumer's mood.

As discussed in the literature review of chapter 2, a person's mood can be improved by the choices that this person makes. Mood improvement is a result of the affect regulation mechanism. According to Andrade (2005) the impact of the non-optimal mood state on decision making becomes stronger when an individual is further away from his/her preferred affective state. This implies individuals in a negative affective state are more likely to take action to become in a more positive affective state, because their need to alter their affective state is bigger (Andrade, 2005). The choice for a product with highest decision quality is the way of taking action by a consumer. This action leads to mood improvement.

Furthermore, this research conflicts with the existing literature for the reason there is evidence found that an utilitarian product could also improve a person's mood. This implies that an utilitarian product also could have emotional value. In contrast, previously written literature stated that this emotional value is only found in hedonic products (Palazon & Delgado-Ballester, 2013).

The second hypothesis stated in this research is: **'Negative moods lead to more elaborated information processing than positive moods'**. Examining this hypothesis, it was concluded that there is a significant relationship between moods and the elaboration level of processed information. This implies that a person in a negative mood elaborates the processed information on a high level. This high level of elaboration means that the information that is processed is scrutinised. The results of the experiment show that the participants who were in a bad mood needed more detailed information for choosing their final choice. These participants put more effort in processing information.

Based on literature, the outcome should be that there is evidence that negative moods lead to more elaborated information processing than positive moods. This is in agreement with the outcome resulted from the analysis of hypothesis 2. Moreover, the reviewed literature states that the affect

regulation mechanism implies that persons try to improve their moods by taking action. This affect mechanism is linked to a negative mood assuming a person with a negative mood always tries to improve its affective state and therefore diminishes a negative affective state. This leads to managing behaviour that focuses on the assumption of reaching the ideal affective state of a person (Wegener, Petty, & Smith, 1995; Atalay & Meloy, 2011; Di Muro & Murray, 2012). This literature is in agreement with the findings of hypothesis 2. The managing behaviour within this relationship is the elaboration level within information processing.

Furthermore, the information also derived from the analysis of hypothesis 2 is in agreement with the reviewed literature that states that the impact of the non-desired affective state becomes stronger on decision making when an individual is further away from his/her desired affective state (Andrade, 2005). This infers that individuals in a negative affective state are more likely to take action to become in a more positive affective state, because the need of improving this personal mood is present. (Andrade, 2005; Wegener, Petty, & Smith, 1995; Atalay & Meloy, 2011; Larsen, 2000). This action is equal to the level of elaboration within information processing that results from a person's mood.

Additionally, the information derived from the analysis of hypothesis 2 is in agreement with the literature that states that persons in a negative mood process information cognitively, while persons in a positive mood process information affectively. Cohen and Andrade (2005) state that individuals in a negative mood  be likely to scrutinize information and they approach the information more systematic and analytical before making decisions and judgements. In other words, individuals in a negative mood elaborate information processing more than individuals in a positive mood (Andrade, 2005; Schwartz & Clore, 1983; Armitage, Conner, & Norman, 1999).

The third hypothesis stated in this research is: '**More elaborated information processing will lead to a product choice with high decision quality'**. The analysis of this hypothesis revealed that there is a significant positive relationship between the elaboration level within information processing and the decision quality of a consumer's choice for a utilitarian product. This implies that when the level of elaboration within information processing in high, the choice of the consumer involves high decision quality.

Reviewed literature suggests that the method of cognitive information processing implies that a high level of elaboration within the processed information generates a choice with high decision quality for the reason that the information is processed systematically and analytically (Cohen & Andrade, 2004). This is in line with the information resulted from the analysis of hypothesis 3.

The other method that is suggested in the reviewed literature is affective information processing. This method is used for mainly choosing hedonic products. However, the results of the analysis show this method used for choosing an utilitarian product. This is not in line with the research of MacInnis and Jaworski (1989) that state that the choice of an utilitarian product is mainly done by the method of cognitive information processing (MacInnis & Jaworski, 1989).

The final hypothesis that was stated within this research, is: **'Negative moods lead to a higher decision quality than positive moods'**. Examining the results of the experiment, it was concluded that this relationship only exists when implementing a mediation variable. This variable involves the elaboration level within information processing. A person's mood is negatively related to this mediation variable, while this mediation variable is positively related to the decision quality of the

consumer's choice. This implies that a person in a negative mood elaborates information processing on a high level that generates a choice for an utilitarian product with high decision quality.

The results of the analysis of hypothesis 4 agree with the information of the literature review that states that a person in a negative mood puts more effort in making a decision to improve its affective state (Andrade, 2005; Schwartz & Clore, 1983; Armitage, Conner, & Norman, 1999). Comparing this information to the outcome of hypothesis 4, it is stated that person in a negative mood puts more effort in decision making by more elaborated information processing to improve the affective state by choosing the best option.

Moreover, the results of the analysis of hypothesis 4 agree with the proven hypothesis of Schwarz and Bless, cited from Armitage et al. (2000) that states that 'negative moods signal problematic situations which require attention, cognitive resources and a depth of processing to avoid erroneous decision making' (Armitage, Conner, & Norman, 1999). In our findings the required attention, cognitive resources and a depth of processing is the high level of elaboration within information processing. Therefore, negative moods leads to a high level of elaboration within information processing to make the best choice.

The previously discussed information derived from the different analyses is used for defining implications within the scientific field and the practical field. Following, the scientific implications of the results of this research are outlined.

As stated in this research, a relative small amount of research have been done on the role of mood in consumer choice. Research that had been executed within this field, was mainly concentrating on positive affective states. Therefore, the first implication of this research is adding extend to the existing literature by the examination of the role of a negative affective state on consumer choice.

Moreover, this research clarifies the effect of only mood and not emotion on information processing and consumer choice.

Also, this research adds extend to the existing literature by the examination of the relationship between mood and consumer choice of an utilitarian product. Utilitarian products are mainly excluded when testing the relationship between mood and consumer choice. The information derived from examining the relationship of hypothesis 1 that advocates that the utilitarian choice with high decision quality influences a consumer's mood. Therefore, this research concludes that not only hedonic consumer choices, but also the utilitarian consumer choices need to be considered when examining mood improvement predicted by consumer choice.

Moreover, this research determines by the analysis of hypothesis 4 that there is no direct relationship between mood and consumer choice for an utilitarian product. Information processing is mediating this relationship and cannot be excluded from it. This information creates more awareness of the process of consumer choice for an utilitarian product, and can be used in future research as basic model for illustrating the process of consumer choice for an utilitarian product.

Furthermore, the outcome of the analysis of hypothesis 2 validates the negative relationship between an individual's mood and the way information is processed already that was already determined in existing literature of MacInnis & Jaworski (1989). This validation increases the reliability of the results of the existing literature.

Likewise, the positive relationship between information processing and consumer choice that was examined in prior performed research of Hwang and Lin (1999), is confirmed by the analysis of hypothesis 3 (Hwang & Lin, 1999).

Finally, this research defines mood and emotion separately that could be used to clarify the results of future research.

Succeeding, the practical implications of the outcome of this research are discussed.

An affective state is an essential factor for the behaviour of a consumer (Pham M. T., 1998; Schwartz & Clore, 1983; Dhar & Wertenbroch, 2000). Therefore, awareness of mood is valuable for a manager of an organisation to understand consumer behaviour.

Also, the potentials of an utilitarian product to fulfil a need of a consumer are key important for these managers. One of these potentials is derived from the analysis of hypothesis 1 that suggests that utilitarian choice could improve a consumer's mood. Assuming mood improvement is only possible when positive feelings are sensed, it is concluded that a consumer could generate feelings for an utilitarian product considering the decision quality of this product. These feelings could form emotional involvement with an utilitarian product for the consumer. The information that emotional involvement with an utilitarian product could be generated when considering the decision quality of this product, can be used by managers as basic information for modelling the marketing communication of a utilitarian product. Differentiating an utilitarian product is often difficult for the reason the products belonging to the same product group often have identical specifications. This research suggests that a consumer could generate feelings belonging to an utilitarian product considering the decision quality of this product that improve affective states. Therefore, a manager implements decision quality as the central focus of the marketing communication. Most important specifications need to be determined and promoted within the marketing communication to display the relevant data to the consumer. A consumer in a bad mood would respond to the relevant information that is easily to process elaborately, while other utilitarian products that do not display most important specifications within their marketing communication, will not have the advantage of rapid elaborated information processing  and therefore they do not have the advantage of rapid generated feelings. These advantages differentiate the utilitarian product by focussing on the decision quality in the marketing communication and due to this an individual's mood could be improved to the desired mood. Moreover, when a related product choice need to be made in the future, this could lead to the preference for a product related to the old choice of the consumer according to the affect evaluation mechanism for the reason the positive feelings related to this product are still in a consumer's memory.

Additionally, managers could use the information constituted by this research that was derived from hypothesis 2 stating that a person in a negative mood performs high elaborated information processing. This information can be adopted to the strategy for the service encounters. This could cause an increase of the service level of a shop that subsequently could contribute to a higher level of customer satisfaction. For example, a salesman notices that a consumer with a bad mood wants to make a choice for a product. Subsequently, this salesman acts in response to this bad mood by offering expanded relevant product information to this consumer. Consequently, the need of the consumer that consisted of finding product information is fulfilled and this consumer could now carry out elaborated information processing. Due to the service of offering expanded relevant information the service level of the shop is reviewed as high by this consumer. This could generate a positive attitude towards the shop what could result into customer retention.

The information derived from the analysis of hypothesis 3 that suggests that the level of elaboration within information processing is positively linked to the choice with the highest decision quality, can be implemented in the selling strategies designed by managers to increase customer satisfaction as a result of the improvement of the service level of a company. This could be done by focussing on the customers that want to highly elaborate the processed information before making a choice. To achieve this increase in customer satisfaction, a comparison of the information for the same kind of products need to be provided to the customer. Due to this overview, the choice with the highest decision quality could be made more simple and faster by the customer, what subsequently could lead to more gratification of the customer.  In other words, preforming more customer focus triggers the emergence of positive feelings to the service provided by the salesman. The result of this is an improvement of the service level belonging to an organisation and the cohesive customer satisfaction.

The information derived from the analysis of hypothesis 4 can be used by managers for creating a more complete awareness about the process of consumers choice. A person in a negative mood scrutinises information more and needs more information to make his best choice, while a person in a positive mood processes information heuristically and therefore needs less functional information to make his best choice. This information could be the basis for constructing a selling strategies for utilitarian products. This selling strategy adopts that a person in a negative affective state wants to receive relevant detailed information, while a person in a positive affective state does not prefer to receive relevant detailed information without requesting it. For example, a customer is entering the shop of salesman A. Salesman A notices that this customer is in a good mood and wants to buy a product. Based on the information resulted from hypothesis 4, this salesman does not offer extra information of this product when the customer does not ask for this information and salesman A remains on the background for the reason this person makes his choice on information that is mainly based on positive ideas in memory linked to this product. Hence, the product choice does not need to include highest decision quality to keep this customer satisfied.

Next, the limitations of this research are identified.

The first limitation of this research is the sample of the experiment. Sampling was done randomly and due to this sampling method, the sample does not represent a specific population group. An example as population group is the inhabitants of the Netherlands.

Another limitation is no replication done of the research. Replication of this research could make the outcome more valid, and easier accepted by scientist to use the gained knowledge in their research.

Also, the online survey questionnaire of Qualtrics is also defined as a limitation for the reason the online survey questionnaire did not work entirely on every mobile device. The mood measure question could not be answered when using small mobile devices. To delimit the loss of respondents, as soon as this problem was identified, a message that asked the potential respondents to complete the online questionnaire on a big screen, was sent around and adjusted to the questionnaire. Probably, this problem was the reason for the major part of the uncompleted surveys.

Moreover, the measurement of mood is a limitation. As mood measure instrument, the SUE Scale of Hartmann (2009) was used. For the first mood measure question in the survey this instrument was excellent for determining a participant's initial mood due to reviewed time period. However, in the second mood measure question, that had to measure the mood at the end of the

experiment, this mood measure instrument was limited for the reason no time period could be implemented to estimate only a participant's mood instead of the emotions felt by the participant. This limitation could only influence the outcome of hypothesis 1 where the mood change during the experiment was used as dependent variable. Most likely this limitation influences the outcome minimal for the reason moods and emotions do have commonly features and they are often closely related to each other.

Finally, when comparing this research to the actual situation of purchasing a product, it need to be identified that this research only examines a small part on the field of affective states linked to consumers' utilitarian choices. This research gives new insights to this field and can be used as a foundation to explore this field. This identifies another limitation of this research suggesting that other possible influencing factors, like macro-environmental factors are omitted in this research. For example, in a real-life situation stimuli of the cultural environment could influence the choice of a consumer. This is not taken into account in the model of this research. The main objective of this research was to create new understandings of the effects of moods on utilitarian consumers' choices and therefore this research was performed focussing on the basic elements concerning the relationship between moods and consumers' choices.

Subsequently, the areas of further research are defined.

To gain more knowledge about the explored relationships between moods, elaborated information processing and the decision quality of consumer's choice, further research need to be done. This research should execute the experiment using a sample that represents a population group to make the outcome more generable. For example, a research shows that children respond different on moods than elderly (Gardner, 1985). For the online survey questionnaire, Qualtrics can be used again if the participants are informed that the online survey questionnaire needs to be completed on a computer or a mobile device with a big screen. Moreover, the final mood of a participant needs to be measured by estimating the mood after 2 days. Then, the mood is estimated and the emotions sensed after making a choice are excluded.

Further research can also replicate this existing research to test if the outcomes except the analysis of hypothesis 1 are equal to each other over time. When the research is replicated, the relationships between the research variables mood, information processing and decision quality could be confirmed. The outcome could validate the mediating role of information processing between a person's mood and the decision quality of an utilitarian product choice. The outcome becomes more reliable.

Furthermore, a research could be done to examine the relationship between specific types of mood, information processing and consumer choice for an utilitarian product. An example of a specific mood is depression. This relationship will create a more detailed insight on the process of consumer choice based on an individual's mood.

Key important for further research is to explore the field of moods and utilitarian consumer choice. Research needs to focus on unexamined factors that could influence the relationship of mood and utilitarian consumer choice. As discussed before, this research can be used as a basis for further research and the model established in this research is only a simple model of this examined field. The amount of factors that could be studied is limitless and this causes many opportunities to perform further research to scrutinise the concerning field.

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## APPENDIX 1 ONLINE SURVEY QUESTIONAIRE

1) Wat is uw gemoedstoestand vandaag? (U kunt het kleine balkje van links naar rechts schuiven om uw gemoedstoestand aan te geven.)



2) Stel u zich de volgende situatie voor: U heeft op dit moment een nieuwe stofzuiger nodig. Welke zou u kiezen?

- Siemens



| Beknopte specificities | Siemens |
|---|---|
| Prijs | €89.95 |
| Opvang | Met zak |
| Vermogen (Watt) | 1900 |
| Geluidsniveau (Decibel) | 85 |

- Philips



| Beknopte specificities | Philips |
|---|---|
| Prijs | €89.95 |
| Opvang | Met zak |
| Vermogen (Watt) | 2000 |
| Geluidsniveau | 80 |

- Dirt Devil



| Beknopte specificities | Dirt Devil |
|---|---|
| Prijs | €88.95 |
| Opvang | Met zak |
| Vermogen (Watt) | 1900 |
| Geluidsniveau (Decibel) | 85 |

- Sidi



| Beknopte specificities | Sidi |
|---|---|
| Prijs | €88.95 |
| Opvang | Met zak |
| Vermogen (Watt) | 2000 |
| Geluidsniveau (Decibel) | 80 |

- Op basis van deze informatie kan ik geen keuze maken. Ik wil graag meer informatie.

3) Hieronder is meer informatie weergegeven met betrekking tot alle 4 de stofzuigers. Welke zou u nu kiezen?

| Merk | Siemens | Philips | Dirt Devil | Sidi |
|---|---|---|---|---|
| Prijs | €89.95 | €89.95 | €88.95 | €88.95 |
| Garantie | 2 jaar | 2 jaar | 2 jaar | 2 jaar |
| Effectieve zuigvermogen | 300 watt | 600 watt | 350 watt | 650 watt |
| Vermogen | 1900 watt | 2000 watt | 1900 watt | 2000 watt |
| Geluidsniveau | 85 dB | 80 dB | 85 dB | 80 dB |
| Snoerlengte (meter) | 6 | 6 | 6 | 8 |
| Automatisch oprolbaar snoer | Ja | Ja | Ja | Ja |
| Parketborstel | Ja | Ja | Ja | Ja |
| Handvat | Nee | Ja | ja | Ja |
| Wielen | Rubber | Rubber | Rubber | Rubber |
| Opvang | Met zak | Met zak | Met zak | Met zak |
| Opslagcapaciteit (liter) | 4 | 5 | 5 | 6 |
| Uitblaasfilter | Ja | Ja | Ja | Ja |
| Motorfilter | Ja | Ja | Ja | Ja |
| Kleur | Blauw | Blauw | Blauw | Blauw |
| Gewicht | 5 | 4.5 | 5 | 4.0 |
| Score Consumentenbond | 5 | 7.5 | 6 | 9 |

- Siemens
- Philips
- Dirt Devil
- Sidi
- Op basis van deze informatie kan ik nog steeds geen keuze maken.

4) Zou u uw keuze hieronder toe willen lichten?

5) Hoe voelt u zich nu? (U kunt het balkje weer van links naar rechts schuiven om aan te geven hoe u zich voelt.)
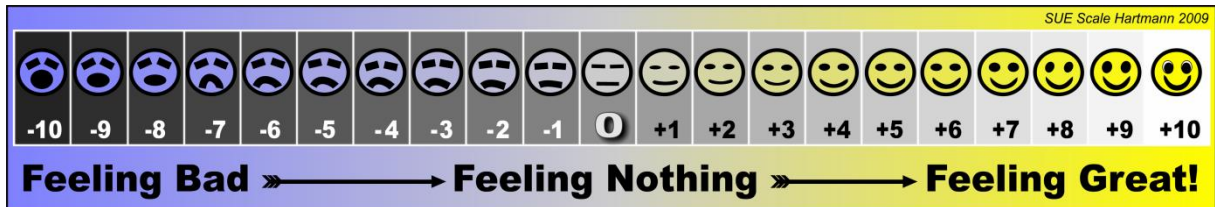


6) Kunt u aangeven hoe belangrijk u de volgende punten vindt bij het aanschaffen van een stofzuiger?

|  | Zeer onbelangrijk | Onbelangrijk | Geen mening | Belangrijk | Zeer belangrijk |
|---|---|---|---|---|---|
| Merk |  |  |  |  |  |
| Prijs |  |  |  |  |  |
| Geluidsniveau |  |  |  |  |  |
| Opslagcapaciteit |  |  |  |  |  |
| Gewicht |  |  |  |  |  |
| Zuigvermogen |  |  |  |  |  |
| Score Consumentenbond* |  |  |  |  |  |
| Snoerlengte |  |  |  |  |  |

*Deze score heeft betrekking op het gebruiksgemak en levensduur van de stofzuiger.

7) Hoe vaak wordt er bij u thuis gestofzuigd (door uzelf of door anderen)?
- Dagelijks
- 3-5 keer per week
- 1-2 keer per week
- 1x per twee weken
- 1x per maand
- Minder dan 1x per maand
- Nooit

8) Hoe vaak hanteert u zelf de stofzuiger?
- Dagelijks
- 3-5 keer per week
- 1-2 keer per week
- 1x per twee weken
- 1x per maand
- Minder dan 1x per maand
- Nooit

9) Bent u man of vrouw>
- Man
- Vrouw

10) Tot welke leeftijdscategorie behoort u?
- Vanaf 0 t/m 10 jaar
- Vanaf 11 t/m 20 jaar
- Vanaf 21 t/m 30 jaar

- Vanaf 31 t/m 40 jaar
- Vanaf 41 t/m 50 jaar
- Vanaf 51 t/m 60 jaar
- Vanaf 61 t/m 70 jaar
- Vanaf 71 t/m 80 jaar
- 81 jaar of ouder

## 11) Wat is uw woonsituatie?

- alleen wonend
- inwonend bij ouders/familie
- samenwonend met vrienden/studenten
- getrouwd of samenwonend met partner

*De genoemde producten zijn fictief. Bij de vragen 1 en 5 is er gebruik gemaakt van de 'SUE Scale' van Hartmann (2009)*

## APPENDIX 2 DESCRIPTIVE DATA

| Age Category | Frequency | Percent |
|---|---|---|
| 11-20 | 4 | 5,2 |
| 21-30 | 45 | 58,4 |
| 31-40 | 19 | 24,7 |
| 41-50 | 4 | 5,2 |
| 51-60 | 4 | 5,2 |
| 61-70 | 1 | 1,3 |
| Total | 77 | 100,0 |

Table 16: Age

| | N | Minimum | Maximum | Mean | Std. Deviation |
|---|---|---|---|---|---|
| Point Mood | 77 | -10,00 | 10,00 | 2,4805 | 5,38910 |
| Point mood after choice | 77 | -9,00 | 10,00 | 3,4805 | 4,64704 |
| Valid N (listwise) | 77 | | | | |

Table 17: Descriptive Statistics for Mood Rating

| | Mean | Std. Deviation | Std. Error Mean | 95% Confidence Interval of Δ Lower | Upper | T | df | P (2-tailed) |
|---|---|---|---|---|---|---|---|---|
| Initial mood x Final mood | -1 | 3.256 | 0.371 | -1.739 | -0.261 | -2.695 | 76 | 0.009 |

Table 18: Paired Sample T-test 'Initial Mood - Final Mood'

| Gender | | N | Minimum | Maximum | Mean | Std. Deviation |
|---|---|---|---|---|---|---|
| Man | Point Mood | 25 | -10,00 | 10,00 | 2,2400 | 5,65892 |
| | Point mood after choice | 25 | -5,00 | 10,00 | 3,6800 | 4,59819 |
| | Valid N (listwise) | 25 | | | | |
| Woman | Point Mood | 52 | -10,00 | 10,00 | 2,5962 | 5,30726 |
| | Point mood after choice | 52 | -9,00 | 9,00 | 3,3846 | 4,71191 |
| | Valid N (listwise) | 52 | | | | |

Table 19: Descriptive statistics for mood rating segmented by man and woman

| | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | | | 95% Confidence Interval of the Difference | |
|---|---|---|---|---|---|---|---|---|---|---|
| | F | P | T | Df | P (2-tailed) | Mean Difference | Std. Error Difference | | Lower | Upper |
| **Initial Mood** Equal variances assumed | 0.252 | 0.617 | -0.270 | 75 | 0.788 | -0.356 | 1.320 | | -2.985 | 2.273 |
| **Final Mood** Equal variances assumed | 0.033 | 0.856 | 0.260 | 75 | 0.796 | 0.295 | 1.138 | | -1.972 | 2.562 |

**Table 20: Independent Samples T-test for initial and final mood by man and woman**

| | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | | 95% Confidence Interval of the Δ | |
|---|---|---|---|---|---|---|---|---|---|
| | F | p | T | Df | p (2-tailed) | Mean Difference | Std. Error Difference | Lower | Upper |
| **Mood change** Equal variances assumed | 0.032 | 0.859 | 0.820 | 75 | 0.415 | 0.652 | 0.79428 | -0.931 | 2.234 |

**Table 21: Independent Samples T-test for mood change by man and woman**

| | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | | | 95% Confidence Interval of the Difference | |
|---|---|---|---|---|---|---|---|---|---|---|
| | F | P | t | df | p (2-tailed) | Mean Difference | Std. Error Difference | | *Lower* | *Upper* |
| Brand | 0.005 | 0.942 | 4.809 | 75 | 0.000 | 1.311 | 0.273 | | 0.768 | 1.854 |
| Price | 2.724 | 0.103 | 1.236 | 75 | 0.220 | 0.326 | 0.264 | | -0.199 | 0.851 |
| Noise Level | 0.008 | 0.927 | 1.137 | 75 | 0.259 | 0.295 | 0.260 | | -0.222 | 0.813 |
| Storage Capacity | 0.685 | 0.411 | -0.715 | 75 | 0.477 | -0.152 | 0.212 | | -0.574 | 0.271 |
| Weight | 3.753 | 0.056 | -1.345 | 75 | 0.183 | -0.348 | 0.259 | | -0.864 | 0.167 |
| Suction Power | 0.132 | 0.717 | -0.596 | 75 | 0.553 | -0.098 | 0.165 | | -0.428 | 0.231 |
| Score Consumentenbond | 1.285 | 0.261 | -3.671 | 75 | 0.000 | -0.939 | 0.256 | | -1.449 | -0.430 |
| Cable Length | 3.258 | 0.075 | -0.548 | 74 | 0.586 | -0.111 | 0.202 | | -0.514 | 0.292 |

**Table 22: Independent Samples T - test per specification (Equal variances assumed)**

| Variable | Variable Description |
|---|---|
| **DQ Choice:** | This variable involves of two categories. The first category is *the choice for a product without the highest decision quality* and the second category is *the choice for the product with the highest decision quality.* |
| **Mood Change** | This variable determines the mood change of the participant during the experiment. This variable is computed by the variable Final Mood Continuous minus the variable Initial Mood Continuous. |
| **Initial Mood Continuous** | This variable is continuous and refers to the different initial mood states by the numbers 1 till 20. The numbers 1-10 are referring to a bad mood and 11-20 are referring to a good mood. |
| **Initial Mood Category** | This variable is constructed by recoding the variable Initial Mood Continuous in the two categories *Negative initial mood* referred in the data file as 1 and *Positive initial mood* referred in the data file as 0. |
| **Final Mood Continuous** | This variable is continuous and refers to the different final mood states by the numbers 1 till 20. The numbers 1-10 are referring to a bad mood and 11-20 are referring to a good mood. |
| **Elaboration:** | This variable generates the elaboration level within information processing and is categorised in *Non-elaborated information processing* referred in data as a 0 and *Elaborated information processing* referred in data as a 1. |

**Table 23: Variables of the data analyses**

## APPENDIX 3 OUTPUT ANALYSIS HYPOTHESIS 1

- **Simple regression for *Initial Mood Continuous* and *Mood Change***

| Model 1 | Sum of Squares | df | Mean Square | F | p |
|---|---|---|---|---|---|
| Regression | 44.598 | 1 | 44.598 | 4.393 | 0.039 |
| Residual | 761.402 | 75 | 10.152 | | |
| Total | 806.000 | 76 | | | |

**Table 24: Analysis of variances for linear regression of hypothesis 1**

## APPENDIX 4 OUTPUT ANALYSIS HYPOTHESIS 2

- **Correlation**

| | F | p |
|---|---|---|
| **Initial Mood Continuous** *Equal variances Assumed* | 2.423 | 0.124 |

**Table 25: Levene's Test for Equality of Variances for 'Initial Mood Continuous and Elaboration'**

| | T | df | p (2-sided) | Mean Δ | Std. Error Δ | 95% Confidence Interval Δ | |
|---|---|---|---|---|---|---|---|
| | | | | | | *Lower* | *Upper* |
| **Initial Mood Continuous** *Equal variances Assumed* | 3.684 | 75 | 0.000 | 4.234 | 1.149 | 1.944 | 6.524 |

**Table 26: T-test for equality of means for 'Initial Mood Continuous and Elaboration'**

- **Binary logistic regression for *Initial Mood Continuous* and *Elaboration***

| Initial Mood | 0 | 1 | 4 | 5 | 6 | 7 | 8 | 9 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Non-el. Info proc.** | 2 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 2 | 8 | 4 | 3 | 2 | 8 | 6 | 3 | 2 | **44** |
| **El. Info proc.** | 0 | 0 | 5 | 4 | 1 | 4 | 2 | 3 | 4 | 0 | 1 | 0 | 0 | 1 | 3 | 4 | 1 | 0 | **33** |
| **Total** | 2 | 1 | 5 | 4 | 1 | 5 | 3 | 3 | 5 | 2 | 9 | 4 | 3 | 3 | 11 | 10 | 4 | 2 | 77 |

**Table 27: Cross table 'Initial Mood Continuous x Elaboration'**

## APPENDIX 5 OUTPUT ANALYSIS HYPOTHESIS 3

- **Correlation**

| | Value | Df | Asymp. Sig. (2-sided) | Exact Sig. (2-sided) | Exact Sig. (1-sided) |
|---|---|---|---|---|---|
| **Pearson Chi-Square** | 25.525a | 1 | 0.000 | | |
| **Continuity Correctionb** | 23228 | 1 | 0.000 | | |
| **Likelihood Ratio** | 26.889 | 1 | 0.000 | | |
| **Fisher's Exact Test** | | | | 0.000 | 0.000 |
| **Linear-by-Linear Association** | 25.194 | 1 | 0.000 | | |
| **N of Valid Cases** | 77 | | | | |

**Table 28: Chi-Square tests for hypothesis 3**

**APPENDIX 6 OUTPUT ANALYSIS HYPOTHESIS 4**

- **Correlation**

|  | Value | df | Asymp. Sig. (2-sided) | Exact Sig. (2-sided) | Exact Sig. (1-sided) |
|---|---|---|---|---|---|
| **Pearson Chi-Square** | 14.710[a] | 1 | 0.000 |  |  |
| **Continuity Correction**[b] | 12.865 | 1 | 0.000 |  |  |
| **Likelihood Ratio** | 15.023 | 1 | 0.000 |  |  |
| **Fisher's Exact Test** |  |  |  | 0.000 | 0.000 |
| **Linear-by-Linear Association** | 14.519 | 1 | 0.000 |  |  |
| **N of Valid Cases** | 77 |  |  |  |  |

Table 29: Chi-Square tests for 'DQ Choice and Initial Mood Category' of hypothesis 4

| Initial mood | 0 | 1 | 4 | 5 | 6 | 7 | 8 | 9 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **DQ Choice 0** | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 2 | 2 | 7 | 4 | 2 | 2 | 8 | 6 | 4 | 1 |  |
| **DQ Choice 1** | 1 | 0 | 4 | 3 | 1 | 4 | 3 | 2 | 3 | 0 | 2 | 0 | 1 | 1 | 3 | 4 | 0 | 1 | **44** |
| **Total** | 2 | 1 | 5 | 4 | 1 | 5 | 3 | 3 | 5 | 2 | 9 | 4 | 3 | 3 | 11 | 10 | 4 | 2 | 33 |

Table 30: Cross Table 'Initial Mood Continuous x DQ Choice' of hypothesis 4

|  | Levene's Test for Equality of Variances | | T-test for Equality of Means | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
|  | F | p | t | Df | p (2-sided) | Mean Δ | Std. Error Δ | 95% Conf. Interval of Δ | |
|  |  |  |  |  |  |  |  | Lower | Upper |
| Equal variances assumed | 3.37 | 0.07 | 3.26 | 75.00 | 0.002 | 3.81 | 1.17 | 1.48 | 6.14 |
| Equal variances not assumed |  |  | 3.19 | 63.06 | 0.002 | 3.81 | 1.19 | 1.42 | 6.20 |

Table 31: T-test for equality of means 'Initial Mood Continuous x DQ Choice' for hypothesis 4